

RESEARCH ARTICLE

Stress-related coping and its relationship to well-being in nursing assistants and personal care aides in nursing homes and assisted living

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Abstract

INTRODUCTION: Professional caregivers (nursing assistants and personal care aides) in nursing homes (NH) and assisted living (AL) provide the majority of long-term residential care for persons with Alzheimer's disease and related dementias. Their work is stressful, but until recently, no measures were available to assess stress in this workforce. Using the new Long-Term Care Cope (LTC COPE) scale, this study evaluates the relationship of coping with staff demographic characteristics and outcomes; the findings can be used to develop and evaluate interventions to improve staff well-being.

METHODS: We used a cross-sectional online questionnaire completed by professional caregivers working in a purposive selection of 10 NHs and three AL communities in California, New York, and North Carolina. The sample included 391 professional caregivers and had a representative distribution by age; it was 87% female; 42% non-Hispanic/Latinx (NHL) Black, 25% NHL White, 20% Hispanic/Latinx, and 7% NHL Asian. Worker job satisfaction, mental health, and health-related quality of life were examined in relation to caregiver demographics and the following approaches to coping as measured by the LTC COPE: avoidance, adaptive psychological strategies, active engagement, maladaptive psychological strategies, minimizing emotional impact, and substance use. Statistical comparisons used non-parametric Spearman correlation coefficients.

RESULTS: Little difference in coping strategies was noted by sex and education; older caregivers used adaptive psychological strategies more than younger caregivers; and traditionally minoritized adults (NHL Black, NHL Asian, and Hispanic/Latinx), compared to NHL White adults, more often used adaptive and less often used maladaptive psychological coping strategies. The use of maladaptive and avoidance strategies was strongly associated with depressive symptoms, anxiety, and burnout.

DISCUSSION: Professional caregivers report using a wide variety of coping strategies, with multiple strategies being the norm, and both adaptive/engaged and

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maladaptive/disengaged approaches are common. Certain coping approaches are strongly linked to depression, anxiety, and burnout; attention to training and support of adaptive and positive coping may augment other efforts to improve job satisfaction and performance. The LTC COPE scale has the potential to guide and evaluate practices to improve workers' well-being.

KEYWORDS

assisted living, care aides, caregiver mental health, coping, job satisfaction, nursing assistants, nursing homes, race/ethnicity, stress

Highlights

- Professional caregivers in nursing homes and assisted living generally use multiple strategies to cope with work-related stress.
- Certain coping approaches are strongly linked to depression, anxiety, and burnout.
- The Long-Term Care Cope scale has potential to guide and evaluate practices to improve worker well-being.

1 | INTRODUCTION

Shortages and high turnover rates of professional caregivers (nursing assistants and personal care aides) in long-term care (LTC) settings have been an endemic problem,¹ leading to reduced admissions in some settings and closure of others.² Since COVID-19, the problem has become particularly dire. According to the US Bureau of Labor Statistics, the number of all employees in nursing homes (NHs) and assisted living (AL) peaked at 3.4 million in November of 2019, fell to 2.96 million in January 2022, and as of March 2023 remained 8% below prepandemic levels. The impacts of staff shortages are tremendous—one study of staffing shortages and resident deaths in NHs from May 2020 through May 2022 found that nurse staffing shortages (including nursing assistants as well as registered and licensed nurses) were associated with reduced minutes of resident care and a 10.5% increase in resident deaths.³

One factor contributing to shortages, turnover, and absenteeism is job-related stress. Common sources of job stress include occupational factors, such as job demands (e.g., heavy client loads or burdensome protocols), lack of support by supervisors, negative interactions with family, and experiences of disrespect or hostility (including racism); resident care factors, such as behavioral expressions in persons with dementia, physical stress (e.g., lifting), and death and dying; and personal factors, such as social determinants of health, financial concerns, family conflict, and work-family conflict.^{4–6} In one study of dementia care experiences among 154 professional caregivers from NH and AL communities, “caring for residents” was associated with the highest work stress scores, and stress involving co-workers, supervisors, and workload were all negatively associated with job satisfaction.⁷

In addition to better pay and other organizational changes,⁸ an important strategy that may help improve job satisfaction and retention is to improve professional caregivers' skills in dealing with stress.

