Original Article

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Revealing the enhancement effect of social capital on the individual performance of core members in elderly caring organizations: A study from Anhui, China

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SUMMARY Aging is a challenge to global development. This challenge is particularly significant for China because it has the largest elderly population worldwide. The proportion of aging population continues to increase, and solely relying on government efforts to meet the needs of the elderly is inadequate. Hence, involvement of social organizations in elderly care services is needed. Their core members exhibit higher sense of responsibility and identification with the organization than regular members, thus profoundly affecting organizational development. Based on the Social Capital Theory, this study employed a multistage stratified random sampling method to examine the social capital stock of elderly social organizations and their core members across six cities in Anhui Province, China. Chi-square tests analyzed the relationship between the core members' demographic factors and individual performance. Independent-sample *t*-tests assessed the relationship between social capital and individual performance. Finally, binary logistic regression models determined the factors influencing the individual performance of core members. Social networks within core members' social capital and the internal social capital of elderly caring social organizations (ESOs) affect the individual performance of core members. Therefore, organizations should provide more training opportunities for core members to expand their networks. Cultivating a shared language and vision as components of social capital can enhance organizational cohesion and operational stability.

Keywords elderly care, organizational management, social capital

1. Introduction

China is a developing country with an aging society. It not only has the largest elderly population in the world but also one of the fastest growing aging rates (*1*). Data from the Seventh National Population Census in 2020 show that 18.70% of China's population is aged 60 years and above, while 13.50% is aged 65 years and above, approaching a moderate level of aging (*2*). China's aging population is projected to peak by the mid-21st century, with the proportion of the population aged 65 years and above approaching 30% of the total population. The daunting trend of population aging poses significant challenges to existing healthcare insurance systems and elderly care services (*3*). Strengthening the construction of elderly care service systems is an indispensable path to address population aging. Thus, strengthening the elderly care service systems is indispensable. Social organizations (SOs) are citizen groups outside the government and market systems and are characterized by organization, private ownership, non-profit orientation, autonomy, and voluntarism. Elderly caring social organizations (ESOs) are non-profit groups dedicated to serving seniors through community services, volunteer coordination, and care facility establishment aimed at enhancing quality of life and happiness through socialized care and support (*4*). As one of the main service entities, ESOs play a crucial role in elderly care services to address the goals pertaining to healthy aging. As of 2022, in Jiangsu Province, which is one of the highly populated areas in China, there were 2,192 elderly care institutions and 730,000 beds in Jiangsu Province. Of these, 70% were operated or managed by social forces (*5*). The Chinese government has recently begun considering the role of SOs in elderly care services as significant. As early as 2013, the "Several Opinions on Accelerating

the Development of the Elderly Service Industry" mentioned the need to fully leverage the leading role of SOs, encouraging the participation of social capital to meet the diverse needs of elderly care services (*6*). The "14th Five-Year Plan" for the development of national elderly care and the establishment of a pension service system released in 2021 explicitly proposed the complete mobilization of the enthusiasm of SOs to provide elderly care services and guide and the promotion of the standardized development of social organizations (*7*). Therefore, enhancing the efficiency and quality of elderly care services provided by SOs is an effective approach to address the pressure of population aging in China.

Despite government policies providing support, the underdevelopment and overall weak capabilities of SOs continue to constrain their growth in China. These organizations still face challenges, such as insufficient development resources, inadequate internal growth, an incomplete performance evaluation system, and lack of external support. These internal and external deficiencies result in SOs not fully leveraging their inherent advantages to participate in elderly care services (*8*). Relevant studies have shown that the accumulation and cultivation of social capital facilitate the development of SOs (*9-11*). The origin of the Social Capital Theory can be traced back to the field of Sociology in the 19th century. One of its main contributors, Robert Putnam, defined social capital as follows: "Social capital refers to the features of networks, trust, and norms within social organizations, which enhance social efficiency by facilitating coordinated actions among individuals and groups (*12*)." Social capital can be divided into organizational and personal social capital. The core elements of social capital, such as social networks, trust, social support, and norms, are essential for the survival and development of SOs. By accumulating and nurturing organizational social capital, organizations can strengthen their connections with external resources and support; they can also acquire more partners and opportunities, thereby enhancing their influence and sustainable development capabilities (*13*). Developing personal social capital at the individual level is crucial in expanding the network of relationships and accessing the resources necessary for personal growth. This is particularly vital for managers and leaders because social capital provides them with valuable information and influence, thereby improving their performance and leadership skills. This enables them to effectively acquire the knowledge and resources required to establish outstanding organizations, ultimately enhancing organizational performance (*14*).

In summary, applying the Social Capital Theory to promote the development of SOs has theoretical compatibility. Although this theory has been applied to elderly care services, existing research primarily focused on exploring the social capital of service recipients, namely the elderly (*15-17*). Research concentrating on the core members of ESOs remains limited. The core members of an organization typically include its founders, leaders, legal representatives, and key management personnel. As pivotal figures within an organization, core members significantly influence the organization's development (*18*). Despite this, there is a lack of research on the relationship between core members' performance and social capital. The impact of social capital on their performance is unknown. Therefore, this study selected core members of ESOs as research subjects to explore the relationship between social capital at different levels and core members' performance. This exploration has vital implications for improving elderly care service provisions, meeting diverse elderly care needs, and promoting healthy aging.

