

Sense of Coherence and Caregiver Burden Among Informal Caregivers of People with Dementia in China: The Mediating Role of Coping Strategies

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Background: This study aimed to explore the relationship between SOC, coping strategies, and caregiver burden, and analyze the mediating role of coping strategies in the relationship between SOC and caregiver burden.

Methods: A cross-sectional study was carried out, involving 230 informal caregivers of people with dementia in Shanghai, China. The data collection period is May 21, 2024, to December 31, 2024. This study involved participants who filled out various questionnaires, encompassing demographic data, Sense of Coherence Scale (SOC-13), Brief COPE inventory, and Zarit Burden Interview (ZBI). Adoption of SPSS 27.0 for statistical analysis and Hayes' PROCESS (Model 4), and the mediating effect was validated by the bias-corrected nonparametric percentile bootstrap method.

Results: The caregiver burden was found at a moderate to severe level with the average score of 58.14(12.84). There was a negative correlation between SOC and caregiver burden ($r = -0.655$, $P < 0.05$), a positive correlation between SOC and emotion-focused coping strategies ($r = 0.397$, $P < 0.05$), and a negative correlation between SOC and dysfunctional coping strategies ($r = -0.513$, $P < 0.05$). However, there was no significant correlation between SOC and problem-focused coping strategies. The relationship between SOC and caregiver burden was partially mediated by emotion-focused strategies and dysfunctional coping strategies.

Conclusion: Significant relationship was found that SOC correlated with caregiver burden; To some extent, emotion-focused and dysfunctional coping strategies moderated the relationship between SOC and caregiver burden. Future interventions could focus on adapting and optimizing the coping behaviors of informal caregivers, using mediating mechanisms as entry points, with the aim of achieving more precise and effective care support.

Keywords: caregiver burden, dementia, informal caregivers, sense of coherence, coping strategies

Introduction

Dementia has become a global health issue. According to data reported by WHO,¹ the global number of people with dementia currently exceeds 55 million, and this figure is projected to increase to 139 million by 2050. In China, approximately 15.07 million people are affected by dementia, representing about one-quarter of the global dementia population, and the prevalence is expected to surge to 48.98 million by 2050, making it one of the countries with the fastest-growing rates in dementia incidence.² As the disease progresses, people with dementia experience a gradual deterioration in cognitive function, accompanied by impairments in orientation that increase the risk of accidental wandering or injuries. Ultimately, they lose the capacity for independent daily living, and the majority depend on informal caregivers—such as family members, friends, or neighbors—for routine home care.³ Caregiving involves support for everyday tasks, spanning from basic self-care to more complex instrumental activities, as well as providing health-related assistance. For example, this support may include managing medication schedules, coordinating and

accompanying patient to medical appointments, and contributing to decisions regarding their treatment and overall care.^{3–5} In addition, caregivers also provide emotional support and comfort (eg, emotional reassurance and calming interventions) to help alleviate distress and improve the overall wellbeing of people with dementia.^{3,4} These diverse and continuous caregiving responsibilities impose significant stress on caregivers, potentially leading to adverse psychological and physiological outcomes.⁶ This cumulative impact is commonly referred to as caregiver burden. Zarit et al⁷ (1986) defined caregiver burden as “the extent to which a caregiver’s emotional or physical health, social life, or financial status is affected by caregiving for a relative”. Research has shown that high levels of caregiver burden are not only associated with adverse outcomes among informal caregivers, such as depression, anxiety, and deteriorating physical health,⁸ but also exert a significant impact on the progression of the disease and patients’ quality of life.⁹ Caregiver burden is both an outcome of caregiving and a predictor of poorer mental health among informal caregivers. However, despite this association, not all caregivers exhibit this distress; many caregivers cope effectively and maintain balance. Understanding the underlying mechanisms behind these responses can help us provide more targeted support and resources.