Many approaches have been identified to mitigate stress in work and life. One category involves problem-focused (instrumental) strategies, which seek a change or solution to the source(s) of stress. Another involves emotion-focused (palliative) strategies, which target the negative feelings that arise from stress and adversely impact the individual.^{9–12} However, most research tools to measure stress-related coping were developed in samples of predominantly White study subjects, many of whom were undergraduate or graduate students; thus, not surprisingly our preliminary research found that existing tools did not always address the issues and approaches voiced by minoritized and/or immigrant professional caregivers.¹³

To address this research gap, our research team conducted a study of nearly 400 professional caregivers from a diverse sample of NH and AL communities in three states. Through a series of instrument development steps, we created a measurement tool—the Long-Term Care Cope (LTC COPE)—consisting of 26 items reflecting six factors (i.e., including six subscales), each identifying a distinctive approach to coping with job-related stress in this workforce.¹⁴ In this paper, we explore how those 26 strategies relate to demographic characteristics of the workforce mental health symptoms and job satisfaction. Our ultimate goal is to better understand the coping styles of the multicultural professional caregiver workforce and the correlates of coping, to better design educational and support programs for these essential workers.

2 | METHODS

This research was the second phase of a study of stress and coping among professional caregivers in a sample of NH and AL communities whose resident population includes older persons with cognitive impairment. Data on the methods and instrument development of the LTC COPE—the first phase of this project—are presented elsewhere.¹⁴

Briefly, study subjects had to: be ≥ 18 years of age, be working ≥ 20 hours a week (in 3 of the prior 6 months) as a nursing assistant or personal care aide in a participating nursing home or AL community, complete the study questionnaire in English (assistance was allowed, as long as responses were their own), and provide consent for participation.

The study's methods were informed by 10 community advisors who were working or had recently worked as professional caregivers. Sampling involved purposively selecting geographically diverse LTC settings; announcing the study at staff meetings and on posters in work areas; and encouraging voluntary, anonymous participation. Enrollees used a QR code or hyperlink to access an online questionnaire designed for completion in ≈ 90 minutes using a smartphone or computer, and each participant received a \$100 gift card for survey completion.

Using this methodology, two waves of data collection gathered information from a total of 459 professional caregivers in 14 LTC settings in three states: four NHs in California, three NHs in North Carolina, four AL communities in North Carolina, and two NHs in New York. Participating NHs had a mean bed size of 136 (range 66–362); participating AL communities had a mean bed size of 55 (range 27–82). Of the participating facilities, one NH was non-profit, all others were for-profit. All participating NHs provided skilled and long-stay services; one had a dementia unit; all four participating AL communities included a dementia unit. Of the 459 professional caregivers who responded, 68 (14.8%) failed to complete $> 10\%$ of items and therefore were excluded, yielding a final sample of 391 caregivers (a mean sample size of 30 per participating community).

2.1 | Measures

The measure of coping used the LTC COPE,¹⁴ composed of 26 items that aggregate into six subscales, each of which relates to a general strategy of coping with job-related stress: avoidance, adaptive psychological strategies, active engagement, maladaptive psychological strategies, approaches aimed at minimizing emotional impact, and substance use. The subscales and their individual component items are displayed in Table 1.

Three measures of job satisfaction were used:

- A five-item modified Positive Aspects of Caregiving scale, with each item scored on a 5-point scale, which measures the extent to which direct care workers agree or disagree with statements related to receiving satisfaction and a sense of worth from caring for old and/or disabled persons.¹⁵
- A single-item measure of nursing assistant job satisfaction developed for and used in the National Nursing Assistant Survey and rated on a 4-point scale from 1 = extremely dissatisfied to 4 = extremely satisfied.¹⁶
- The six-item measure of satisfaction providing care to persons with dementia. Each item is rated on a 5-point scale, ranging from 1 = not at all to 5 = extremely, and responses are averaged to generate a total score.¹⁷

RESEARCH IN CONTEXT

1. **Systematic review:** Most of the day-to-day care in nursing home and assisted living settings is provided by professional caregivers (nursing assistants or personal care aides). The workforce is highly diverse racially and ethnically, the work is stressful, and our literature review found little research on how this critical workforce manages work-related stress.
2. **Interpretation:** Using a new measurement tool, the Long-Term Care Cope (LTC COPE), the study generated novel findings on how a diverse sample of 391 professional caregivers deal with work stress, both overall and by age, sex, race, and ethnicity.
3. **Future directions:** Through the application of these findings and further use of the LTC COPE, the field can better understand how professional caregivers in diverse settings cope with work stress, thereby contributing to the development of evidence-based, tailored education and support strategies for this critical workforce.

