

The impact of social support on the cognitive health of older adults living in the Federal District (Brazil): An exploratory analysis

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Abstract

Healthy cognitive aging is influenced by multiple factors. Social engagement and a healthy lifestyle positively impact cognitive functioning. This study aimed to investigate the relationship between social support and cognitive functioning in community-dwelling older adults in the Federal District (Brazil), using a quantitative, exploratory, and cross-sectional approach. The sample consisted of 58 older adults with a mean age of 70.63 (SD = 6.87). Data collection involved sociodemographic questionnaires as well as cognitive and psychological instruments. The cognitive measures included the Addenbrooke's Cognitive Examination – Revised (ACE-R), the Memory Assessment Clinics Questionnaire (MAC-Q), and the Prospective and Retrospective Memory Questionnaire (PRMQ). The psychological measures were the Family APGAR and the *Escala de Desenvolvimento Pessoal* (EDEP, Personal Development Scale). Analyses were conducted using R software. The results indicated consistency between the hypothesized model and the observed data: $\chi^2(8) = 23.523$, $p < 0.0001$; CFI = 0.89; TLI = 0.95; RMSEA = 0.04 (95% CI = .00–.06); SRMR = 0.07. These indices suggest that the model fits the data adequately. Therefore, the implementation of programs that address family support, personal development, and education is recommended to promote cognitive health, especially among populations at greater risk for cognitive decline.

Keywords: human development, elderly, cognition, social support, lifestyle

O IMPACTO DO SUPORTE SOCIAL NA SAÚDE COGNITIVA DE PESSOAS IDOSAS RESIDENTES DO DISTRITO FEDERAL: UMA ANÁLISE EXPLORATÓRIA

Suporte social e saúde cognitiva de pessoas idosas

Resumo

O envelhecimento cognitivo saudável é multifatorial. Engajamento social e estilo de vida adequado influenciam positivamente a função cognitiva. Este trabalho objetivou investigar a relação entre suporte social e função cognitiva em pessoas idosas de uma comunidade do Distrito Federal, em uma perspectiva quantitativa, exploratória e de recorte transversal. A amostra foi composta por 58 pessoas idosas com idade média de 70,63 anos (DP = 6,87). Para tanto, foram utilizados instrumentos para coleta de informações sociodemográficas, além de instrumentos cognitivos e psicológicos. As medidas cognitivas utilizadas foram o Exame Cognitivo de Addenbrooke (ACE-R), o Teste de Percepção Subjetiva de Memória (MAC-Q) e o *Prospective and Retrospective Memory Questionnaire* (PMRQ). As medidas psicológicas foram o APGAR Familiar e a Escala de Desenvolvimento Pessoal (EDEP). As análises foram realizadas com auxílio do *software* R. Os resultados indicaram a congruência entre o modelo hipotetizado e os dados observados: $\chi^2(8) = 23.523$ $p < 0,0001$; CFI = 0,89; TLI = 0,95; RMSEA = 0,04 (IC95% = 0,00 – 0,06); SRMS = 0,07. Esses índices sugerem que o modelo tem um ajuste adequado aos dados. Assim, recomenda-se a implementação de programas que abordem o suporte familiar, o desenvolvimento pessoal e a educação, visando promover a saúde cognitiva, principalmente em populações com maior risco de declínio.

Palavras-chave: desenvolvimento humano, pessoa idosa, cognição, suporte social, estilo de vida

EL IMPACTO DEL APOYO SOCIAL EN LA SALUD COGNITIVA DE ADULTOS MAYORES RESIDENTES EN EL DISTRITO FEDERAL (BRASIL): UN ANÁLISIS EXPLORATORIO

Apoyo social y salud cognitiva en adultos mayores

Resumen

El envejecimiento cognitivo saludable es multifactorial. La interacción social y un estilo de vida adecuado influyen positivamente en la función cognitiva. El presente estudio tuvo como objetivo investigar la relación entre el apoyo social y la función cognitiva en personas mayores de una comunidad del Distrito Federal, desde una perspectiva cuantitativa, exploratoria y de corte transversal. La muestra estuvo compuesta por 58 personas mayores, con una edad media de 70,63 años (DE = 6,87). Se emplearon instrumentos para la recolección de información sociodemográfica, así como herramientas cognitivas y psicológicas. Las medidas cognitivas utilizadas fueron el Examen Cognitivo de Addenbrooke (ACE-R), la Prueba de Percepción Subjetiva de la Memoria (MAC-Q) y el Cuestionario de Memoria Prospectiva y Retrospectiva (PMRQ). Las