The severity of negative outcomes is not determined solely by the stress events themselves. On the contrary, it is the individual’s appraisal of these stressors and the coping resources at their disposal that serve to mitigate the effects of stress. The theoretical model we refer to is the stress process model, which is utilized to investigate how individuals can alleviate negative outcomes from stressful events through subjective appraisal and coping strategies. Pearlin and his et.al differentiate between primary stressors—situations or events that directly trigger stress responses—and secondary stressors, which include additional burdens such as role conflict and economic challenges that arise as a consequence of the primary stressors.¹⁰ They further emphasize that individual differences in personality traits and cognitive appraisal lead to varied evaluations of the same situation, thereby influencing the degree of perceived stress.¹¹ Throughout this process, individuals not only rely on intrinsic psychological resources (such as sense of coherence, resilience, and self-efficacy) but also draw upon external support systems—including family, community, and broader social networks.^{12–14} These resources facilitate the adoption of effective coping strategies, such as problem-solving and emotion regulation, which together help to alleviate the impact of stress. Consequently, the ultimate effects of stress depend not only on the stressor itself but also on the combined influence of individual appraisal and coping responses. This model thereby provides a theoretical basis for explaining the variability observed among individuals when confronted with similar circumstances.

Coping, according to Lazarus and Folkman, is a process that refers to a set of responses and behaviors that a person undertakes when faced with stress and rising stress levels.¹⁵ Coping strategies refer to the attitudes and behaviors that individuals select when confronted with setbacks and challenges.¹⁶ During the caregiving process, the coping strategies adopted by informal caregivers play a critical role in maintaining their physical and mental health; effective and adaptive coping strategies may confer a protective benefit, alleviating caregiver distress.¹⁷ These coping strategies were divided into three categories by (Coolidge, Segal, et al).¹⁸ emotion-focused coping strategies, such as acceptance and seeking emotional support; problem-focused coping strategies, such as planning and obtaining advice from others; and dysfunctional coping strategies (representing less effective approaches), such as disengagement, self-blame, and substance abuse. Research consistently indicates that the use of dysfunctional coping strategies exacerbates the physical and mental health issues, financial burdens, and emotional stress experienced by informal caregivers.^{19–21} Conversely, emotion-focused coping strategies have been found to reduce the incidence of anxiety and depression and are associated with a lower caregiver burden.¹⁹ Longitudinal studies have also indicated that emotion-focused coping strategies can buffer the progressive increase in anxiety and burden over time.²² However, with regard to problem-focused coping strategies, the research findings are somewhat inconsistent: some studies suggest that these strategies exert a positive effect on caregiving stress,¹⁹ whereas others indicate that the beneficial impact may be confined to the short term, with the long-term buffering effect gradually diminishing.²² It may be because dementia is a progressive and irreversible condition, meaning that many of the challenges faced by caregivers cannot be fully resolved.²³ Therefore, investigating the factors that both promote adaptive coping strategies and suppress maladaptive responses is essential for developing interventions that improve health and reduce the burden on informal caregivers of dementia patients. This study, based on a review of the literature, aims to explore the role of sense of coherence in the caregiving stress process.

Sense of coherence (SOC) refers to an individual's level of satisfaction and confidence in addressing stressful situations, as well as their ability to comprehend stressful life events, mobilize internal and external resources, and perceive the meaning of life.^{24,25} It encompasses three dimensions: comprehensibility, manageability, and meaningfulness.^{24,25} Comprehensibility is defined as the extent to which events are perceived as logically coherent, orderly, consistent, and structured. Manageability pertains to an individual's perception of their ability to cope with stressors by drawing on available resources, including past experiences, social support, and psychological resilience. Meaningfulness refers to the degree to which an individual regards a stressful situation as reasonable and interprets related actions as worthy of emotional engagement and commitment. Masanotti point out²⁶ that individuals with a higher SOC experience less anxiety compared to those with a lower SOC when facing stressful events. This indicates that SOC can alleviate the effects of stress on individuals and contribute to the coping process.²⁶ Research also indicates^{27,28} that informal caregivers who have a higher level of SOC may use more proactive coping strategies, such as understanding and managing the illness and maintaining interests outside of caregiving tasks. This suggests that SOC may influence coping strategies. Both SOC and coping strategies can be conceptualized as mediating factors in the stress process model, with caregiver burden regarded as the outcome. However, it remains unclear whether coping strategies mediate the relationship between SOC and caregiver burden. Clarifying these mediating mechanisms has significant theoretical and practical implications, as it can provide critical information for developing targeted interventions aimed at reducing caregiver burden and ultimately enhancing overall care quality. This study aims to fill this gap and provide novel insights into the stress process among informal caregivers of people with dementia.