2. Methods

2.1. Study design and data collection

This study was conducted in China's Anhui Province from November to December 2019. Anhui Province is situated in southeast China. By the end of 2019, the elderly population aged 60 years and above in Anhui reached 11.72 million, accounting for 18.41% of the resident population, ranking among the highly populated provinces nationwide (*19*). Anhui actively encourages participation in social capital in public services, such as healthcare, sanitation, and elderly care to expand the supply of public products and services. The immense demand for social services offers ample space for the development of SOs. The province has 1,572 SOs in elderly care (*20*), providing abundant research samples for this study and representing a typical province for researching ESOs. The on-site survey utilized a multistage stratified sampling approach. In the first stage, two cities were selected from each of the northern, central, and southern regions of the Anhui Province based on geographical and economic factors. For the northern region, Fuyang and Suzhou cities were chosen; Lu'an and Huainan cities were selected for the central region; and the cities of Anqing and Chizhou were included for the southern region. Six cities were surveyed. Supplementary Document 1 (*http://www.biosciencetrends.com/action/getSupplementalData.php?ID=202*) provides the geographical location information of the survey sites. In the second stage, officials responsible for elder care services in the Civil Affairs Bureau of each selected city were interviewed. These interviews sought to gather information about the ESOs in each city and to identify all administrative districts, totaling 15 districts. Third, half of the SOs listed in the ESO register of each district's Civil Affairs Bureau were randomly selected for this study. The core members of these organizations were the study participants. The core members included founders, leaders, legal representatives, and key management personnel. If an organization had three or fewer core

Table 1. The individual performance of core members in ESOs

Performance 1	Have you received any recognition in the field of elderly care services?
Performance 2	Has the team you led received any recognition in the field of elderly care services?
Performance 3	Have you and your team been featured in the media for your involvement in elderly care services?
Performance 4	Have you been appointed as a member of the association in the field of elderly care services?
Performance 5	Have you participated in discussions or drafting of local elderly care service standards?

members, all the core members of that organization were included in the survey. However, in organizations with more than three core members, only three members were randomly selected for the survey.

Survey administration was coordinated by civil affairs bureaus in each city and district. The trained survey team comprised postgraduate students from Anhui Medical University.

Face-to-face surveys were conducted with the assistance of ESO staff members. The study participants received advanced notifications prior to the interviews. Each participant was informed about the study's objectives and procedures, and informed consent was obtained. A total of 305 valid responses were collected from 49 ESOs. Relevant details can be found in other studies *(9,21)*.

2.2. Measurement

2.2.1. Social capital

Social capital was the main independent variable in this study. Its measurement included three aspects, namely the social capital of core individuals, social capital within organizations, and social capital outside organizations.

In the field of elderly care, core individuals' social capital refers to the total resources obtained by individuals through their social relationships, trust, support, and other means during organizational activities. The Core Individual Social Capital Scale has four dimensions, namely social networks, trust, social support, cohesion, and sense of belonging. Organizational internal social capital refers to the sum of tangible and potential resources embedded within an organization, obtained through network relationships, and possessed by individuals or the organization. It comprises five dimensions, namely networks (formal and informal), trust, support, norms, common language, and vision. Organizational external social capital is the network of synergy and cooperation established between organizations, the government, and other organizations, and the reciprocal symbiotic relationship formed in this network. It has five dimensions, namely participation, trust, support, norms, common language, and vision. All three social capital measurement questionnaires use a five-point Likert scale (1 = completely disagree; 5 = completely agree). The score for each dimension of social capital is the sum of the scores of the respective subdimensions. Higher scores indicate higher social capital. In this study, the Cronbach's alpha coefficient was 0.86 for the Core Personal Social Capital Scale, 0.92 for the Internal Organizational Social Capital Scale, and 0.93 for the External Organizational Social Capital Scale. The application and measurement details of the scale can be found in published articles (*9,21,22*). Supplementary Document 2 (*http://www.biosciencetrends.com/action/getSupplementalData.php?ID=202*) provides the detailed information on the survey questionnaire.

2.2.2. Core members' performance

The individual performance of core members was the dependent variable in this study. We used a self-developed questionnaire to assess the individual performance of the core members. As shown in Table 1, we employed five questions to evaluate individual performance (Performances 1 to 5). The responses to each question were either "yes" or "no." These indicators served as crucial references for the individual performances by reflecting the members' industry recognition and professional influence in elderly care services. All questions were finalized through multiple rounds of expert assessment, ensuring a high degree of objectivity in evaluating the achievements of core members in senior care services. Furthermore, this questionnaire has been used in similar studies; its reliability and validity have been confirmed in previous publications (*22*). In this study, the Cronbach's alpha for individual performance was 0.615, which meets the minimum acceptable limit of 0.6 (*23*).

