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Gender Difference in Social Capital, Common Mental Disorders and Depression: ELSA-Brasil Study

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Abstract: Association studies between social capital and health point out that a high level of social capital can act as a protector for mental health. The growing interest in social risk factors for mental health coincides with the development of social capital research. Higher levels of social capital available through social networks can act as a protector for mental health. This study investigates gender differences in the association between social capital and common mental disorders (CMD) and depression. We analyzed 15,052 participants in the baseline of the Brazilian Longitudinal Study of Adult Health (ELSA-Brasil). CMD and depression were assessed by Clinical Interview Schedule-Revised (CIS-R) and social capital by the Resource Generator scale. We used Logistic regression models stratified by sex. Women with lower social capital in the social support dimension had a greater chance of presenting CMD (OR = 1.36; CI 95%: 1.16–1.60) and depression (OR = 2.07; CI 95%: 1.57–2.72) when compared to women with higher social capital. No association was identified among men, or among women in the "prestige and education" dimension. The differences found between the dimensions of social capital support its multidimensionality, as well as the differences found between sexes, confirm the need to approach gender in its association with mental health.

1. Introduction

Common mental disorders (CMD), comprised majorly of depressive and anxiety disorders, impact health negatively, affecting individuals of both sexes and of different age groups [1]. They are characterized by non-psychotic disorders that entail personal, family and professional losses of the individuals affected [2]. In an ample English study on the prevalence of mental disorders, one in every six adults presented common mental disorders (17%), affecting in a differentiated way, men (12%) and women (20%) [3]. In Brazil, ample population studies identified a CMD prevalence in the adult population, with estimates varying between 29.9% and 36.0%, presenting a higher frequency among women and people with lower education level. With values slightly lower than national estimates, ELSA-Brasil presented a prevalence of CMD of 26.8% in the population studied [4]. In Brazil, we also

can find CMD prevalence significantly associated among those self-reported as blacks, with lower educational level, and divorced/separated/widowed [5].

Estimates of World Health Organization (WHO) point out the expressive growth of depression prevalence in recent years [6]. Between 2005 and 2015, this growth was 18.4%. At present, about 322 million people of all ages suffer from the disorder around the world. Depression is the mental disorder that mostly contributes to incapacity (7.5% of all years of life lost by incapacity in 2015) while anxiety disorders are in sixth place (3.4%). In Brazil, the National Health Research (Pesquisa Nacional de Saúde—PNS), a population-based cross-sectional study that collected information of more than 49,000 individuals between 18 and 59 years, used the Patient Health Questionnaire-9 (PHQ-9) and identified that 9.7% (CI 95%: 9.2–10.2) of the adults presented some degree of depression [7].

Although these are multifactorial and complex issues, some risk factors are well established in the occurrence of depression and of CMD. Among these, social health determinants are important components of the causality mechanism [8]. Social capital, defined as the presence of resources that individuals can access by the social network [9], has been characterized as an important social determinant in health and has been shown to be positively associated with mental health [10]. Global organizations such as the Organization for Economic Co-operation and Development (OECD) [11] and WHO [12] recognize the importance of social capital and emphasize that it can be used as a strategy to enhance health in communities and countries. Aspects of the social network, such as generalized trust (perception and expectations of confidence in others), as well as participation in voluntary associations and trust in institutions, have been considered important factors of social capital and used as indicators for its measurement [11].

Different approaches used in evaluating social capital are relevant and necessary to test the various research hypothesis. In literature, there is a conceptual debate that refers to the level at which social capital develops and can be accessed. Some researchers understand it as a collective asset, a characteristic of social structures, while others believe it to be something exclusive and developed by individuals within their social network [13]. However, it is possible to understand these two levels in a complementary way and identify what is common to the two definitions of social capital, i.e., it can be used by individuals through their social network and can be employed to reach better health conditions and longevity [14].

Social capital can also be classified according to the type of relationship in the social network. Three types of ties are usually referred to by social capital theorists: bonding, bridging and linking [15]. Bonding social capital is established between groups of individuals such as family members and neighbors who share similarities in terms of demographic characteristics, behaviors and interests. On the other hand, Bridging social capital is established by horizontal relationships with not-so-similar people, characterizing an extension of the scope of their actions, and connecting to another network. The third type, Linking social capital, describes a type of relationship between people and groups or institutions in different positions of hierarchy and power, such as boss and employee.