medidas psicológicas incluyeron el APGAR Familiar y la Escala de Desarrollo Personal (EDEP). El análisis de los datos se realizó con el software R. Los resultados mostraron congruencia entre el modelo hipotético y los datos observados: $\chi^2(8) = 23,523$, $p < 0,0001$; CFI = 0,89; TLI = 0,95; RMSEA = 0,04 (IC 95% = 0,00–0,06); SRMR = 0,07. Estos índices sugieren un ajuste adecuado del modelo a los datos. En consecuencia, se recomienda la implementación de programas que aborden el apoyo familiar, el desarrollo personal y la educación, con el fin de promover la salud cognitiva, especialmente en poblaciones con mayor riesgo de deterioro.

Palabras-clave: desarrollo humano, anciano, cognición, apoyo social, estilo de vida

Given the growing aging population, there is an urgent need to invest in public policies and research focused on older adults' health and disease prevention (Khan et al., 2024; Cacciatore et al., 2025). In this context, cognitive health is a crucial factor in ensuring older adults' quality of life and preserving their independence. Evidence suggests an association between various health factors and risk behaviors with cognitive impairment and dementia, including cardiovascular risk factors, physical activity, nutrition, sleep quality, smoking, educational level, among others (Hamdan & Santos, 2023; Yaffe et al., 2014). In addition to these factors, studies show that meaningful social relationships (Saito et al., 2018) and lifestyle (Valenzuela et al., 2011) also significantly influence cognitive functioning, reducing the risk of cognitive decline and dementia.

Inadequate social support is associated not only with increased mortality, morbidity, and psychological distress, but also with poorer overall health and well-being (Mota et al., 2022; World Health Organization [WHO], 2002). Marioni et al. (2012) found evidence that social engagement in later life was associated with a reduced risk of decline, as well as of mild, moderate, and severe cognitive impairment, and with lower mortality among cognitively healthy individuals. Hughes et al. (2008) found that greater satisfaction with social support was associated with better overall cognitive performance, attention, and processing speed, and with less decline in episodic memory. These findings are further supported by studies by Windsor et al. (2014) and Yin et al. (2020), who examined the relationship between positive and negative social exchanges with friends, family, and spouses, and cognitive impairment. Despite these positive outcomes, Marioni et al. (2015) emphasized the lack of consensus regarding which specific cognitive domains are affected and whether different stages of decline (such as mild cognitive impairment or dementia) influence the impact of social activity on cognition.

Lifestyle-related factors may play a protective role against the development of neuropathologies, contributing to increased cognitive reserve — defined as the brain's capacity to optimize or maximize performance through the recruitment of alternative networks or strategies (Almeida-Meza et al., 2020; Stern, 2002). A systematic review of risk and protective factors for Alzheimer's disease revealed robust evidence supporting the influence of several modifiable lifestyle factors on risk levels: cognitive activity, social engagement, physical activity, diet, alcohol consumption, and smoking (Anstey et al., 2013). In a systematic review, Wang et al. (2025) found that daily health behavior indicators predict independence in older adults. Their findings also highlight the clinical relevance of promoting healthy behaviors to prevent early decline in activities of daily living (ADLs) among older adults. Implementing such strategies could substantially reduce health burdens and extend healthy life expectancy.

Social relationships in later life have been conceptualized and measured in various ways in the literature. Some studies investigating the association between social variables and cognition have defined social relationships as social integration (Obisesan & Gillum, 2009; Chen et al., 2019), social engagement (Tang et al., 2018; Thomas, 2011), social participation (Rezaeipandari et al., 2020), social networks (J. Li et al., 2019; Wang et al., 2015a), social ties

(Kawachi & Berkman, 2001), social connections (Perry et al., 2022), social relationships (Pai et al., 2023), social activities (Fu et al., 2018; Hughes et al., 2013), and social support (Murata et al., 2019; Yeh & Liu, 2003).

Kelly et al. (2017) categorized the concept of social relationships into three domains: social activities, social networks, and social support. According to Fan et al. (2021), social activities involve participation or engagement in social events; social networks are defined by size, interconnection, and frequency of contact among members; and social support refers to the material and psychological resources individuals can access through their social networks (Pimentel et al., 2019; Siqueira, 2008).