Three measures of mental health were used:

- The Patient Health Questionnaire-2 (PHQ-2), a two-item screen for depression that has been widely used in clinical medicine and research. It includes two items, each of which is rated in terms of frequency over the previous two weeks, from 0 = not at all to 3 = nearly every day. Responses are summed, yielding a score ranging from 0 to 6.¹⁸
- The General Anxiety Disorder-2 (GAD-2), a two-item screen for anxiety disorders that has been widely used as well and is scored similarly to the PHQ-2.¹⁹
- The single-item burnout screen for primary care, which rates the degree of burnout symptoms on a scale from 1 = no burnout to 5 = complete burnout.²⁰

Finally, one measure of quality of life was used:

- The Health-Related Quality of Life for Public Health Surveillance measure of self-rated health, developed, validated, and used by the Centers for Disease Control and Prevention (CDC) and in the Behavioral Risk Factor Surveillance System. Respondents rate their own health on a 5-point scale ranging from 1 = poor to 5 = excellent.^{21,22}

Additional details about the above measures of job satisfaction, mental health, burnout, and health-related quality of life are provided in Appendix A in Supporting Information. The following demographic variables were collected on each study participant: age, sex, education, race/ethnicity, and country of birth.

TABLE 1 Categories and types of coping strategies used by professional caregivers in NHs and AL based on the LTC COPE.*

Category for coping with work-related stress	Items
Avoidance	Trying to get reassigned
	Denial
	Irritability/venting
	Cognitive disengagement
	Leaving or avoiding work
Adaptive psychological strategies	Mindfulness
	Self-kindness
	Common humanity
	Resilient coping
	Religious coping
	Absence of self-blame
Active engagement	Using instrumental support
	Using emotional support
	Planning
	Positive reframing
	Active coping
Maladaptive psychological strategies	Isolation
	Overidentification
	Self-judgment
Minimizing emotional impact	Self-distraction
	Acceptance
	Humor
	Behavioral disengagement
Substance use	Smoking cigarettes
	THC or marijuana use
	Substance use

Abbreviations: AL, assisted living; LTC COPE, Long-Term Care Cope; NH, nursing home; THC, tetrahydrocannabinol.

*Source: Sloane et al.¹⁴

2.2 | Analysis

Analyses examined the relationship among the overall LTC COPE score, the individual subscale scores, and the individual items with worker job satisfaction, mental health, quality of life, and demographic characteristics. For reporting frequency of use, some item response categories were collapsed to avoid categories with small Ns. Then the percentage of responses by category was calculated for each coping subscale and for each coping item. Pairwise comparisons were used to identify statistically significant differences at $p < 0.05$ between coping strategies and demographic factors such as age and race/ethnicity. To evaluate the relationships between coping strategies and outcomes, Spearman correlations were used. Details on the ordered responses used for each

scale or individual item are provided in the footnotes to Table 2 and in Appendix A.

3 | RESULTS

3.1 | Respondent characteristics

The 391 study respondents were recruited from 10 NHs and three AL communities (a mean of 30 respondents per participating facility). Of this sample, 44% were non-Hispanic/Latinx (NHL) Black, 25% were NHL White, 7% were NHL Asian, 6% were NHL multiracial, and 20% were Hispanic/Latinx. Most identified as women (87%); the age distribution included 29% aged 18 to 29, 25% aged 30 to 39, 22% aged 40 to 49, 16% aged 50 to 59, and 9% aged ≥ 60 . Approximately one fifth (21%) were immigrant adults. Educationally, nearly three quarters (73%) had not proceeded beyond high school. Multiple workplaces were common, with 20% reporting working both in an NH and an AL setting.