2.2.3. Other variables

The sociodemographic variables included in this study were, gender (male, female), age (≤ 40, 41-49, ≥ 50), marital status (unmarried, widowed or divorced, married). Information regarding the basic work details of core members also included the years of service in the organization (≤ 1, 2-5, > 5), the years of experience in elderly care (≤ 1, 2-5, > 5), professional qualification (no, yes), attendance of management training program (no, yes), attendance of skill-based training program (no, yes), and type of work (part-time, full-time).

2.3. Statistical analysis

Descriptive statistics were used to characterize the samples using SPSS 26.0. Continuous variables were reported as mean ± standard deviation, while categorical variables were reported as percentages (%).

Sociodemographic factors and individual performances among the core ESO members were subjected to a univariate analysis using the chi-squared test. A *t*-test was employed to discern the variations in internal, external, and individual social capital across core members exhibiting different levels of performance. Finally, the variables that showed statistical significance in the Chi-square and the *t*-test analyses were incorporated into a multiple regression model using the Stepwise Forward Method. In this model, the five individual performance indicators were treated as dependent variables, with the positive outcomes from the univariate analysis serving as independent variables. Statistical significance was set at $P < 0.05$.

3. Results

3.1. Results of demographic data

A total of 308 questionnaires were collected from the core members of the organizations, of which 305 were considered valid, resulting in a questionnaire response rate of 99.02%. Table 2 summarizes the sociodemographic characteristics of the members. The majority were males (57.7%), and over half of the members were aged 50 years and above (50.1%). Only 90 individuals (29.5%) had an educational background of junior high school or below.

The vast majority (92.1%) of core members reported being married, and a considerable proportion (38.4%) had worked in the organization for two to five years. Of the core members, 39.1% had worked in elderly care for over 5 years, 84.9% did not possess any professional qualification certificates, and 93.8% worked full-time. A greater proportion participated in the management training program (70.2%) and skill-based training program (67.9%).

Table 2. Sociodemographic characteristics of core members

Variables	*N* (%)
Gender	
Male	176 (57.7)
Female	129 (42.3)
Age (years)	
≤ 40	71 (23.3)
41-49	81 (26.6)
≥ 50	153 (50.1)
Education	
Junior high school and below	90 (29.5)
Senior high school	113 (37.0)
College degree and above	102 (33.5)
Marital status	
Unmarried, widowed, or divorced	24 (7.9)
Married	281 (92.1)
Years of service in the organization	
≤ 1	99 (32.5)
2-5	117 (38.4)
> 5	89 (29.2)
Years of engaged in elderly care	
≤ 1	76 (24.9)
2-5	110 (36.1)
> 5	119 (39)
Professional Qualification	
No	259 (84.9)
Yes	46 (15.1)
Attending management training program	
No	91 (29.8)
Yes	214 (70.2)
Attending skill-based training program	
No	98 (32.1)
Yes	207 (67.9)
Type of work	
Part-time	19 (6.2)
Full-time	286 (93.8)

3.2. Results of univariate analysis

3.2.1. Univariate analysis of sociodemographic factors and individual performance among core members

Table 3 illustrates the impact of core members' sociodemographic factors on individual performance. The independent variables were the sociodemographic factors of core members, while the dependent variable was the individual performance of core members, consisting of five variables (Performance 1 to Performance 5).

Performances 1-5 were characterized by a majority of male core members. They had over five years of experience in elderly care and had received both management and skill-based training. Most of the core members who achieved *Performance 1* had professional qualifications, spent ≥ 5 years in their current organization, and were also married. In *Performance 2*, more than half of the core members worked full-time. Most core members who attained *Performance 3* possessed college-level degrees or above, had additional professional qualifications, and spent to two to five years of service in the current organization. A greater proportion of core members who achieved *Performance 5* had a college-level degree or higher and professional qualifications.

3.2.2. Univariate analysis of sociodemographic factors and individual performance among core members

Table 4 presents the univariate analysis results of core members' social capital scores across various dimensions of individual performance. The findings indicate:

CmSC was statistically significant in all the Performances 1, 2, 3, 4, and 5 ($t = 3.28$, $P = 0.001$; $t = 3.487$, $P = 0.001$; $t = 3.699$, $P < 0.001$; $t = 2.218$, $P = 0.028$; and $t = 2.325$, $P = 0.021$, respectively).

Social networks in CmSC across Performance 1, 2, 3, and 5 were statistically significant ($t = 4.861$, $P < 0.001$, $t = 4.388$, $P < 0.001$, $t = 3.916$, $P < 0.001$, and $t = 3.243$, $P = 0.001$, respectively). CmSC cohesiveness and sense of belonging were statistically significant for Performances 3 and 4 ($t = 3.103$, $P = 0.002$ and $t = 2.218$, $P = 0.028$, respectively). The total ISC was statistically significant