Studies that explore the association between social capital and health, point out in a consistent way, that a high level of social capital protects mental health. Social capital is associated with a decreased prevalence of depression and is protective for mental health, particularly in older people [16]. Higher individual cognitive social capital (trusting in the community and actively participating) is also protective against common mental disorders [10]. Furthermore, social capital is usually associated with sex [17], age, job status, marital status [18] and socioeconomic status [19].

The approach used in this paper is supported by the concept of social capital that seeks to capture the perceived presence of support resources in social networks by individuals. The use of the Resource Generator (RG) scale, developed in the Netherlands and adapted in many countries [20–22] have aided developing this approach. Inspired by other scales that evaluated social networks (Name Generator and Position Generator), it is considered more economical, easy to apply, theoretically delimited and with clear references on the social capital resources of a given population [21]. Its main limitations refer to the high rate of positive responses [21,23] and the impossibility of measuring more than one

resource source (the scale is analyzed in a dichotomous way; it is not considered if the respondent can obtain the same resource from several sources).

In Brazil, this is the first study to use RG, exploring the two dimensions proposed in its adaptation process. The prestige and education social capital dimension is characterized by a social network with resources that can be available by people with higher education and a prominent position in society; for example, to know someone who has money invested, who hires people to work, or who speaks a foreign language.

The social support social capital dimension is characterized by a social network with people who can make resources associated with day-by-day necessities available; for example, to know someone who can talk about work or family conflicts, who can take care of the children or who can lend some money [23]. The scale situates social capital at individual level and identifies resources inserted in the network as the core of social capital.

Social capital was associated with the common mental disorders in a study in the United Kingdom in which the authors used the Resource Generator scale in the general population. In their results, they found an independent association between having access to fewer resources and being positively classified for common mental disorders [22]. The Resource Generator was also used to investigate health-related quality of life among Chinese in a rural area. The models that explored mental health (measured through a dimension of the Item Short Form Health Survey-36) found an association in both sexes through the total score and its sub-dimensions [20].

Mental disorder losses have been reported around the world in the last decades [6]. However, despite international recognition of the importance of social capital in promoting mental health [6], few studies have been developed in this field in Brazil. Therefore, the present study evaluates gender differences in the association of the perception of individual social capital with depression and common mental disorders, in a comprehensive Brazilian population.

2. Materials and Methods

2.1. Study Design, Population and Data Collection

ELSA-Brasil is a cohort study comprised of 15,105 active public servants and retirees on its baseline, with ages ranging from 35 to 75 years old, of 6 Brazilian educational and research institutions, implemented to investigate the incidence and progression of cardiovascular diseases and diabetes and their social, occupational, environmental, psychological and biological determinants.

Baseline data collection was carried out in the period from 2008 to 2010 in Investigation Centers located in six Brazilian States (BA, ES, MG, RJ, RS, SP). Exams and questionnaires were applied by trained and certified interviewers. Its methodological design, as well as the detailed description of quality assurance and control measures of the entire process of data collection, were previously described [24]. For the present study, participants who failed to respond to any of the social capital items (n = 47), outcome variables (n = 5) and/or adjustment variables (n = 1) were excluded; the final sample included 15,052 individuals (99.6%) (Figure 1).