To understand the concept of social support adopted in this article, it is important to define several related constructs. Psychological well-being is understood as an individual's ability to maintain a positive view of themselves and their life, a sense of mastery and autonomy, high-quality relationships with others, a sense of purpose and meaning, and continued development in old age. According to Ryff (2014), psychological functioning is composed of six structural dimensions: (a) purpose in life – the ability to give meaning and direction to one's life and to establish goals; (b) autonomy – the ability to follow one's own beliefs and convictions; (c) personal growth – openness to new experiences, personal potential, and self-realization; (d) environmental mastery – the ability to manage life situations and environments using one's capabilities; (e) positive relations with others – the ability to form affective bonds and maintain meaningful relationships; and (f) self-acceptance – self-awareness and the acceptance of oneself. Meaningful social interactions in later life can help reduce feelings of loneliness and enhance psychological well-being, contributing to life satisfaction and personal growth (Irigaray et al., 2011; Oliveira et al., 2020).

Family support and cohabitation are perceived as key factors in promoting active aging, enhancing well-being, and fostering social and cognitive development among older adults. The presence of family members is believed to increase the sense of security in older adults, as they can assist with daily activities, encourage physical and cognitive engagement, and support the quality of their social relationships (Campos et al., 2017). According to Ferreira et al. (2019, p. 159), "In addition to its caregiving role, the family also plays social, emotional, and financial roles, constituting an important system of support and care for older adults."

Family functionality is defined by how the family is organized and how its members interact to fulfill their roles (Silva et al., 2013). A functional family is described as "one that maintains harmonious relationships, with clearly defined roles for each member and the ability to communicate and resolve conflicts according to its internal structure, serving as a support system with strong emotional bonds" (Ferreira et al., 2019, p. 159).

Cognitive health in older adults is a crucial area of study in the context of global population aging, and identifying factors that can help mitigate cognitive decline and promote well-being in this age group is of utmost importance. The present study aimed to investigate the relationship between social support and cognitive functioning in older adults from a community

in the Federal District, Brazil. This research also highlights the importance of further developing this topic in national studies. The guiding research question was: Can positive social interaction with family members and satisfaction with social relationships serve as protective factors against cognitive decline, whether normal or pathological, by reducing or alleviating the risk of developing dementia and mild cognitive impairment? Thus, this study aimed to examine whether changes in general cognitive ability, processing speed, attention, and subjective memory perception are influenced by the emotional, informational, and instrumental support received, and by older adults' satisfaction with their social bonds. In other words, to explore the relationship between social support and cognitive functioning in older adults, with a primary focus on general cognitive ability and the influence of family support and personal development.

Method

Study design

This study employed a quantitative, exploratory, and cross-sectional design. The data were drawn from a research group (NeuroCog-Idoso) that monitors older adults in a community in Brasília, Federal District, Brazil. The project was approved by the Research Ethics Committee of the *Universidade Católica de Brasília* (UCB, Catholic University of Brasília), under *Certificado de Apresentação para Apreciação Ética* (CAAE, Certificate of Presentation for Ethical Consideration) protocol number 22997419.1.0000.0029. Participation in the study was voluntary, and all older adults provided informed consent by signing the Informed Consent Form (ICF).

Sample

The sample was obtained through convenience sampling and consisted of baseline data from participants in the NeuroCog-Idoso Project. The initial sample included 85 older adults; however, participants withdrew due to scheduling conflicts, health issues, and motivational factors. The final sample comprised 58 older adults with a mean age of 70.63 (SD = 6.87), of whom 82.8% were women (n = 48) and 17.2% were men (n = 10). Participants were residents of the Federal District, literate, interested in the study, and signed the ICF.

Exclusion criteria included a diagnosis of cognitive disorder, visual, auditory, and/or motor impairments that could interfere with comprehension or performance during assessments, or a current or past history of alcoholism, illicit drug use, psychiatric disorders, or known neurological diseases. These criteria were assessed during the first meeting through anamnesis and, when necessary, confirmed via neuropsychological assessment in cases involving suspected cognitive disorders.

Instruments

To address the research question, instruments were used to collect sociodemographic information in order to characterize the sample, as well as cognitive and psychological instruments to examine the associations between the variables under study, as described below.

Sociodemographic Measures

Anamnesis: A structured interview was used to collect sociodemographic, family, behavioral, and health-related data to characterize the sample. The interview included personal information such as educational level, occupation, and marital status; family structure, socioeconomic level, and social activities; as well as memory complaints, mood and mobility, health conditions, lifestyle habits, and medication use.