Table 3. Univariate analysis results of individual performance of core members

Variables	*Performance 1*		*Performance 2*		*Performance 3*		*Performance 4*		*Performance 5*	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Gender										
Male	50	126	88	88	90	86	30	146	33	143
Female	32	97	42	87	81	48	36	93	23	106
χ^2	0.492		9.26		4.105		5.179		0.042	
P	0.483		**0.002**		**0.043**		**0.023**		0.837	
Age(years)										
≤ 40	19	52	25	46	48	23	19	52	17	54
41-49	22	40	26	36	38	24	15	47	13	49
≥ 50	41	131	79	93	85	87	32	140	26	146
χ^2	3.145		2.376		7.611		2.271		2.965	
P	0.207		0.305		**0.022**		0.321		0.227	
Education										
Junior high school and below	18	72	39	51	35	55	16	74	10	80
Senior high school	33	80	48	65	68	45	22	91	20	93
College degree and above	31	71	43	59	68	34	28	74	26	76
χ^2	3.118		0.029		16.209		3.137		6.647	
P	0.21		0.986		**< 0.001**		0.208		**0.036**	
Marital status										
Unmarried, widowed, or divorced	2	22	7	17	12	12	3	21	7	17
Married	80	201	123	158	159	122	63	218	49	232
χ^2	4.561		1.929		0.389		1.283		2.029	
P	**0.033**		0.165		0.533		0.257		0.154	
Professional Qualification										
Yes	64	138	86	116	126	76	53	149	44	158
No	18	85	44	59	45	58	13	90	12	91
χ^2	7.005		0.001		9.671		7.459		4.672	
P	**0.008**		0.981		**0.002**		**0.006**		**0.031**	
Attending management training program										
Yes	73	141	109	105	130	84	57	157	47	167
No	9	82	21	70	41	50	9	82	9	82
χ^2	19.057		20.261		6.383		10.559		6.208	
P	**< 0.001**		**< 0.001**		**0.012**		**0.001**		**0.013**	
Attending skill-based training program										
Yes	69	138	97	110	128	79	54	153	44	163
No	13	85	33	65	43	55	12	86	12	86
χ^2	13.627		4.729		8.708		7.515		3.603	
P	**< 0.001**		**0.03**		**0.003**		**0.006**		0.058	
Years of service in the organization										
≤ 1	18	81	32	67	43	56	15	84	18	81
2-5	30	87	46	71	70	47	28	89	18	99
> 5	34	55	52	37	58	31	23	66	20	69
χ^2	9.706		13.907		10.079		3.747		1.697	
P	**0.008**		**0.001**		**0.006**		0.154		0.428	
Years of engaged in elderly care										
≤ 1	7	69	20	56	30	46	7	69	11	65
2-5	29	81	46	64	68	42	30	80	18	92
> 5	46	73	64	55	73	46	29	90	27	92
χ^2	20.48		14.352		11.318		9.505		2.546	
P	**< 0.001**		**0.001**		**0.003**		0.009		0.28	
Type of work										
Part-time	1	18	4	15	7	12	3	16	2	17
Full-time	81	205	126	160	164	122	63	223	54	232
χ^2	4.819		3.855		3.04		0.124		0.83	
P	**0.028**		**0.05**		0.081		0.725		0.362	

for Performances 3 and 5 (t = 3.380, P = 0.001, and t = 2.906, P = 0.004). Additionally, the subdimensions of the ISC informal network (t = 2.374, P = 0.018), ISC support (t = 3.985, P < 0.001), ISC norms (t = 2.289, P = 0.023), and ISC common language and vision (t = 2.643, P = 0.009) were statistically significant in Performance 3. Similarly, for Performance 5, ISC support (t = 2.445, P = 0.016), ISC common language and vision (t = 4.010, P < 0.001), and Performances 3 and 5 showed statistically significant associations with the respective total ESC (t =2.012, P < 0.045, t = 2.579, P = 0.010). Sub-dimensions of Performance 3: ESC trust (t = 2.191, P = 0.029) and ESC norm scores (t = 2.028, P = 0.044). Similarly, ESC participation (t = 3.143, P = 0.002), ESC support (t = 3.341, P = 0.001), and ESC common language and vision scores (t = 2.019, P = 0.046) were significantly

Table 4. Univariate analysis results of individual performance of core members and various dimensions of social capital