2.2. Study Variables

Social Capital—was assessed by the Brazilian version of the Resource Generator (RG), that was constructed stemming from the Dutch original [21], comprising 33 items. This scale presents everyday situations to discriminate access to various types of social resources and qualifies the type of relationship by which the resource can be accessed (family, friends and acquaintances). It is considered an instrument of easy application, objective and with clear interpretations of the social capital of a certain population.
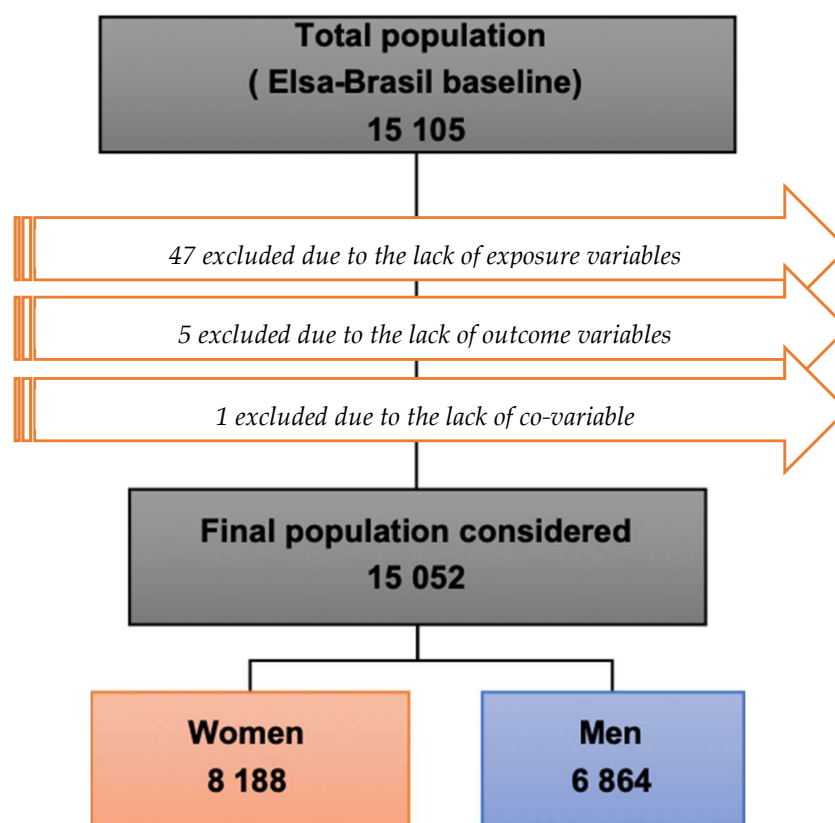
Figure 1. Flowchart of population composition (ELSA-Brasil 2008–2010).

The scale presented satisfactory convergent validity (values greater than 0.50 for the extracted variance) and precision (values greater than 0.70 for compound reliability). Factor correlations were below 0.85, indicating full discriminative factor validity [23]. According to the recommendation of its validity study [23], two dimensions of the scale were used to capture different aspects of social capital in the ELSA-Brasil: prestige and education (13 items) and social support (10 items). In each dimension, answers to each question are dichotomous, indicating the possibility (or not) of accessing certain resources available in the social network.

Social capital was classified as low, medium and high, according to cut-off points established by the distribution terciles of the population. In the prestige and education dimension, this ordering was given, respectively, for scores between 0–9, 10–12 and 13 points. In the social support dimension, scores were between 0–7, 8–9 and 10 points, respectively.

CMD and depression—the presence of CMD and depression in the previous seven days was investigated by a CIS-R (Clinical Interview Schedule-Revised) version adapted to Brazilian Portuguese [25]. CIS-R is a structured psychiatric interview, relatively brief and adequate to be applied by lay interviewers, that assesses the presence and severity of 14 common psychiatric symptoms. It has been used as a reference standard in the assessment of common mental disorders and its psychometric properties can be found in the transcultural adaptation paper [25].

Through a score computed along all CIS-R sections, it is possible to evaluate the presence of common mental disorders (CMD) seven days previous to the interview. A score equal or higher than 12 indicates the presence of a clinically significant psychiatric morbidity, and a score of 18 or higher signifies that the severity of the clinical condition demands intervention. Scores equal to or higher than 12 were used to indicate the presence of CMD in the population studied [26].

It was applied in face to face interviews and the presence of depressive episodes was determined by algorithms based in the ICD-10 diagnostic criteria for depressive episodes (F32.x group) without psychotic symptoms. There are two depression-related sections in the CIS-R: in the first section,

("depressive mood") respondents are asked about feeling sad, miserable or depressed, or being unable to enjoy or take an interest in things. In the second ("depressive ideas"), respondents are asked about feelings of guilt, inadequacy and hopelessness and whether they thought that life was not worth living. Additional questions throughout the remaining CIS-R sections enable the application of ICD-10 diagnostic criteria for depressive episodes (mild, moderate (with or without somatic symptoms) and severe). In this study, we grouped all kinds of depressive episodes as in a dichotomous variable (0 = no depressive episode; 1 = presence of depressive episode).