Cognitive Measures

Addenbrooke's Cognitive Examination – Revised (ACE-R). The ACE-R is a brief and reliable cognitive battery that evaluates six cognitive domains: orientation, attention, memory, verbal fluency, language, and visuospatial skills. Each domain can be assessed separately, and overall cognitive functioning is calculated by summing the subtest scores, yielding a total score ranging from 0 to 100 (Carvalho & Caramelli, 2007).

In the study by Sousa et al. (2021), the ACE-R demonstrated the highest accuracy (87%), as well as good sensitivity and specificity, making it the preferred cognitive screening tool for identifying mild cognitive impairment (MCI) and dementia in the population studied. Carvalho (2009) translated and adapted the Brazilian version of the ACE-R, confirming its applicability among cognitively healthy older adults and those with major neurocognitive disorder, aged 60 or older with at least four years of education.

MAC-Q (Subjective Memory Perception). The Memory Assessment Clinics Questionnaire (MAC-Q), developed by Crook et al. (1992), is a self-report instrument designed to assess individuals' perception of their current memory compared to when they were 40 years old. Scores range from 7 to 35, with higher scores indicating greater subjective memory dysfunction (Lindôso et al., 2011). Validity tests support the MAC-Q's tendency toward unidimensionality, with five retrospective items and one apparently prospective item (Crook et al., 1992).

Prospective and Retrospective Memory Questionnaire (PRMQ). The PRMQ includes 16 items, with eight assessing self-reported failures in prospective memory (intentions) and eight assessing failures in retrospective memory (past events). Each item is rated on a five-point Likert scale: (1) never, (2) rarely, (3) sometimes, (4) often, and (5) very often. The full PRMQ yields a total score ranging from 16 (fewer memory complaints) to 80 (more memory complaints) (Smith et al., 2000).

The present study used the abbreviated 10-item version (PRMQ-10), with a total score ranging from 10 to 50 points. Higher scores reflect greater perceived memory impairment. In the study by Benites and Gomes (2007), the specific correlation between the retrospective scale of the PRMQ-10 and the MAC-Q indicated the convergent validity of the retrospective scale and the discriminant validity of the prospective scale of the PRMQ-10 (Portuguese version). It should be noted that these results were found in a group of older adults (aged 60 to 81).

Social Variables

Family APGAR. Developed by Smilkstein (1978) and Smilkstein et al. (1982), the Family APGAR assesses family functionality across five domains: (a) adaptation – the availability of family resources when assistance is needed; (b) partnership – shared communication and problem-solving; (c) growth – the family’s openness to emotional development and role changes; (d) affection – intimacy and emotional interactions; and (e) resolve – the family’s ability to make decisions and solve problems.

The instrument consists of five items, each corresponding to one domain, with response options scored as follows: “always” (2), “sometimes” (1), and “never” (0). Total scores range from 0 to 10, with 0–4 indicating high family dysfunction, 5–6 indicating moderate dysfunction, and 7–10 indicating good family functioning (Silva et al., 2013).

Escala de Desenvolvimento Pessoal (EDEP, Personal Development Scale). Developed by Neri and based on Ryff’s six subscales of psychological well-being, the EDEP includes 18 items corresponding to six domains of well-being (positive relations with others, personal growth, self-acceptance, autonomy, purpose in life, and environmental mastery) as described by Ryff (1989, as cited in Cachioni et al., 2021), and 12 items corresponding to three generativity domains (creating, maintaining, and offering). Each item is rated on a 5-point scale (1 = very little; 2 = little; 3 = somewhat; 4 = a lot; 5 = very much).

A methodological study of the instrument revealed a five-factor structure consisting of 25 items that accounted for 54.04% of the total variance. The factors were labeled as follows: Factor 1 – Self-Realization, Personal Growth, and Psychological Adjustment; Factor 2 – Productivity; Factor 3 – Caring; Factor 4 – Concern for Future Generations; and Factor 5 – Commitment to Others. The internal consistency of the overall scale was considered satisfactory, with Cronbach’s alpha of $\alpha = 0.90$ (Ryff, 1989, as cited in Cachioni et al., 2017).

Data Collection Procedures

All participants were individually assessed through anamnesis, as well as psychological, cognitive, and physical measures. This study focused on selected psychological and cognitive measures, as described previously. Recruitment and selection of participants involved promoting the study in locations frequented by the community, such as primary healthcare centers in the Federal District and a local senior community center of the UCB. Pre-registration was conducted individually, followed by phone calls inviting those interested to attend a presentation session.