Social capital indicators	*Performance 1*		*t*	*P*	*Performance 2*		*t*	*P*	*Performance 3*	
	Yes	No			Yes	No			Yes	No
Core member social capital (CmSC)										
Total Score	22.16 ± 3.79	20.64 ± 2.97	3.280	**0.001**	21.79 ± 3.47	20.49 ± 3.02	3.487	**0.001**	21.65 ± 3.21	20.28 ± 3.21
From social network	3.59 ± 2.59	2.07 ± 1.84	4.861	**< 0.001**	3.12 ± 2.42	2.01 ± 1.83	4.388	**< 0.001**	2.89 ± 2.29	1.95 ± 1.88
From trust	10.49 ± 1.79	10.69 ± 0.95	0.979	0.330	10.63 ± 1.48	10.65 ± 1.02	-0.149	0.882	10.73 ± 1.32	10.52 ± 1.11
From social support	4.93 ± 0.97	4.76 ± 1.11	1.254	0.211	4.89 ± 0.98	4.74 ± 1.14	1.220	0.223	4.83 ± 1.06	4.78 ± 1.09
From cohesiveness and sense of belonging	3.15 ± 0.41	3.11 ± 0.45	0.666	0.506	3.15 ± 0.39	3.10 ± 0.47	1.119	0.264	3.19 ± 0.35	3.23 ± 0.35
Internal organizational social capital (ISC)										
Total Score	20.81 ± 1.84	20.6 ± 1.95	0.854	0.394	20.85 ± 3.47	20.51 ± 3.02	1.523	0.129	20.99 ± 1.56	20.23 ± 2.24
From informal network	1.54 ± 0.39	1.48 ± 0.48	1.139	0.256	1.55 ± 2.42	1.47 ± 1.83	1.506	0.133	1.55 ± 0.43	1.43 ± 0.47
From formal network	1.86 ± 0.36	1.92 ± 0.32	-1.400	0.163	1.90 ± 1.48	1.91 ± 1.02	0.133	0.825	1.90 ± 0.34	1.90 ± 0.33
From trust	5.04 ± 0.44	5.04 ± 0.51	-0.019	0.985	5.07 ± 0.98	5.02 ± 1.14	0.781	0.435	5.08 ± 0.42	5.00 ± 0.57
From support	4.48 ± 0.49	4.35 ± 0.74	1.697	0.091	4.45 ± 0.39	4.34 ± 0.47	1.407	0.160	4.53 ± 0.43	4.20 ± 0.88
From norms	4.33 ± 0.4	4.3 ± 0.43	0.519	0.604	4.34 ± 1.87	4.28 ± 1.95	1.146	0.253	4.36 ± 0.34	4.24 ± 0.51
From common language and vision	3.56 ± 0.37	3.5 ± 0.41	1.222	0.224	3.55 ± 0.42	3.49 ± 0.48	1.277	0.202	3.57 ± 0.32	3.45 ± 0.47
External organizational social capital (ESC)										
Total Score	25.35 ± 3.22	24.9 ± 3.45	1.030	0.304	25.01 ± 0.36	25.03 ± 0.32	-0.042	0.967	25.38 ± 3.04	24.57 ± 3.76
From participation	6.73 ± 1.55	6.49 ± 1.55	1.203	0.230	6.52 ± 0.44	6.58 ± 0.53	-0.332	0.740	6.68 ± 1.49	6.40 ± 1.66
From trust	9.31 ± 1.22	9.15 ± 1.28	0.952	0.342	9.22 ± 0.60	9.18 ± 0.73	0.251	0.802	9.34 ± 1.11	9.01 ± 1.42
From support	2.33 ± 0.6	2.29 ± 0.71	0.528	0.598	2.31 ± 0.38	2.30 ± 0.45	0.189	0.851	2.33 ± 0.67	2.26 ± 0.70
From participation	2.57 ± 0.3	2.59 ± 0.27	-0.546	0.586	2.59 ± 0.38	2.58 ± 0.41	0.381	0.704	2.62 ± 0.23	2.55 ± 0.33
From common language and vision	4.4 ± 0.58	4.38 ± 0.59	0.370	0.712	4.37 ± 3.37	4.39 ± 3.41	-0.293	0.770	4.41 ± 0.54	4.35 ± 0.64

Table 4. Univariate analysis results of individual performance of core members and various dimensions of social capital (Continued)