Co-variables—age (continuous), marital status (single/separated/divorced, married/united and widow), and educational level (up to incomplete or complete higher education/postgraduate), race/color (white, black, brown, yellow, indigenous) and job status (active worker/retiree).

2.3. Data Analysis

All analyses were carried out separately for men and women since previous studies point out gender differences in the associations investigated [20,27]. The covariates are part of ELSA-Brasil database and, for this study, were selected to reflect sociodemographic variables and variables that may affect the association between social capital and mental health (CMD and depression). A preliminary selection of variables considered the univariate association with significance level of 5%. Then, for the multiple regression, a Pearson's Chi-square test was performed to capture significant differences in variation of mental disorders and other variables according to the level of social capital. This analysis was also carried out with 5% significance.

Binomial logistic regression models (the two social capital dimensions with depression and the two social capital dimensions with CMD) were used in multiple analyses to obtain the adjusted odds ratio with a confidence interval of 95% (CI 95%). Sequential adjustments were carried out in the following way: gross estimate (Model 0), inclusion of age (Model 1), educational level (Model 2) and marital status (Model 3). The variables retained in the final models were those that remained associated with response variables at a 5% significance level. The analysis was carried out using the R program (v. 3.4.1.).

2.4. Ethical Considerations

ELSA-Brasil had its protocols submitted and approved by the Research Ethics Committees of the Oswaldo Cruz Foundation (FIOCRUZ) and the National Commission for Research Ethics (CONEP). Informed consent was obtained from all the participants included in the study.

2.5. Conflict of Interest and Responsibility for the Manuscript

The authors declare that there are no known conflicts of interest and certify their responsibility for the manuscript.

3. Results

The studied population was 52 years old on average (±9 years) and a little over half were women (54.4%). It was observed that higher educational level was more frequent among women (54.4%, for women and 50.5% for men) and that the category married/stable union is higher among men (81.8% and 53.0%, respectively, for men and women). The prevalence of depression was 2.3% and 5.8% and of common mental disorders 18.4% and 33.8%, respectively, among men and women (Table 1).

Table 1. Characterization of men and women according to the presence of depression in the Brazilian Longitudinal Study of Adult Health (ELSA-Brasil) baseline, 2008–2010.

Variables	Categories	n Total (%)		Depression		CMD	
				no [%]	yes [%]	no [%]	yes [%]
				Men (n = 6864)			
Prestige and Education	low	1286	(18.7)	97.5	2.5	82.0	18.0
	medium	2208	(32.2)	97.6	2.4	80.6	19.4
	high	3370	(49.1)	97.8	2.2	82.2	17.8
	p-value			0.752		0.316	
Social Support	low	780	(11.4)	96.9	3.1	81.2	18.8
	medium	1899	(27.7)	97.3	2.7	80.3	19.7
	high	4185	(61.0)	98.0	2.0	82.4	17.6
	p-value			0.08		0.133	
Age	35–44	1560	(22.7)	97.0	3.0	78.9	21.1
	45–54	2678	(39.0)	97.7	2.3	79.6	20.4
	55–64	1846	(26.9)	98.0	2.0	84.2	15.8
	65–74	780	(11.4)	98.2	1.8	87.8	12.2
	p-value			<0.005		<0.005	
Educational level	Up to incomplete elementary	562	(8.2)	97.3	2.7	80.4	19.6
	Complete elementary	571	(8.3)	96.1	3.9	77.6	22.4
	Complete secondary	2266	(33.0)	97.2	2.8	77.4	22.6
	Complete higher	3465	(50.5)	98.3	1.7	85.3	14.7
	p-value			<0.005		<0.005	
Marital status	Separate	807	(11.8)	95.9	4.1	74.6	25.4
	Single	359	(5.2)	96.9	3.1	78.3	21.7
	Married/united	5615	(81.8)	98.1	1.9	83.0	17.0
	Widow	83	(1.2)	92.8	7.2	73.5	26.5
	p-value			<0.005		<0.005	
				(Women n = 8188)			
Prestige and Education	low	1345	(16.4)	92.6	7.4	61.6	38.4
	medium	2866	(35.0)	93.6	6.4	66.3	33.7
	high	3977	(48.6)	95.1	4.9	67.7	32.3
	p-value			<0.005		<0.005	
Social Support	low	832	(10.2)	90.3	9.7	60.5	39.5
	medium	2245	(27.4)	92.9	7.1	64.1	35.9
	high	5111	(62.4)	95.4	4.6	68.1	31.9
	p-value			<0.005		<0.005	
Age	35–44	1775	(21.7)	94.3	5.7	61.6	38.4
	45–54	3248	(39.7)	93.1	6.9	63.0	37.0
	55–64	2368	(28.9)	95.2	4.8	70.6	29.4
	65–74	797	(9.7)	95.5	4.5	76.8	23.2
	p-value			<0.005		<0.005	
Educational level	Up to incomplete elementary	327	(4.0)	92.4	7.6	58.1	41.9
	Complete elementary	453	(5.5)	91.6	8.4	58.7	41.3
	Complete secondary	2952	(36.1)	92.4	7.6	60.3	39.7
	Complete higher	4456	(54.4)	95.7	4.3	71.5	28.5
	p-value			<0.005		<0.005	
Marital status	Separate	2124	(25.9)	92.4	7.6	63.3	36.7
	Single	1184	(14.5)	95.8	4.2	73.0	27.0
	Married/united	4336	(53.0)	94.6	5.4	65.8	34.2
	Widow	544	(6.6)	94.7	5.3	66.0	34.0
	p-value			<0.005		<0.005	