Aim and Hypotheses

The aim of the present study is to investigate the relationships among SOC, coping strategies, and caregiver burden, and to analyze the mediating role of coping strategies in the relationship between SOC and caregiver burden. Based on the principles discussed, the following five hypotheses are proposed:

- H1: SOC is negatively correlated with caregiver burden;
- H2: SOC is positively correlated with problem-focused coping strategies;
- H3: SOC is positively correlated with emotion-focused coping strategies;
- H4: SOC is negatively correlated with dysfunctional coping strategies.
- H5: The type of coping strategy mediates the relationship between SOC and caregiver burden.

Materials and Methods

Design and Participants

This is a cross-sectional study and the data collection period is from May 21, 2024, to December 31, 2024, at the Changning District Mental Health Center outpatient clinic and the Cognitive Disorder Clinic of the Fifth People's Hospital of Shanghai, Fudan University. Informal caregivers of people with dementia had been given and completed the questionnaires in person when they visited the hospital for consultations or medication refills. After thoroughly explaining the study's content to participants, written informed consent by all participants has been obtained. The inclusion criteria: (a) Patients under care were diagnosed with Alzheimer's disease or other forms of dementia by specialist physicians in psychiatry or neurology; (b) informal caregiver aged ≥ 18 years who were spouses, children, friends, neighbors or other relatives by marriage, providing at least 5 hours of care per day.^{29,30} The exclusion criteria included: compensated caregivers; those with current or past mental disorders; and individuals with hearing impairments, language expression, or communication disorders that would prevent questionnaire completion. The sample size was determined using the formula for mean sample size in survey studies:³¹ $n = \left(\frac{Z_{1-\alpha/2} \times \sigma}{\delta} \right)^2$. According to the research results of Liu Zhijian⁸ on 109 informal caregivers of People with dementia in China, the mean caregiving burden was [65.92, 16.74]. Using this formula, the 95% confidence interval is [62.82, 69.02]. In this study, the significance level was set at

$\alpha=0.05$, with $Z_{1-\alpha/2}=1.96$ obtained from the table. Given $\sigma=16.74$, and δ as half of the confidence interval, $\delta=(69.02-62.82)/2=3.1$. Substituting these values into the formula, the calculated sample size is 112. Additionally, to ensure a stable structural equation model analysis, the sample size should be no less than 200. Considering these conditions and accounting for a 15% invalid response rate, the sample size for this study was determined to be 230. This study surveyed a total of 244 informal caregivers of dementia patients. Among them, 230 completed the questionnaire (a response rate of 94.2%), while 14 questionnaires were excluded due to incomplete responses. Participants completed the questionnaire in 15–20 minutes. The process was conducted face-to-face, and informal caregivers who were unable to complete the questionnaire independently received assistance from researchers to ensure that all questions were understood and answered. This study has been conducted under the principles of the Declaration of Helsinki and was approved by the Ethics Committee of the Fifth People's Hospital (Approval number:2024004).

Measures

Personal Demographic Information

A personal demographic form was employed to collect data on each participant's gender, age, marital status, education, and relationship to the care recipient.

Sense of Coherence

Antonovsky³² developed Sense of Coherence Scale (SOC-13). The Chinese version of this Scale was translated and adapted by Chinese scholar Bao Leiping and et.al.³³ which is a 13-item scale that covers three domains: meaningfulness, comprehensibility, and manageability. Seven-point Likert scales were used (1 for “never” and 7 for “always”, for example). Items with negative wording (1, 2, 3, 7, 10) were reverse-coded. Higher scores denote greater levels of SOC. The total score on this scale ranges from 13 to 91 points, with higher scores reflecting a higher level of sense of coherence. According to Eriksson's classification of SOC scores,³⁴ a score between 13 and 69 indicates a low level of sense of coherence; a score between 70 and 79 indicates a moderate level; and a score between 80 and 91 indicates a high level of sense of coherence. It has been shown a Cronbach's α coefficient of 0.76.³³ Previous research³⁵ has shown it to be reliable and valid, with an internal consistency coefficient of around 0.80, and a Cronbach's α coefficient of 0.76. In this study, the internal consistency reliability was 0.70.