Respondents demonstrated high levels of health and mental health challenges. More than one quarter (28.1%) reported having fair or poor general health,²² 29.9% had a positive screen for depression,¹⁸ and 28.1% screened positive for anxiety disorders.¹⁹ Despite these issues, the vast majority expressed satisfaction with their current work, with only 2.3% being “extremely dissatisfied” and 7.9% “somewhat dissatisfied.”

3.2 | Reported use of coping strategies

The first column of Table 2 indicates the frequency with which each individual strategy and each overall type of strategy were reported to be used. For example, overall, adaptive psychological strategies are used most often (by 84% of respondents), of which the least often used specific strategy was religious coping. On the other hand, avoidance and substance use strategies were used least often (4% each); the least used strategy within each category being irritability/venting (3%) and substances other than cigarettes, tetrahydrocannabinol (THC), or marijuana (2%). Virtually all respondents reported using more than one coping strategy, as evident by the fact that more than three quarters used adaptive psychological strategies (84%), and more than half used active engagement (59%).

3.3 | Relationship between coping strategies and demographic variables

In relation to each of the coping subscales as a whole, education was not related to any subscale. Sex was related to one subscale (i.e., men reported higher use of strategies to minimize the emotional impact of work stress) as was age (younger workers used fewer adaptive

TABLE 2 Frequency of reported use of various strategies for coping with work-related stress among professional caregivers in NHs and AL, by demographic characteristics ($N = 391$).

Category and item (Coping strategy)	Proportion using strategy at least "Somewhat," ^{a,b,c} "Sometimes," ^d or "A medium amount" ^e											
	Overall	Age			Sex ^f		Education		Race/ethnicity			
		18–29	30–49	50+	Women	Men	≤ High school	> High school	NHL Black	NHL White	NHL Asian	Hispanic/Latino
Avoidance	4%	4%	3%	5%	4%	4%	3%	5%	6%	3%	4%	1%
Seeking reassignment ^a	12%	13%	10%	15%	12%	15%	12%	12%	14%	11%	25%	7%
Denial ^a	14%	8%	13%	22%	15%	6%	14%	14%	17%	16%	14%	4%
Irritability/venting ^b	3%	3%	2%	3%	2%	4%	2%	4%	3%	3%	4%	1%
Cognitive disengagement ^b	9%	7%	11%	7%	9%	6%	8%	12%	10%	11%	0%	7%
Leaving or avoiding work ^a	8%	11%	7%	6%	7%	14%	7%	9%	7%	7%	7%	13%
Adaptive psychological strategies	84%	78%	85%	91%	86%	77%	85%	84%	92%	69%	86%	83%
Mindfulness ^d	89%	85%	90%	92%	89%	86%	89%	84%	92%	79%	100%	88%
Self-kindness ^d	83%	80%	83%	86%	83%	78%	84%	81%	90%	65%	82%	88%
Common humanity ^d	84%	75%	86%	90%	85%	77%	84%	85%	81%	84%	89%	83%
Resilient coping ^b	93%	90%	93%	95%	93%	88%	93%	93%	94%	91%	96%	91%
Religious coping ^c	68%	59%	66%	81%	69%	59%	71%	61%	81%	50%	82%	53%
Absence of self-blame ^b	73%	61%	75%	82%	76%	53%	74%	69%	81%	59%	68%	71%
Active engagement	59%	65%	59%	51%	58%	61%	56%	66%	53%	58%	68%	69%
Using instrumental support ^b	36%	43%	32%	33%	35%	37%	34%	40%	32%	35%	32%	44%
Using emotional support ^a	42%	47%	42%	34%	41%	47%	40%	46%	38%	43%	43%	49%
Planning ^a	69%	74%	67%	68%	68%	75%	67%	74%	65%	69%	68%	78%
Positive reframing ^a	62%	61%	63%	60%	63%	57%	58%	72%	62%	54%	68%	68%
Active coping ^a	68%	69%	71%	63%	67%	77%	67%	72%	64%	70%	68%	74%
Maladaptive psychological strategies	61%	67%	62%	52%	61%	61%	60%	64%	54%	80%	57%	48%
Isolation ^d	55%	58%	57%	47%	56%	49%	53%	58%	51%	66%	50%	44%
Overidentification ^d	67%	70%	67%	63%	67%	65%	65%	72%	61%	88%	54%	55%
Self-judgment ^d	62%	70%	62%	52%	61%	63%	61%	63%	56%	81%	64%	48%
Minimizing emotional impact	17%	19%	17%	13%	15%	28%	16%	19%	16%	18%	18%	17%
Self-distraction ^b	38%	38%	37%	41%	38%	41%	36%	44%	35%	35%	54%	44%
Acceptance ^a	61%	66%	60%	57%	59%	75%	60%	63%	55%	68%	68%	67%
Humor ^a	21%	25%	22%	15%	21%	24%	17%	32%	21%	21%	18%	25%
Behavioral disengagement ^b	17%	19%	18%	12%	16%	24%	17%	16%	13%	23%	11%	18%
Substance use	4%	5%	4%	1%	3%	8%	4%	3%	3%	4%	4%	3%
Smoking cigarettes ^e	19%	20%	25%	7%	19%	22%	22%	13%	13%	40%	14%	5%
THC or marijuana use ^e	5%	6%	5%	3%	4%	8%	4%	6%	6%	4%	4%	3%
Other substance use ^b	2%	4%	1%	1%	2%	4%	1%	3%	1%	4%	0%	0%