(CMD: common mental disorders).

The items of the Resource Generator scale presented high rates of affirmative responses, and the proportion of participants who referred to having access to 20 or more resources component of the scale was 75%. The distribution of social capital was similar between the sexes (*p*-value = 0.127), and for both, higher frequencies of availability of social support were observed. For the prestige and education dimension, frequencies of low, medium and high social capital for men were 18.7%, 32.1% and 49% and among women 16.4%, 35.0% and 48.6%. For the social support dimension, they were, respectively, 11.4%, 27.7% and 60.9% for men and 10.2%, 27.4% and 62.4% for women. Regarding the access, family members were more frequently referred to in both sexes. Of the 23 scale items, only 2 were referred to as accessed more frequently by friends, and none were accessed more frequently by acquaintances (data not presented).

It was observed that the high frequency of social capital among men and women diminished with the increase of age and increased according to educational level in both dimensions. Only among men, a relevant association between the dimensions of social capital and the presence of depression or common mental disorders was not observed (Table 1).

Table 2 presents results of the logistic regression models, using high social capital as a reference. Among men, a significative association in the age-adjusted model for the social support dimension was observed, but after the other adjustments, the dimension was not shown to be associated. In opposition, social capital presented a negative association only in the final model in the prestige and education dimension.

It was also observed that, in the final model, when compared to those who have high social capital, women with medium social capital, in the social support dimension, presented 15% higher chances of CMD and 49% higher chances of depression; while those with low social capital, presented 36% higher chances of having CMD and 2.1 times higher chances of presenting depression. In the prestige and education dimension, we found associations for both outcomes only in the brute models and in the model adjusted by age.

Table 2. Binomial logistic regression of the association of social capital and presence of depressive episodes and CMD among men and women of the Brazilian Longitudinal Study of Adult Health (ELSA-Brasil) baseline, 2008–2010.

Social Capital	OR (95% CI)			
	Prestige and Education		**Social Support**	
	Depression	**CMD**	**Depression**	**CMD**
Men (n = 6 864)				
Model 0a				
Medium SC	1.11 (0.78; 1.59)	1.11 (0.97; 1.27)	1.41 (0.99; 2.00)	1.15 (1.00; 1.32)
Low SC	1.15 (0.76; 1.76)	1.01 (0.85; 1.19)	1.59 (1.00; 2.52)	1.08 (0.89; 1.32)
Model 1b				
Medium SC	1.13 (0.79; 1.62)	1.13 (0.99; 1.30)	**1.49 (1.04; 2.12)**	**1.22 (1.06; 1.40)**
Low SC	1.21 (0.79; 1.84)	1.07 (0.90; 1.26)	**1.80 (1.12; 2.87)**	1.22 (1.00; 1.50)
Model 2c				
Medium SC	1.01 (0.70; 1.46)	1.02 (0.89; 1.18)	1.37 (0.95; 1.96)	1.12 (0.98; 1.30)
Low SC	0.90 (0.57; 1.41)	0.81 (0.67; 0.97)	1.54 (0.96;2.50)	1.07 (0.87; 1.31)
Model 3d				
Medium SC	1.03 (0.72; 1.49)	1.03 (0.90; 1.19)	1.34 (0.93; 1.92)	1.11 (0.96; 1.28)
Low SC	0.90 (0.57; 1.41)	0.81 (0.67; 0.97)	1.47 (0.91; 2.37)	1.03 (0.84; 1.27)