Coping Strategies

The Brief COPE, developed by American scholar Carver,¹⁶ In 2015, Su Xiaoyou³⁶ translated and revised the Chinese version of the Brief COPE scale. Wang Yunfeng further validated it within the Chinese cultural context, thereby confirming its cultural applicability.³⁷ The scale comprises 28 items that assessing 14 distinct coping strategies. These coping strategies are divided into three subscales: emotion-focused coping strategies, problem-focused coping strategies, and dysfunctional coping strategies.¹⁸ Scores span from 1 (“never”) to 4 (“often”). These subscales have been administered to informal caregivers of dementia patients and have demonstrated good internal consistency, with Cronbach's alpha values of 0.84 for problem-focused coping strategies, 0.73 for emotion-focused coping strategies, and 0.75 for dysfunctional coping strategies.²² In the present study, the internal consistency reliability values were similar to those reported in previous research: 0.80 for problem-focused coping strategies, 0.65 for emotion-focused coping strategies, and 0.73 for dysfunctional coping strategies.

Caregiver Burden

Zarit Burden Interview(ZBI) developed by Zarit,³⁸ is used to assess caregivers' perceptions of physical and emotional burden. Wang Lie³⁹ translated and revised it to Chinese version by in 2006. The scale is a 22 items and Five-point Likert scale was used (1 for “never”, 5 for “always”, for example), with 22 to 110 in scores. Higher scores indicate greater level of burden. The caregiver burden levels are categorized as follows:³⁹ Scores of ≥ 60 indicate severe burden, scores ranging from 40 to 59 indicate moderate burden, scores between 20 and 39 indicate mild burden, and scores of <20 indicate no burden. It has been verified as reliable and valid in prior studies, boasting a Cronbach's α coefficient of 0.87.⁴⁰ In this study, the internal consistency reliability was 0.83.

Statistical Analysis

SPSS 27.0 and SPSS PROCESS (Model 4) were used. Descriptive Statistics: means and standard deviations (SD) for quantitative variables; frequencies and percentages (%) for categorical variables. SOC, coping strategies, and caregiver burden scores were reported across sociodemographic variables. Differences in SOC, coping strategies, and caregiver burden scores across sociodemographic characteristics were analyzed using t-tests or one-way ANOVA. Spearman correlation analysis was employed to examine the associations between SOC, coping strategies, and caregiver burden. Statistical significance was defined as $P < 0.05$. Common method bias (CMB) was assessed using Harman's⁴¹ single-factor test. The total variance extracted by the first factor was below 40%, indicating the absence of CMB in the study data. A structural equation model was applied, with SOC-13 scores as the independent variable, ZBI scores as the dependent variable, and the subscales of the Brief COPE serving as mediating factors. The mediation effect was tested using the SPSS PROCESS Procedure (Model 4). Employing the Bootstrap method by Preacher and Hayes⁴² with 5000 bootstrap samples, we confirmed the mediating effect of coping strategies between SOC and caregiver burden. A mediation effect is deemed statistically significant when the 95% CI does not include 0.⁴²

Results

Descriptive Statistics

The participants included 230 informal caregivers of People with dementia, ranging from 26 to 97 years old. Among all caregivers, 54.3% were female, 92.6% were married, 38.7% had a high school or technical education, and 68.3% were the children of the care recipients. On average, these caregivers exhibited moderate to severe levels of caregiver burden with the average score of 58.14(12.84); and low levels of SOC with the average score of 57.60(6.90). Significant differences in caregiver burden scores by relationship to recipient of care ($F=3.645$, $P<0.05$), with spouses reporting the highest level of caregiver burden and the average score of 63.70(11.39), with no differences in scores for caregiver burden of different ages, genders, marital statuses, and education. There were no differences in SOC scores across various demographic characteristics. Descriptive statistics are summarized in Table 1.