Social capital indicators	*t*	*P*	*Performance 4*		*t*	*P*	*Performance 5*		*t*	*P*
			Yes	No			Yes	No		
Core member social capital (CmSC)										
Total Score	3.699	**< 0.001**	21.60 ± 3.02	20.89 ± 3.33	1.566	0.118	21.60 ± 3.02	20.89 ± 3.33	2.325	**0.021**
From social network	3.916	**< 0.001**	2.75 ± 2.06	2.40 ± 2.20	1.145	0.253	2.75 ± 2.06	2.40 ± 2.20	3.243	**0.001**
From trust	1.527	0.128	10.84 ± 0.63	10.58 ± 1.35	2.218	**0.028**	10.84 ± 0.63	10.58 ± 1.35	-1.140	0.259
From social support	0.428	0.669	4.79 ± 1.17	4.81 ± 1.05	-0.157	0.875	4.79 ± 1.17	4.81 ± 1.05	1.800	0.073
From cohesiveness and sense of belonging	3.103	**0.002**	3.03 ± 0.53	3.09 ± 0.46	2.515	**0.013**	3.23 ± 0.35	3.09 ± 0.46	2.649	**0.009**
Internal organizational social capital (ISC)										
Total Score	3.380	**0.001**	21.00 ± 1.72	20.56 ± 1.97	1.631	0.104	21.00 ± 1.72	20.56 ± 1.97	2.906	**0.004**
From informal network	2.374	**0.018**	1.61 ± 0.39	1.47 ± 0.47	2.397	**0.018**	1.61 ± 0.39	1.47 ± 0.47	1.909	0.057
From formal network	-0.002	0.998	1.89 ± 0.37	1.91 ± 0.33	-0.312	0.755	1.89 ± 0.37	1.91 ± 0.33	0.900	0.369
From trust	1.241	0.216	5.08 ± 0.41	5.03 ± 0.52	0.586	0.558	5.08 ± 0.41	5.03 ± 0.52	0.948	0.344
From support	3.985	**< 0.001**	4.49 ± 0.62	4.36 ± 0.70	1.522	0.131	4.49 ± 0.62	4.36 ± 0.70	2.445	**0.016**
From norms	2.289	**0.023**	4.34 ± 0.33	4.30 ± 0.44	0.781	0.436	4.34 ± 0.33	4.30 ± 0.44	1.097	0.274
From common language and vision	2.643	**0.009**	3.59 ± 0.33	3.50 ± 0.41	1.936	0.055	3.59 ± 0.33	3.50 ± 0.41	4.010	**< 0.001**
External organizational social capital (ESC)										
Total Score	2.012	**0.045**	25.37 ± 3.07	24.93 ± 3.47	0.945	0.345	25.37 ± 3.07	24.93 ± 3.47	2.579	**0.010**
From participation	1.535	0.126	6.79 ± 1.48	6.49 ± 1.59	1.380	0.169	6.79 ± 1.48	6.49 ± 1.59	3.143	**0.002**
From trust	2.191	**0.029**	9.42 ± 1.05	9.13 ± 1.31	1.898	0.060	9.42 ± 1.05	9.13 ± 1.31	1.097	0.273
From support	0.891	0.374	2.24 ± 0.67	2.32 ± 0.68	-0.802	0.423	2.24 ± 0.67	2.32 ± 0.68	3.341	**0.001**
From participation	2.028	**0.044**	2.54 ± 0.30	2.60 ± 0.27	-1.412	0.161	2.54 ± 0.30	2.60 ± 0.27	0.171	0.864
From common language and vision	0.904	0.367	4.37 ± 0.65	4.39 ± 0.57	-0.179	0.858	4.37 ± 0.65	4.39 ± 0.57	2.019	**0.046**

associated with Performance 5. Performance 4 was significantly associated with ISC informal social networks ($t = 2.397$, $P = 0.018$)

3.3. Results of binary logistic regression analysis

Significant variables identified in the univariate analysis were included in the multiple-factor regression model, and the analysis was conducted using the Stepwise Forward Method. Table 5 summarizes the results.

Performance 1: The results of binary logistic regression analysis (Table 5) indicate that not attending management training program and not attending skill-based training program decreased the likelihood achieving performance 1 at OR = 0.34 (95% CI = 0.151–0.788) and OR = 0.38 (95% CI = 0.174–0.831), respectively. However, having 2.5 years (OR = 6.474, 95% CI = 2.477–16.923) and over 5 years (OR = 3.927, 95% CI = 1.463–10.542) of engagement in elderly care increased the likelihood of achieving Performance 1. Additionally, working full time (OR = 8.911, 95% CI = 1.038–76.464), possessing a strong social network (OR = 1.36, 95% CI = 1.186–1.559), and being married (OR = 5.621, 95% CI = 1.169–2.703) increased the likelihood of attaining Performance 1.

Performance 2: In the bivariate analysis, being a female core member (OR = 0.483, 95% CI = 0.286–

Table 5. Multifactor analysis of factors influencing the individual performance of core members

Variables	*P*	OR	95%CI
Performance 1			
Attending management training program			
Yes (*ref*)		1.000	
No	0.012	0.344	0.151-0.788
Attending skill-based training program			
Yes (*ref*)		1.000	
No	0.015	0.380	0.174-0.831
Years of engaged in elderly care			
≤ 1 (*ref*)		1.000	
2-5	0.007	3.927	1.463-10.542
> 5	**< 0.001**	6.474	2.477-16.923
Type of work			
Part-time (*ref*)		1.000	
Full-time	0.046	8.911	1.038-76.464
CmSC Social network	**< 0.001**	1.360	2.477-16.923
Marital status			
Unmarried, widowed, or divorced		1.000	
Married	0.031	5.621	1.169-2.703
Performance 2			
Gender			
Male (*ref*)		1.000	
Female	0.007	0.483	0.286-0.817
Attending management training program			
Yes (*ref*)		1.000	
No	**< 0.001**	0.332	0.184-0.598
Type of work			
Part-time (*ref*)		1.000	
Full-time	0.036	3.728	1.091-12.739
CmSC Social network	**< 0.001**	1.254	1.106-1.421
Performance 3			
Years of engaged in elderly care			
≤ 1 (*ref*)		1.000	
2-5	0.001	2.903	1.527-5.521
> 5	0.001	3.127	1.625-6.017
CmSC Social network	0.015	1.179	1.186-1.559
ISC Support	0.001	2.102	1.369-3.227
Performance 4			
Attending management training program			
Yes (*ref*)		1.000	
No	0.001	0.283	0.132-0.611
Professional Qualification			
Yes (*ref*)		1.000	
No	0.016	0.425	0.211-0.854
Performance 5			
Professional Qualification			
Yes (*ref*)		1.000	
No	0.012	0.393	0.19-0.814
CmSC Social network	0.005	1.050	1.015-1.087
ISC common language and vision	0.020	4.227	1.259-14.186