A group meeting was then held by the research team to welcome participants and introduce the study, outlining the activities and presenting the study schedule. At the end of this meeting, participation was confirmed, and registrations were completed. Before the assessment phase, all participants signed the ICF and were informed that they could withdraw from the study at any time. Furthermore, if any psychological or physical issues were triggered during participation, a support team was available to assist them. Each stage of the study was overseen by a researcher specialized in the corresponding field (psychology, physical education, or

gerontology), with support from trained research assistants. Each assessment lasted approximately 60 minutes. The procedures described above were conducted between July and August 2017.

Data Analysis

Descriptive and inferential statistical analyses were performed using R software (R Core Team, 2013). Tests for normality and for detecting univariate and multivariate outliers were conducted. The psychometric quality of the instruments was assessed by analyzing internal consistency indices using the psych package (Revelle, 2023).

To examine the relationships among study variables, path analysis was employed. This method allows for the exploration of complex interactions between multiple independent variables and a dependent variable, offering a comprehensive view of the underlying relationships and mechanisms (Mitchell, 2001; Pearl, 2012). Based on the path analysis framework, a model was developed representing the interactions among the variables studied. The analysis used the Diagonally Weighted Least Squares (DWLS) estimator, which is considered appropriate for ordinal data (Distefano & Morgan, 2014; C. Li, 2016). This analytical approach was used to test the hypothesized structural relationships, with General Cognition (total ACE-R score) as the primary cognitive outcome, encompassing various cognitive domains.

Model fit was assessed using several indices: the Comparative Fit Index (CFI) (Bentler, 1990) and the Tucker-Lewis Index (TLI) (Tucker & Lewis, 1973), with values above 0.90 considered acceptable; Chi-square test (Tanaka, 1987), with non-significant values preferred; Standardized Root Mean Square Residual (SRMR) (Jöreskog & Sörbom, 1981); and Root Mean Square Error of Approximation (RMSEA) (Brown, 2006), with values below 0.08 indicating good fit.

Results

Based on the exploratory analyses, no univariate or multivariate outliers were identified for the study variables. Regarding the suitability of the instruments for the study, internal consistency indices were calculated, as presented in Table 1. Table 1 displays the internal consistency coefficients (Cronbach's alpha) for each instrument used in the study. The values obtained indicate adequate reliability of the scales, ranging from 0.79 to 0.87, supporting the dependability of the measures employed in the sample. These results suggest that the instruments performed appropriately in assessing the study variables within this particular sample.

Table 1*Consistency indices of the study measures*

Instrument	λ_2	α
Subjective Memory Perception Test (MAC-Q)	0.88	0.87
Prospective and Retrospective Memory Questionnaire (PRMQ)	0.87	0.86
Addenbrooke's Cognitive Examination – Revised (ACE-R)	0.84	0.82
Personal Development Scale (EDEP)	0.81	0.79
Family APGAR	0.83	0.81

Note: λ_2 = Guttman's Lambda 2; α = Cronbach's alpha.

Table 2 presents the mean scores and standard deviations for the study variables, including Personal Development, Family Support, General Cognition, Attention/Orientation, Memory, Verbal Fluency, Language, and Visuospatial Skills. These values provide a general profile of the sample. No significant differences were found in scores based on sex or marital status.

Table 2*Mean scores for the study variables*

Variable	Mean	Standard Deviation
Personal Development	105.58	16.94
Family Support	7.32	2.37
General Cognition	76.65	14.35
Attention/Orientation	15.65	2.46
Memory	17.20	5.12
Verbal Fluency	9.25	2.91
Language	21.43	4.67
Visuospatial	13.10	2.72
Subjective Memory Perception	26.36	6.27
Prospective and Retrospective Memory	34.10	8.85
Prospective Memory	16.01	4.80
Retrospective Memory	18.08	4.60

Based on ACE-R results, the sample was categorized into three groups: normal cognitive functioning, mild cognitive impairment (MCI), and dementia. Among participants, 67.24% showed no signs of cognitive decline, 12.07% exhibited MCI, and 20.69% met criteria for dementia, according to the classification proposed by Cesar et al. (2017).

To identify and visualize the relationships among the variables of interest, a structural model was developed using path analysis (Figure 1). This model enabled the identification of

both direct and indirect associations between the study variables. The structural model highlights the relationships between family support, personal development, and general cognition.