Table 1 Demographic Information and Deviations of Study Variables (N=230)

	SOC-13	Problem-focused Coping	Emotion-focused Coping	Dysfunctional Coping	ZBI
Score [M(SD)]	57.60(6.90)	17.90(3.50)	25.01(3.63)	22.59(5.16)	58.14(12.84)
Range (Max, Min)	42.00,74.00	6.00,26.00	15.00,35.00	10.00,35.00	31.00,91.00
Gender					
Male (N=105)	57.90(7.12)	17.28(3.51)	24.50(3.79)	21.89(5.25)	58.10(12.42)
Female (N=125)	57.35(6.72)	18.41(3.42)	25.44(3.44)	23.17(5.02)	58.18(13.22)
t/χ^2	0.604	-2.467*	-1.976*	-1.886	-0.047
Age					
18~44 (N=17)	58.00(7.08)	18.47(4.36)	26.06(3.17)	22.71(5.72)	53.29(12.63)
45~59 (N=53)	58.43(6.39)	18.02(3.14)	25.85(3.81)	22.06(5.30)	56.42(11.94)
60~74 (N=136)	57.60(7.11)	18.27(3.22)	24.90(3.43)	22.48(5.02)	58.60(13.17)
>75 (N=24)	55.54(6.64)	15.13(4.05)	23.13(4.03)	24.33(5.21)	62.88(11.86)
t/χ^2	0.989	6.095*	3.750*	1.128	2.311
Marital Status					
Unmarried (N=5)	57.00(7.65)	17.00(3.08)	23.80(4.82)	20.40(5.37)	60.40(18.20)
Married (N=213)	57.57(6.84)	17.88(3.53)	25.01(3.61)	22.66(5.14)	58.07(12.63)
Divorced (N=6)	59.33(8.36)	19.67(3.08)	26.17(3.76)	22.83(3.82)	59.00(12.63)
Widowed (N=6)	57.50(8.60)	17.67(3.39)	25.00(3.74)	21.67(7.53)	58.17(16.01)
Relationship to the Care Recipient					
Spouse (N=43)	55.47(7.05)	17.28(4.22)	23.58(3.89)	24.70(4.44)	63.70(11.39)
Children (N=157)	58.05(6.71)	17.98(3.32)	25.19(3.63)	22.40(5.12)	57.14(12.36)

(Continued)

Table 1 (Continued).

	SOC-13	Problem-focused Coping	Emotion-focused Coping	Dysfunctional Coping	ZBI
Daughter-in-law (N=12)	57.08(6.26)	18.67(2.93)	27.33(2.10)	22.42(5.32)	56.92(15.18)
others (N=18)	59.16(7.95)	18.17(3.55)	25.39(2.79)	19.33(5.34)	54.50(15.67)
t/χ^2	1.952	0.703	4.228*	5.119*	3.645*
Education					
Primary school or below (N=10)	54.70(7.60)	16.20(3.99)	22.80(4.13)	24.00(4.42)	63.30(12.90)
Junior high school (N=53)	56.68(6.04)	17.38(3.27)	24.32(3.21)	22.85(5.36)	58.79(12.84)
Senior High School and technical secondary School (N=89)	58.42(7.09)	17.92(3.47)	25.54(3.36)	22.44(2.10)	57.72(12.87)
College and above (N=78)	57.68(7.09)	18.45(3.57)	25.18(4.00)	22.41(5.24)	57.72(12.88)
t/χ^2	1.328	1.841	2.615	0.348	0.670

Note: * $p < 0.05$.

Abbreviations: t/χ^2 , t test or Chi-square test; M, mean; SD, standard deviation; Max, Maximum; Min, Minimum; N, frequency; ZBI, Zarit Burden Interview; SOC, Sense of Coherence Scale.

Correlation Analysis

Hypothesis 1 was supported. In the overall sample, a significant negative correlation was found, indicating that lower levels of SOC are related to higher levels of caregiver burden ($r = -0.655$, $p < 0.01$). Hypotheses 3 and 4 were also supported. This suggests that SOC was inversely related dysfunctional coping strategies ($r = -0.513$, $p < 0.01$) and directly related to emotion-focused coping strategies ($r = 0.397$, $p < 0.01$). However, Hypothesis 2 was not supported. The detailed results are presented in Table 2.

Common Method Bias

To evaluate CMB, Harman's single-factor test⁴¹ has been performed, which conducted unrotated principal component analysis on the items from the three scales: SOC-13, ZBI, and Brief COPE. The first factor resulted in 15.10%, well below the critical threshold of 40%, indicating that there was no significant CMB in this study.