Table 6. Summary of the individual performance model for core members

Variables	*Performance 1*	*Performance 2*	*Performance 3*	*Performance 4*	*Performance 5*
Attending management training program	√	√		√	
Attending skill-based training program	√				
Professional qualification				√	√
Years of engaged in elderly care	√		√		
Type of work	√	√			
Marital status	√				
Gender		√			
CmSC Social network	√	√	√		√
ISC Support			√		
ISC common language and vision					√

0.817) and not receiving management training (OR = 0.332, 95% CI = 0.184–0.598) decreased the likelihood of achieving Performance 2. In contrast, working full time (OR = 3.728, 95% CI = 1.091–12.739) and having a high social network score (OR = 1.254, 95% CI = 1.106–1.421) increased the chances of Performance 2.

Performance 3: As shown in Table 5, having 2-5 years (OR = 3.127, 95%CI = 1.625–6.017) and over 5 years (OR = 2.903, 95% CI = 1.527–5.521) of engagement in elderly care increased the chances of Performance 3. Likewise, high CmSC social network score (OR = 1.179, 95% CI = 1.186–1.559) and high ISC support (OR = 2.102, 95% CI = 1.369–3.227) increased the likelihood of Performance 3.

Performance 4: Not receiving management training and not possessing professional qualifications decreased the chances of achieving good Performance 4 (OR = 0.283, 95% CI = 0.132–0.611 and OR = 0.425, 95% CI = 0.211–0.854), respectively.

Performance 5: The results show that not having professional qualifications (OR = 0.393, 95% CI = 0.19–0.814) decreased the chance of performance 5. Conversely, , a one-point increase in CmSC social network score (OR = 1.05, 95% CI = 1.015–1.087) and a one-point increase in ISC common language and vision (OR = 4.227, 95% CI = 1.259–14.186) increased the likelihood of Performance 5.

Summary of personal performance model: Summarizing the binary logistic regression results in Table 6, we observed that the most influential factor affecting the individual performance of core members was the CmSC's social network. Other significant influencing factors included attending management training programs, obtaining professional qualifications, years of engagement in elderly care, and type of work.

4. Discussion

This study investigated the relationship between organizational social capital stock and how the social capital possessed by core members influences individual performance. This study found significant associations between social capital and individual performance attributable to factors, such as attending management training programs, skill-based training programs, professional qualifications, sex, marriage, type of work, CmSC social network, ISC support, ISC common language and vision, and the years of experience in elderly care.

The fast-aging population of China (*24*) has resulted in a swift expansion of the elderly population coupled with their comparatively diminished health conditions, which has generated substantial demands for elderly care. Therefore, ESOs witness unprecedented opportunities and challenges (*25*). This double-edged scenario highlights the crucial role of the core members of ESOs in influencing the operations and quality of services (*26*). Exploring strategies to enhance the performance of key members is of paramount significance in elevating the service quality of elderly care organizations, refining their capacity to meet service demands, and mitigating the challenges associated with elderly care services. This study adopted a social capital perspective and examined the factors that influence core members' individual performances. The subsequent sections discuss how different dimensions of social capital and other variables affect the performance of ESOs' core members.

4.1. Social Capital and Individual Performance

Our analysis suggests that core members' social networks predominantly influence their performance. Those with higher social network scores perform more extensively in elderly care. This is consistent with the results of previous studies (*27-28*). We argue that core members with high social networks are more likely to enjoy media reporting and, in some instances, receive awards for their contributions to elderly care. They may also participate in drafting or discussing the local elderly care service standards. Wide social networks serve as proxies for accessing resources, including those essential for task completion and experiential information related to tasks (*29*). Social networks help individuals acquire and assimilate potentially valuable knowledge (*30*). All these, in turn, facilitate organizational development and recognition in the professional sphere. A study in the Netherlands showed that the most successful managers in businesses spend 70% more time participating in social

network activities than less successful ones (*31*).

In the organizational social capital dimension, our research indicates that elements like support, a common language, and a shared vision within the organization's internal social capital can influence individual performance. Specifically, core individuals who receive more support from ESOs have a greater likelihood of both themselves and their teams being covered by media reports. This is attributed to the support, both material and non-material, provided by ESOs, such as opportunities for training or further education, which leads to the professional development of the employees. Consequently, competence was enhanced and performance improved. Noteworthy accomplishments frequently attract the attention of the media and public. Media coverage contributes to the construction of a positive organizational image of ESOs, enhancing the organization's reputation and influence. This fosters support for employees within an organization (*32*).

A common language and vision reflect the extent to which members of an organization possess a common understanding of the professional knowledge and skills needed to conduct their work as well as their identification with the organization's goals and mission. A strong reserve of professional knowledge and experience in the elderly service industry gives core members the opportunity to participate in the drafting and discussion of local standards for elderly services. Identification with the philosophy and values of the SO for the elderly makes them willing participants in the formulation of policies and standards related to elderly services, thus promoting the alignment of these policies and standards with the organization's philosophy and goals (*33*).