Note: Analysis method: Non-parametric (Spearman) correlations. Subscale noted in bold, and related items, are from the LTC COPE.¹⁴ The proportion for subscales was determined by averaging the proportion of cases for each item, scoring somewhat, sometimes, or a medium amount. Gray highlighting indicates association $p < 0.05$. Twenty-two respondents who reported being multiracial, NHL were excluded from analyses using race/ethnicity as a variable because of the small numbers.

Abbreviation: NH, nursing home; NHL, non-Hispanic Latinx; THC, tetrahydrocannabinol.

^aResponse options 1 = not at all, 2 = a little, 3 = somewhat, 4 = a lot.

^bResponse options: 1 = not at all, 2 = slightly, 3 = somewhat, 4 = quite a bit, 5 = very well.

^cResponse options: 1 = not at all, 2 = a little, 3 = somewhat, 4 = a lot.

^dResponse options: 1 = never or almost never, 2 = not very often, 3 = sometimes, 4 = very often, 5 = always or almost always.

^eResponse options: 1 = not at all, 2 = a little, 3 = a medium amount, 4 = a lot.

^fOne respondent chose non-binary and was excluded from sex analysis effects because of the small number in the category.

psychological strategies). On the other hand, race/ethnicity was associated with numerous strategies. The use of adaptive psychological strategies such as mindfulness, self-kindness, religious coping, and absence of self-blame was highest among NHL Black caregivers, lowest among NHL Whites, and intermediate among Hispanic/Latino and NHL Asian caregivers. In contrast, largely opposite relationships were noted in self-reporting of the use of maladaptive psychological strategies such as isolation, overidentification, and self-judgment, with White respondents reporting the highest use of these strategies, and in this case, Hispanic/Latino respondents reporting the lowest usage, although with NHL Black and NHL Asian respondents also scoring considerably lower than NHL White respondents.

3.4 | Relationships among coping strategies, job satisfaction, mental health, and work-related quality of life

Three measures of job satisfaction were evaluated for associations with coping strategies: positive aspects of caregiving, nursing assistant job satisfaction, and dementia care satisfaction. Appendix A displays the distribution of these items, overall, and as dichotomized for analysis purposes, as displayed in Table 3. Positive aspects of caregiving and dementia care satisfaction were both moderately and significantly ($p < 0.01$) correlated with adaptive psychological strategies, active engagement, and approaches to minimize the emotional impact of job-related stress. In contrast, job satisfaction only showed a weak association with these measures, and was more strongly, but negatively, associated with avoidance, maladaptive psychological strategies, and substance use (all $p < 0.01$). Similar relationships were noted between coping strategies and health-related quality of life—positive associations with adaptive psychological strategies and active engagement, and negative association with maladaptive psychological strategies and, to a lesser extent, with substance use.