Table 2. *Cont.*

Social Capital	OR (95% CI)			
	Prestige and Education		**Social Support**	
	Depression	**CMD**	**Depression**	**CMD**
	Women (n = 8 188)			
Model 0a				
Medium SC	**1.32 (1.07; 1.63)**	1.06 (0.96; 1.18)	**1.57 (1.27; 1.93)**	**1.20 (1.08; 1.33)**
Low SC	**1.54 (1.20; 1.98)**	**1.31 (1.15; 1.48)**	**2.22 (1.70; 2.89)**	**1.40 (1.20; 1.63)**
Model 1b				
Medium SC	**1.32 (1.07; 1.63)**	1.09 (0.98; 1.20)	**1.64 (1.33; 2.02)**	**1.29 (1.16; 1.43)**
Low SC	**1.60 (1.25; 2.06)**	**1.41 (1.24; 1.61)**	**2.44 (1.86; 3.19)**	**1.62 (1.38; 1.89)**
Model 2c				
Medium SC	1.20 (0.97; 1.48)	0.98 (0.89; 1.09)	**1.49 (1.21; 1.85)**	**1.17 (1.05; 1.30)**
Low SC	1.21 (0.93; 1.59)	1.08 (0.94; 1.24)	**2.09 (1.59; 2.76)**	**1.38 (1.18; 1.62)**
Model 3d				
Medium SC	1.20 (0.97; 1.48)	0.98 (0.89; 1.09)	**1.49 (1.21; 1.85)**	**1.15 (1.03; 1.29)**
Low SC	1.21 (0.92; 1.58)	1.08 (0.94; 1.24)	**2.07 (1.57; 2.72)**	**1.36 (1.16; 1.60)**

(CMD: common mental disorders, SC: social capital, OR: odds ratio, CI: confidence interval). a Brute model. b Model adjusted by age. c Model 1 + education level. d Model 2 + marital status. * Reference category: high. Significant results in bold.

4. Discussion

In this study, we observed associations with differentiated patterns according to sex in the social capital dimensions evaluated. Only among women, lower perceived levels of social support were associated to higher chances of depression and CMD.

Our study, aligned with others [28–30], investigated differences in the manner in which social capital associates with mental health according to sex. The distinct composition of social networks is often pointed out as an explanatory feature of such differences. Men usually have a more extensive social network, with a higher quantity of formal ties and people in power positions (linking social capital) while women usually establish more homogenous social networks with closer people (bonding social capital) [31]. Thus, as Eriksson [29] points to a higher importance of bonding social capital in behaviors related to health, it is also believed that bonding social capital (more frequent among women) is more important to mental health [32].

In our study, we observed that practically all resources were accessed through strong ties (bonding social capital) and that the access reported to resources of social capital was predominantly high in both sexes. However, we believe that the knowledge regarding the role of social capital according to gender is still incipient and controversial, especially at individual level, as we found examples of the differentiated effect of social capital according to gender [28,29,31–33], but also researches in which the effect is similar [34] or inexistent [29].

In Karhina et al.'s study [35], differences between sexes also varied according to the context in which the population was inserted. Comparing population samples from Ukraine and Sweden, it was found a positive association between cognitive social capital and self-referred health in Sweden in both genders, while in Ukraine, this association was only among women. Additionally, cognitive social capital (measured by inter-personal trust) was not associated with depressive symptoms in the two populations studied.

In our study, the homogeneity in the distribution of social capital found in networks of men and women may lie in the fact that the population of the study comprises only public servants of educational and research institutions, which are likely to have higher and more homogeneous social capital than the general population. Such homogeneity may reduce the gender variability and the individual's perception variability of their social capital.

A possible limitation of the scale that could justify the lack of association with mental health problems in men is the difference between reporting the social capital access and being able to actually use it. The scale used measures for access and not the use of social capital, and perhaps the measure does not reflect the use of social capital in men. They may not want to use or may not feel confident in mobilizing resources as frequently as women [36]. On the other hand, there is evidence that believing one has someone to trust can be as important as really receiving support in a moment of need [37].