However, in contrast to previous findings (*34-35*), this study did not identify a positive influence of external social capital on individual performance. One possible explanation is that external social capital refers to tangible and potential resources derived from an organization's collaborative networks established with external stakeholders (*36*). In Anhui, ESOs face challenges, such as high entry barriers and an underdeveloped coordination mechanism (*37*). Thus, there are few connections between ESOs and governments. This scarcity results in a limited reserve of external social capital, making it challenging to influence performance. Additionally, differences in the questionnaires used to measure external social capital may be an implicit factor contributing to this result.

4.2. Other variables influencing individual performance

Regarding the sociodemographic factors of core members, factors like training participation, possession of qualifications or certifications, and years of experience in elderly care services significantly influenced their performance of core members. Previous studies have established the significant impact of training on employee performance (*38*). Business training stands out as a key avenue for enhancing the job skills and professional knowledge of core members, thereby boosting their capacity to adapt to change. Heightened ability is often positively associated with improved job performance. Core members who lack professional certifications often exhibit poorer job performance. One significant reason for this is that, within ESOs, employees without certifications typically engage in lower-level positions, affording them fewer opportunities to receive training in elderly care service management and skills (*39*). Consequently, this contributes to lower job performance. For core members with extensive experience in elder care services, prolonged involvement in the field resulted in a wealth of practical knowledge. They availed of increased training opportunities, established deeper social networks, and attained higher levels of expertise and skills. Consequently, these aspects positively affect job performance. Additionally, variables like gender, marital status, and job type exert varying degrees of influence on the individual performance of core members.

Furthermore, it's important to note that the outbreak of the COVID-19 pandemic has resulted in a lack of survey data on elderly caring social organizations during this period. As a result, this study is unable to investigate the impact of the COVID-19 pandemic on the core members of these organizations. However, existing literature suggests that social capital can mitigate the disruptive effects of the pandemic, reducing its impact on individuals (*40*). Therefore, in the current context of normalized epidemic prevention and control measures, this research still offers valuable insights into performance enhancement strategies for core members of elderly caring social organizations.

4.3. Countermeasures and proposals

In light of the research outcomes, we recommend the following to enhance the performance of core members in elderly social organizations:

First, organizations should provide comprehensive support for the professional development of core members. This involves actively guiding and encouraging active participation in various professional training programs to continually enhance job capabilities. Moreover, it is crucial to expand interpersonal networks in elderly services. Actively fostering relationships with other organizations is essential for preventing the loss of social capital. Leveraging the advantages of social media is instrumental. Through online platforms, core members can exchange and share experiences with elderly services, establish communication channels with peers, and broaden their social networks.

Second, enhancing external engagement is imperative. This involves actively participating in government initiatives such as public service procurement projects

and collaborating with the government, higher education institutions, volunteer organizations, and other relevant entities to cultivate robust partnerships. This promotes synergistic development and increases the reserves of external social capital.

Finally, we suggest retention strategies and practices for core members with extensive experience and prolonged service. This may include the provision of additional career development opportunities, greater remuneration, and improved benefits. Employees with a long history of elderly services often have valuable experience and knowledge that can be shared for succession. This is instrumental in maintaining organizational stability and improving operational efficiency in ESOs.

However, we acknowledge some limitations of this study. First, because of the COVID-19 pandemic, elderly care facilities across regions implemented access restrictions, thereby limiting the conduct of surveys during the pandemic period. Consequently, this study did not incorporate survey data on social capital during the COVID-19 pandemic. Thus, it is a cross-sectional study that is unable to ascertain the impact of the COVID-19 pandemic on social capital. Second, the inherent limitations of cross-sectional studies render it impractical to establish a causal relationship between social capital and individual performance. Finally, the research sample was drawn solely from the Anhui Province, which may hinder generalizability.

5. Conclusions

The personal social networks of core members within elderly social organizations and certain elements of internal social capital within the organization can influence their job performance of these core members. Enhancing the social capital of core members can assist ESOs in obtaining more developmental resources, thereby improving the overall performance of the organization. Therefore, at the individual level, SOs should enhance the job capabilities of core members by providing more training opportunities and establishing online platforms to broaden their social networks. At the organizational level, ESOs should actively seek interactions with the external environment, increase their external social capital reserves through project engagement and collaboration, and strengthen organizational cohesion by establishing a common language and vision to enhance operational stability.

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Declarations

Ethics approval and consent to participate: In this study, ethics approval was obtained from the Biomedical Ethics Committee of Anhui Medical University with reference number No. 20180181 before the commencement of data collection. All participants provided written informed consent before participating in the study. Participants were informed of the study's purpose, procedures, potential risks, and benefits, and their right to withdraw at any time without penalty. Confidentiality and anonymity were maintained throughout the study, and all data collected were stored securely to protect participants' privacy. In addition, all methods used in our study are in accordance with the Declaration of Helsinki.

Availability of data and materials: The datasets used during the current study are available from the corresponding author on reasonable request.

Additional documents: Supplementary Document 1 illustrates the geographical positions of Anhui Province and the respective locations of the survey sites, detailing the reliability and validity of each dimension. Supplementary Document 2 offers a concise overview of the scales employed in this study.

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