Relationships among the three measures of mental health, all of which describe mental health challenges—depressive symptoms, anxiety symptoms, and burnout—showed patterns that are in many ways inverse to those of job satisfaction. Moderate, statistically significant ($p < 0.01$) positive associations were noted among all three measures and avoidance, maladaptive psychological strategies, strategies to minimize emotional impact of stress, and substance use (Table 3).

4 | DISCUSSION

Professional caregivers (nursing assistants and personal care aides) in NHs and AL respond to work-related stress in a variety of ways, some of which may enhance well-being and care provision, and some of which may not. Using a new tool for assessing stress-related responses, the new LTC COPE scale, we evaluated strategies used by a sample of 391 professional caregivers, with the goal of better understanding possible opportunities for intervention development. The study found that to cope with job-related stress, the average respondent used multiple

strategies, and those strategies varied depending on the individual's age, sex, education, and race/ethnicity. Furthermore, it was evident that coping strategies demonstrated distinct patterns of association with measures of job satisfaction, health-related quality of life, and mental health.

The high frequency of use of many different strategies (Table 2) indicates that professional caregivers use multiple approaches in dealing with work-related stress. The most common approaches reported were strategies to address the psychological impacts of stress, with adaptive strategies and active engagement being especially common. While research in settings involving managers and other white-collar employees suggests that approaches such as positive mental/emotional strategies and active engagement tend to predominate,^{23,24} research from non-managerial workers demonstrated results similar to ours, in that adaptive psychological strategies, such as mindfulness, resilient coping, and religious coping, are reported more frequently (Table 2).^{25,26} This suggests that a combination of problem-focused coping and distraction, with emphasis on strategies that minimize confrontation, involvement, and emotional impact, may be both common and appropriate in settings in which workers feel that they have limited agency to change the work environment.

Demographic characteristics can affect an individual's stress response and coping strategies.²⁷ When our coping strategies and subscales (categories) were analyzed by age, sex, education, and race/ethnicity, several patterns emerged (Table 2). Surprisingly few differences were noted by sex and education, other than a tendency for men to more often use strategies to minimize emotional impact. More differences were noted by age, with older workers especially prone to use both denial and several adaptive psychological strategies. These findings are in line with work in other populations which found older persons to more frequently use distancing and escape-avoidance strategies, compared to younger persons, who tend to be more engaged, positive, and planful.²⁸

When participants were stratified by race/ethnicity, a strong pattern emerged in that NHL White caregivers, compared to NHL Black, NHL Asian, and Hispanic/Latinx caregivers, more often used maladaptive psychological strategies and less often used adaptive psychological strategies (Table 2). Research on similar populations is sparse, particularly across all four racial/ethnic groups. One study of NHL Black, Hispanic/Latinx, and NHL White adults experiencing posttraumatic stress symptoms found that NHL Black adults reported greater use of all three coping methods studied: social support, problem solving, and avoidance.²⁹ This is an area in which additional, confirmatory research is especially needed.

When we evaluated associations between coping strategies and job satisfaction, mental health, and health-related quality of life, a strong, consistent pattern emerged. Adaptive mental strategies were positively associated with job satisfaction and quality of life, and negatively associated with depression, anxiety, and burnout (Table 3). In contrast, strategies involving avoidance, maladaptive psychological approaches, and minimizing the emotional impact through such behaviors as disengagement were strongly associated with depression, anxiety, and burnout. Active engagement showed a similar association with some

TABLE 3 Bivariate non-parametric (Spearman) correlations between use of coping strategies and measures of job satisfaction and mental health.*