Borderline results in the association of the social support dimension with depression and CMD among men were found. Significative associations appeared only in the models adjusted by age, and the direction of the association indicates that low social capital seems to behave as a risk factor for the presence of depression and CMD. We could not find justifications for this finding in the literature.

Still, among men, in the final model that explores the association between social capital and CMD, in the dimension of prestige and education, we find an association in the opposite direction. Negative effects of social capital have been discussed in the literature [34]. In a recent systematic revision, the negative effects of social capital were raised and grouped in different mechanisms by which social capital may present itself as a risk factor for health [38]. Restrictions of individual liberty, unhealthy behaviors and exclusion of outsiders are situations that flow through social networks making social capital a phenomenon with effects in two directions. Nevertheless, in our study, we believe that this may have been an isolated result. Moreover, the negative effects of social capital in mental health are reported in disfavored groups and in women [29,39], whereas we identified such negative effects among men.

Educational level, understood as an indicator of the socio-economic position of participants, seems to have an important role as a confounder of the relationship between social capital and outcomes under study. We observed that in all models explored, its insertion produces a great fall in associations and, in some cases, turns the association non-significant. Similar results were found in a comprehensive Canadian population study [40], which did not manage to establish associations between social capital and mental health regardless of socio-economic position. Similarly, social capital was a better predictor of physical and mental health in women than in men.

When we refer to social capital, we approach the individual level. Some recent studies try to include in their approach [15] the collective level, that seeks to weigh the influence of social trust and political and economic context in the development and usage of social networks. We believe that this context analysis in understanding the difference in the availability of social capital among individuals is complementary to the analysis of individual perception of the presence of resources.

Despite finding association of social capital with CMD and depression, it is known that to evaluate mental health, one should understand its complexity and multiple factors involved, and thus one should consider the role of social capital when isolated of possible behavioral mediators in health (such as nutrition, physical activity and smoking) [41]. In addition, the ELSA-Brasil cohort is made of public servants. Thus, maybe our sample does not capture all the impact of social capital in mental health, as all cohort participants are employees who have a higher income than the Brazilian reality. Our study also did not contemplate the baseline questionnaire, CIS-R introductory questions that consider appetite and weight variations, which could have underestimated the prevalence of depressive episodes.

We can also understand the sectional design as a study limitation, which makes it difficult to determine the directionality of the association, despite having found causal models in previous studies [22], that developed the hypothesis of low social capital as a risk factor for common mental disorders. If, on one hand, low social capital could contribute to the occurrence of common mental disorders, on the other, common mental disorders could cause a lower investment in social networks, resulting in a lower social capital. Therefore, to differentiate risk factors from consequences is one of the greatest challenges of any study with sectional design.

This is the first study that uses the RG scale to establish the association between social capital, CMD and depression. Few works approach mental health and social capital in Brazil, and this way we can highlight this work's originality as one of its strong points. Moreover, the approach chosen to

examine the social capital construct with a trustworthy and valid scale, used previously in international studies, favors the comparison of results. The social capital research lacks standardization as it is frequently identified by isolated questions or with little standardization of instruments used, making the adequate comparison of results more difficult.

The instrument used to assess mental health is also a valid and trustful tool, widely used in international studies, and allows the identification of psychiatric diagnoses according to the ICD-10 criteria, besides presenting great psychometric properties in its usage in various studies. One can additionally point out, as a strength of this study, characteristics of the ELSA-Brasil cohort, which, from its conception to its execution, prevailed by the quality of data collection, provided for this work a great reliable and valid sample.

5. Conclusions

Our study helps in accumulating evidence of the usefulness of social capital based on resources, using the Resource Generator to evaluate the relation between the access at individual level to the social capital and mental health. The evidence that the association of social capital and mental health is more significant among women than among men corroborates the need for stratification by sex in the next studies. Thus, this study points out that strategies that promote social networks may be useful in the treatment and prevention of common mental disorders and depression, especially for women. CMD are among the greatest demands of primary mental health care for women [42], and are often treated only with medications, with no broader strategies for illness prevention and health promotion. In this context, social capital is particularly important as an alternative in planning better mental health assistance.

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