Mediation Analysis

Figure 1 illustrates the path relationships these variables. To control for the demographic factors that may confound the relationships among the independent variable, mediating variable, and dependent variable, we included "Gender, Age, Marital Status, Relationship to the Care Recipient, and Education" as covariates in the model. After controlling for these covariates, the results showed that the total impact of SOC on caregiver burden was found to be significant ($\beta = -1.195$,

Table 2 Spearman Correlations of Study Variables

Variable	Sense of Coherence	Problem-Focused Coping	Emotion-focused Coping	Dysfunctional Coping	Caregiver Burden
Sense of coherence	-				
Problem-focused coping	0.098	-			
Emotion-focused coping	0.397**	0.270**	-		
Dysfunctional coping	-0.513**	0.048	-0.255**	-	
Caregiver burden	-0.655**	-0.041	-0.433**	0.781**	-

Note: **Correlation is significant at 0.01 level (2-tailed).

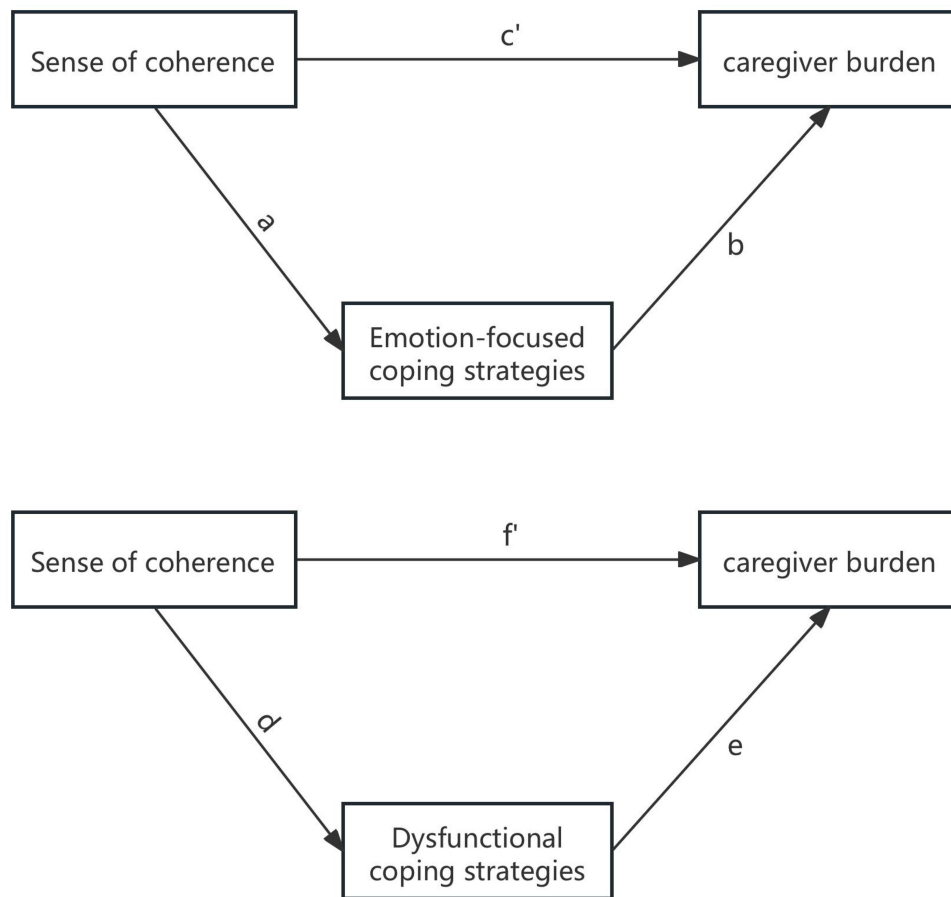


Figure 1 Illustration of the direct and indirect effects of sense of coherence on caregiver burden. c' and f' = total effect, c' and f' = direct effect, ab and de = indirect effect.

$t = -12.76$, $P < 0.05$). This significant effect persisted even after introducing the mediating variable. Specifically, the indirect impact of SOC on caregiver burden through emotion-focused coping was -0.115 (95% CI $[-0.226, -0.023]$), accounting for 9.6% of the total effect. Meanwhile, the indirect impact through dysfunctional coping was -0.543 (95% CI $[-0.718, -0.390]$), representing 43.4% of the total effect, the detailed results are presented in Table 3.