Figure 1

Structural model

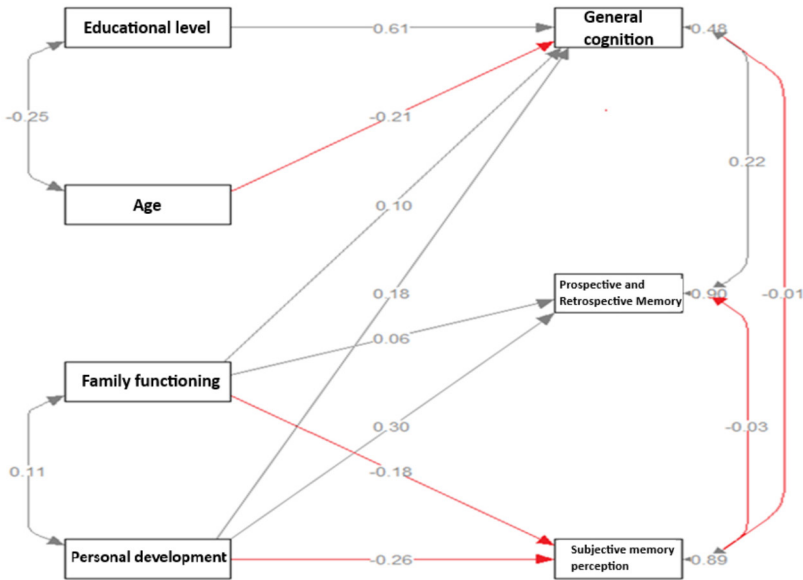


Figure 1 illustrates the hypothesized structural model and the standardized path coefficients for the significant associations. The model showed good fit to the data. Visually, there is a clear and positive direct effect of Family Support and Personal Development on General Cognition, as indicated by the arrows and their respective coefficients. Furthermore, model fit indices supported the adequacy of the hypothesized model: $\chi^2(8) = 23.523$, $p < .0001$; CFI = 0.89; TLI = 0.95; RMSEA = 0.04 (95% CI = 0.00–0.06); SRMR = 0.07. These indices suggest that the model adequately fits the data and that the relationships among variables were appropriately specified, enabling interpretation of their associations. Based on the structural model regressions, significant and meaningful relationships were identified between the variables and General Cognition, as detailed in Table 3.

Table 3*Model regressions*

Regression	β	<i>P</i>	SE
Family Support → General Cognition	0.57	0.031	0.12
Personal Development → General Cognition	0.14	0.013	0.16
Education → General Cognition	4.55	0.000	1.25
Age → General Cognition	-0.45	0.048	0.22
Personal Development → General Cognition	0.14	0.060	0.10
Family Support → Subjective Memory Perception	-0.48	0.160	0.35
Personal Development → Subjective Memory Perception	-0.09	0.010	0.03
Family Support → Prospective and Retrospective Memory	0.23	0.011	0.04
Personal Development → Prospective and Retrospective Memory	0.15	0.014	0.49
Subjective Memory Perception → General Cognition	-0.01	0.251	0.32
Prospective and Retrospective Memory → General Cognition	0.26	0.260	0.21

Note: β = Regression Coefficient; *p* = *p*-value; SE = Standard Error.

Family support was found to be strongly associated with General Cognition, with a regression coefficient of 0.57 ($p = 0.031$). This suggests that higher levels of family support are positively related to overall cognitive performance. Likewise, personal development also had a significant influence on General Cognition, with a regression coefficient of 0.14 ($p = 0.013$), indicating that personal growth and self-development may contribute positively to the preservation of cognitive abilities.

Educational attainment, in turn, showed a particularly strong association with General Cognition, with a regression coefficient of 4.55 ($p < 0.001$). This finding suggests that higher educational levels are associated with better cognitive performance. Conversely, age had an inverse relationship with General Cognition, with a regression coefficient of -0.45 ($p = 0.048$), indicating that aging may be related to cognitive decline, as suggested by previous studies.

Within the structural model, these relationships gain even more relevance, as they allow us to understand how family support, personal development, educational attainment, and age interact and affect General Cognition both directly and indirectly. The graphical representation of the model, as shown in Figure 1, provides a clear overview of these associations and underscores the importance of these factors in the context of cognitive decline. Therefore, our findings highlight the relevance of interventions focused on strengthening family support, promoting personal development, and investing in education to help maintain healthy cognitive functioning, particularly in populations vulnerable to cognitive decline.