Table 3 Mediation Analysis of Sense of Coherence and Caregiver Burden (N=230)

		Effect	Boot SE	95% CI		Proportion
				Lower	Upper	
SOC → Caregiver burden	Total effect	-1.195	0.094	-1.379	-1.010	
SOC → Emotion-focused coping strategies → Caregiver burden	Indirect effect	-0.115	0.051	-0.226	-0.023	9.6%
SOC → Dysfunctional coping strategies → Caregiver burden	Indirect effect	-0.543	0.083	-0.718	-0.390	43.4%

Abbreviation: SOC, Sense of Coherence.

Discussion

The present study, based on stress process model, explore the relationship between SOC, coping strategies and caregiver burden among informal caregivers of people with dementia. In this study, caregiver burden levels were found to be moderate to severe. Compared with Western countries, caregiver burden among our participants was relatively higher,⁶ additionally, SOC levels were low and were below those reported in Western studies.^{43,44} These differences can be attributed to significant disparities in social environments, cultural traditions, and healthcare policies between China and Western countries. Traditional Chinese culture, which emphasizes forbearance and sacrifice, may predispose informal caregivers to overlook their own psychological stress and needs, thereby reducing the prioritization and utilization of psychological resources.⁴⁵ Moreover, China remains in the process of developing and refining community-based elderly care and professional caregiving services, resulting in limited access to social support, nursing resources, and policy protections for caregivers, which further exacerbates the caregiver burden.^{3,46}

With respect to coping strategies, the results of this study indicate that the coping strategy most commonly employed by informal caregivers is problem-focused coping. However, the data did not support the hypothesized association between problem-focused coping and caregiver burden, a finding that is consistent with the results reported by American scholar Geiger.⁴⁷ Previous studies have shown that dementia, as an incurable disease, renders many caregiving challenges difficult to fully resolve. The long-term and complex nature of caregiving situations underscores the heightened importance of emotion regulation strategies.²² The results of this study seem to confirm this proposition; correlational analysis revealed significant negative relationships among emotion-focused coping strategies, sense of coherence, and caregiver burden. Consistent with the findings of Li⁴⁸ and Owokuhaia,¹⁹ caregivers can attain a degree of emotional relief and comfort through emotion-regulation strategies—such as sharing their feelings with friends or family and seeking psychological support—which, in turn, enables them to manage daily caregiving tasks more effectively. Within this study, dysfunctional coping strategies were the least frequently employed; however, they emerged as the only factor positively associated with caregiver burden. This is consistent with the results of Geiger.⁴⁷ A plausible explanation is that dysfunctional coping strategies may provide temporary psychological relief in the short term but often fail to effectively address practical problems—in some cases even exacerbating caregiver stress and burden.^{20,48} Therefore, these findings support the implementation of interventions aimed at reducing the reliance on dysfunctional coping strategies among caregivers of people with dementia.

The results indicated a significant correlation between SOC and caregiver burden, which means informal caregivers who had lower levels of sense of coherence experiencing more caregiver burden compared to those with higher levels, which is consistent with Potier's⁴⁹ finding. This can be credited to caregivers of people with dementia possessing a strong SOC, enabling them to better comprehend, handle, and address challenges, thereby alleviating caregiver burden.²⁴ Hypotheses 3 and 4 were also supported, which means informal caregivers of People with dementia with lower SOC being less likely to use emotion-focused coping strategies and more likely to use dysfunctional coping strategies which were associated with increased caregiving burden. Antonovsky's⁵⁰ model indicates that sense of coherence aids in stress management. Individuals with low SOC perceive life events and stressors as difficult to comprehend, unpredictable, and uncontrollable.⁵¹ This leads them to negative coping strategies, which heightens their psychological burden.²⁶ Previous studies have demonstrated^{26,51} that enhances an individual's ability to regulate emotions and problem-solve, thereby effectively reducing and coping with stress. The result of this study supports previous research,^{27,28} which suggests that sense of coherence predicts individuals' tendency to choose more situation-appropriate coping strategies, thereby avoiding potential maladaptive behaviors.