Discussion

This study examined the association between social support and cognitive functioning among older adults from a community in the Federal District (DF), Brazil. Our hypothesis was that older adults with greater social interaction and more meaningful relationships would demonstrate higher cognitive performance and a reduced likelihood of cognitive decline. Results confirmed that measures of social support were positively associated with general cognitive functioning. Additionally, significant correlations were found between cognitive functioning and key sociodemographic variables, such as age and educational attainment.

The sample was predominantly composed of women. According to the *Instituto Brasileiro de Geografia e Estatística* (IBGE, Brazilian Institute of Geography and Statistics, 2020), men have a life expectancy of 72.8, while women have a life expectancy of 79.9, indicating that women live longer (Cepellos, 2021). This phenomenon, referred to as the feminization of aging, is characterized by a growing proportion of women in the older population (Rocha et al., 2019). It is believed that women make greater use of healthcare services and are more concerned with prevention, as well as being less exposed to risk factors compared to men (Ministry of Health, 2018). Therefore, the demographic profile of this study's sample appears to be representative of the older adult population in Brazil.

Age is also considered a critical factor in cognitive decline among older adults. In agreement with our findings, the literature shows that individuals over 80 years old present a higher prevalence of cognitive impairment. This age group tends to experience more pronounced biological, psychological, and social changes, which can impair cognitive functions, especially those that require speed, attention, concentration, and inductive reasoning (Holz et al., 2013; Horacio et al., 2021; Nascimento et al., 2015).

Some studies suggest a relationship between marital status and cognitive decline (Alves, 2022; Steffens et al., 2019). One hypothesis is that being widowed, divorced, or living alone may reduce access to emotional and spiritual support, increasing the risk of loneliness, insecurity, depression, and cognitive impairment (Yin et al., 2020). In a study by Feng et al. (2014) involving Chinese older adults, being single or widowed increased the risk of cognitive impairment, suggesting that long-term relationships, such as marriage, may offer cognitive protection. However, in the present study, the data did not provide sufficient evidence to support this protective effect of marriage, even though a large portion of the sample (41.38%) was married.

Education is a well-established factor in cognitive reserve. Older adults with lower educational levels may present more pronounced cognitive deficits compared to those with more years of schooling (Morley, 2013). A longitudinal study by Wilson et al. (2019) found that educational attainment was directly associated with better cognitive test performance. Our findings are consistent with these results, as older adults in the community with higher educational levels showed better cognitive performance. Nevertheless, as Wilson et al. (2019) note, cognitively stimulating activities throughout adulthood may have more influence on cognitive reserve than formal education in early life.

The study by Millán-Calenti et al. (2013) provided compelling evidence of the role that both the extent of social contact and satisfaction with those interactions play in cognitive health. Limited social contact and low satisfaction with interpersonal relationships were associated with higher risks of cognitive impairment and depressive symptoms. According to Lara et al. (2019), social support contributes to health and well-being by providing access to tangible resources that enhance health. Crooks et al. (2008) further argue that social networks facilitate access to healthcare and promote healthy behaviors, thereby helping to prevent or reduce the impact of brain pathologies and other conditions that impair cognition.

Instrumental and emotional support have also been linked to cognitive maintenance. Noguchi et al. (2019) found that social support from neighbors and friends was positively associated with cognitive functioning over a one-year follow-up, underscoring the value of community-based support systems, such as neighbors and friends, for maintaining cognitive health in older adults.

In terms of family support, our study found that older adults who perceived greater family functionality had better cognitive performance. In the study by Wang et al. (2015b), more than half of the participants exhibited some degree of family dysfunction (52.2%), although only 8.6% showed severe dysfunction according to the Family APGAR Index. Oliveira et al. (2014) found that individuals classified with cognitive decline based on the Mini-Mental State Examination (MMSE) were also more likely to report family dysfunction. It is believed that cognitive or physical limitations may lead to increased dependence on family, potentially generating stress within the family system and contributing to dysfunction (S. C. Oliveira et al., 2014).

Most of the literature supports the beneficial effects of social support on cognitive functioning (Holtzman et al., 2004; Yeh & Liu, 2003). However, some studies report inconsistent findings (Sims et al., 2014; Wang et al., 2017). For example, Sims et al. (2014) found no significant positive associations between social support and cognitive functioning across domains. According to the authors, these results may be attributed to a phenomenon observed in some studies investigating the receipt of social support. For certain individuals, particularly those with chronic illness or disability, receiving social support may be perceived as a burden or a stressor (Reinhardt et al., 2006). Consequently, having to engage closely with those who provide social support may be experienced as an annoyance (Sims et al., 2014).