Hypotheses 5 is that the effect of SOC on caregiving burden is mediated by coping strategies. Mediation analysis indicates that coping strategies have a significant partial mediating effect on the relationship between SOC and caregiver burden. Among these coping strategies, dysfunctional coping exhibited the most pronounced partial mediating effect between SOC and caregiver burden. This finding suggests that informal caregivers with lower levels of sense of coherence tend to lack the necessary internal adaptive resources and consequently are unable to effectively utilize external support. In the face of caregiving stress, informal caregivers may easily become isolated, leading them to adopt dysfunctional coping strategies. Such strategies not only fail to resolve practical problems but also exacerbate concerns

about the future and feelings of helplessness, ultimately increasing the overall stress and burden experienced by caregivers. Additionally, the study found that emotion-focused coping strategies exerted a partial mediating effect on the relationship between SOC and caregiver burden. Informal caregivers with higher levels of sense of coherence were more inclined to leverage their internal resources and external support by actively seeking assistance from family, friends, and community networks. As a result, they not only obtained emotional solace and practical help but also adopted more proactive and contextually appropriate coping strategies in response to caregiving stress, which effectively alleviated part of the caregiver burden. According to the stress process model, the impact of stress on an individual is not direct but is conveyed gradually through a series of mediating variables, such as internal resources and coping strategies. In this study, we found that SOC not only directly affects caregiver burden but also exerts an indirect effect through both emotion-focused coping and dysfunctional coping strategies. This finding corroborates the “resource—coping—outcome” pathway emphasized in the stress process model, and it provides empirical support for the complex role of these mechanisms in stress adaptation.

Limitations

This study has several limitations. First, the study employed a cross-sectional design, utilized convenience sampling, and collected data from two hospitals in China, which may restrict the generalizability of the findings. Future research should include participants from diverse regions, ethnic groups, and socioeconomic statuses, as well as expand the sample size to enhance the universal applicability of the results. Secondly, as a cross-sectional study, this research cannot establish causality. Future studies should employ randomized controlled trials, scenario simulations, and longitudinal experimental designs to rigorously validate the causal mechanisms by which SOC interventions improve coping strategies and reduce caregiver burden. Based on the mediation analysis of coping strategies, further research could explore how targeted interventions may enhance the coping strategies of informal caregivers and examine their long-term effects on reducing caregiver burden and strengthening SOC.

Clinical Implications

Our study’s findings indicate that the influence of SOC on caregiver burden is not only manifested through a direct effect but also indirectly through the mediating variable of coping strategies. Informal caregivers with lower levels of SOC are more inclined to adopt dysfunctional coping strategies, which can exacerbate feelings of isolation, anxiety about the future, and helplessness, thereby intensifying caregiver burden. Conversely, high levels of SOC appear to facilitate the adoption of more adaptive and emotion-focused coping strategies among informal caregivers. Through these strategies, caregivers actively seek both social and emotional support. This finding suggests that focusing clinical interventions solely on enhancing SOC may be limited, because the impact of SOC on caregiver burden is largely contingent upon the moderating role of individual coping mechanisms. Consequently, adopting an approach that targets the mediating mechanisms—specifically, dysfunctional and emotion-focused coping strategies—may offer greater clinical utility. For example, providing psychological education and skills training to assist informal caregivers in reducing maladaptive coping behaviors while simultaneously strengthening their ability to regulate positive emotions can not only directly alleviate stress but may also lead to a more significant reduction in caregiver burden when combined with efforts to enhance SOC.

Conclusion

The objective of this research was to explore the relationship between SOC, coping strategies, and caregiver burden in individuals with dementia. The results revealed a significant correlation between SOC and caregiver burden. Both SOC and caregiver burden were partially mediated by emotion-focused and dysfunctional coping strategies. From a theoretical standpoint, our study validated the mediating mechanism of coping strategies among informal caregivers of dementia patients, thereby both broadening the applicability of existing theories and enriching their conceptual framework. From a practical perspective, the findings reveal that optimizing coping strategies can effectively modulate caregiving support outcomes. Future intervention strategies should focus on adjusting and optimizing the coping behaviors of informal

caregivers by leveraging mediating mechanisms as entry points, with the aim of achieving more precise and effective caregiving support.

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Disclosure

All authors declare that there are no conflicts of interest in this work.

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