Regarding self-efficacy instruments (MAC-Q and PRMQ-10), no significant associations were found between subjective memory perception and objective cognitive performance. Notably, a negative correlation was observed between subjective memory perception and cognitive performance. This may be explained by the MAC-Q being a deficit-based measure, in which higher scores indicate a more negative perception of memory function among older adults.

It is also important to note that the interpretation of this study's findings is inherently shaped by the specific context of the Federal District. Access to health services across different levels of care, the presence of social programs for older adults, and urban infrastructure are all

critical contextual elements. These factors may enhance opportunities for social engagement and perceived support while also revealing disparities across administrative regions that affect cognitive health and the formation or maintenance of social support networks. Understanding these nuances is vital for contextualizing the findings and guiding future, more effective interventions. Although this study employed a cross-sectional design, its findings offer a solid foundation for longitudinal research and clinical interventions in the field of cognitive aging.

In the study by Sacramento et al. (2021), also conducted with older adults in the Federal District, it was found that the vast majority of the sample (99.10%) reported some form of subjective memory complaint, resulting in most participants perceiving their memory negatively. However, it is important to note that the presence of subjective complaints is not necessarily indicative of cognitive impairment or dementia. In the study by Paulo and Yassuda (2010), no association was found between memory complaints and cognitive variables, suggesting that the complaints reported by participants were more likely explained by emotional factors such as depression and anxiety than by objective performance on neuropsychological tests.

A distinguishing feature of the present study is that it focused on a baseline sample of community-dwelling older adults who had not received any health interventions. Thus, the associations between cognitive performance and the support received from both family members and friends were examined within their natural social context.

One limitation encountered was the small sample size, which is a common challenge in research involving older adults due to difficulties in recruitment and adherence to studies and healthcare treatments. Some of the factors contributing to lower adherence among older adults include mental and physical health conditions, mobility issues, and limited accessibility (Frances Yap et al., 2016, as cited in Maciel et al., 2019). Globally, the prevalence of cognitive decline among older adults varies between 5% and 30%, depending on sex, age group, and severity of the condition (Overton et al., 2019). Despite the small sample, the proportion of participants with dementia in this study mirrors that observed in the general population, suggesting that the sample may reflect broader characteristics of the older adult population. Nonetheless, it is important to acknowledge that a small sample size limits the generalizability of the findings.

Another potential limitation lies in the analysis of social support (Family APGAR) and personal development (EDEP) based on their global scores. While significant associations were found with general cognition, future research could explore specific subdomains within these scales to assess their differential impacts. For instance, examining factors such as family adaptation or communication (subdomains of the APGAR) could reveal how particular aspects of family functioning relate to specific cognitive domains, such as executive functions or episodic memory, possibly by fostering problem-solving strategies or engagement in socially complex interactions. Likewise, components of personal development (EDEP), such as purpose in life or personal growth, may encourage the pursuit of new knowledge and challenges, thus contributing differently to cognitive reserve and resilience against decline. This more granular approach could offer deeper insights into the mechanisms by which social support and personal

development influence cognitive health in older adults and represents an important direction for future research.

In summary, this study used representative data from a community-based sample of older adults in the Federal District. Our findings confirm those of previous studies that reported a positive association between support and cognitive function (Windsor et al., 2014; Yin et al., 2020). In our study, the perception of family support and positive relationships with friends and relatives were significantly and positively associated with cognitive performance, supporting the hypothesis that social support may serve as a protective factor against cognitive impairment.

As evidenced by the path analysis, our findings support the hypothesis that psychosocial factors are crucial for maintaining healthy cognitive aging. The relevance of these results lies in the indication that interventions that strengthen family ties and foster personal growth may be effective strategies for promoting cognitive health in older adults, particularly among populations vulnerable to cognitive decline.

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Sarah Ribeiro Fernandes: Responsible for writing the article, conducting the theoretical review, detailing the methodology, and discussing the data.

Carlos Manoel Lopes Rodrigues: Co-supervised the writing of the article, coordinated the data analysis, and oversaw the organization of the results and discussion.

Isabelle Patrícia Freitas Soares Chariglione: Coordinated the research project, supervised the writing of the article, and oversaw data collection, data analysis, and the discussion of results.

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