Category and item (coping strategy)	Measures of job satisfaction			Measures of mental health			Health-related quality of life ^{21,22}
	Positive aspects of caregiving ¹⁵	Nursing assistant job satisfaction ¹⁶	Dementia care satisfaction ¹⁷	Depressive symptoms ¹⁸	Anxiety ¹⁹	Burnout ²⁰	
Avoidance	−0.05	−0.16**	−0.06	0.38**	0.30**	0.32**	0.01
Seeking reassignment	−0.17**	−0.13*	−0.20**	0.23**	0.17**	0.24**	−0.05
Denial	−0.05	−0.08	−0.05	0.31**	0.23**	0.28**	−0.03
Irritability/venting	−0.08	−0.19**	−0.12*	0.26**	0.28**	0.34**	−0.07
Cognitive disengagement	−0.18**	−0.25**	−0.14*	0.34**	0.38**	0.40**	−0.18**
Leaving or avoiding work	−0.16**	−0.25**	−0.12*	0.25**	0.27**	0.17**	−0.04
Adaptive psychological strategies	0.33**	0.13*	0.37**	−0.11*	−0.12*	−0.15**	0.27**
Mindfulness	0.38**	0.24**	0.36**	−0.18**	−0.20**	−0.18**	0.29**
Self-kindness	0.32**	0.17**	0.24**	−0.14**	−0.20**	−0.17**	0.32**
Common humanity	0.36**	0.19**	0.38**	−0.08	−0.12*	−0.13*	0.17**
Resilient coping	0.36**	0.25**	0.39**	−0.19**	−0.26**	−0.20**	0.28**
Religious coping	0.18**	0.13*	0.18**	−0.01	−0.10	−0.11*	0.14*
Absence of self-blame	0.09	0.22**	0.09	−0.34**	−0.48**	−0.27**	0.19**
Active engagement	0.32**	0.10	0.38**	−0.01	0.02	−0.12*	0.30**
Using instrumental support	0.24**	0.14**	0.22**	0.01	−0.07	−0.09	0.26**
Using emotional support	0.24**	0.11*	0.31**	−0.04	−0.03	−0.15**	0.24**
Planning	0.19**	0.05	0.25**	0.06	0.05	0.01	0.16**
Positive reframing	0.33**	0.13*	0.37**	−0.11*	−0.12*	−0.15**	0.27**
Active coping	0.21**	−0.02	0.31**	0.04	0.04	0.04	0.16**
Maladaptive psychological strategies	−0.01	−0.17**	0.05	0.36**	0.50**	0.28**	−0.25**
Isolation	−0.02	−0.10	0.06	0.33**	0.40**	0.21**	−0.22**
Overidentification	0.02	−0.12*	0.05	0.32**	0.42**	0.29**	−0.23**
Self-judgment	−0.01	−0.13**	0.05	0.33**	0.47**	0.20**	−0.24**
Minimizing emotional impact	0.21**	−0.08	0.29**	0.26**	0.22**	0.29**	0.01
Self-distraction	0.15**	−0.02	0.13*	0.19**	0.17**	0.21**	0.03
Acceptance	0.09	0.02	0.31**	0.05	0.01	−0.01	0.05
Humor	0.01	−0.20**	0.11	0.17**	0.17**	0.22**	−0.02
Behavioral disengagement	0.18**	−0.05	0.18**	0.24**	0.25**	0.19**	−0.03
Substance use	−0.04	−0.16**	−0.07	0.22**	0.32**	0.20**	−0.14*
Smoking cigarettes	0.07	−0.01	0.04	0.12*	0.13**	0.14**	−0.03
THC or marijuana use	0.01	−0.05	−0.03	0.10*	0.14**	0.06	0.07
Other substance use	−0.12*	−0.15**	−0.09	0.20**	0.26**	0.16**	−0.12*

Note: Coping strategies in bold are subscales that include the individual strategies listed below them, as identified in Sloane et al.¹⁴.

Gray shading indicates correlations > 0.25, to emphasize the more substantial statistically significant correlations.

Abbreviation: THC, tetrahydrocannabinol.

* $p < 0.05$.

** $p < 0.01$.

job satisfaction measures but a weaker protective effect on mental health, perhaps manifesting the relative lack of agency experienced by many professional caregivers. Overall, the consistency of these associations is notable, in that to the extent that they are modifiable, job satisfaction and mental health may be improved.

This work must be considered preliminary. The sample size is modest, and we were unable to identify similar studies of professional caregivers in LTC settings with which to compare our findings. With these caveats, our results suggest that clinical, behavioral, educational, and organizational interventions that foster supportive mental/emotional responses to stress, for example, by promoting approaches such as mindful spirituality and resilience, may be particularly important among professional caregivers, especially if tailored to the individual's values.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest. Author disclosures are available in the [supporting information](#).

CONSENT STATEMENT

All human subjects provided informed consent, as per federal guidelines. The study was carried out under IRB Exemption #22-01623 from the Office of Human Research Ethics of the University of North Carolina at Chapel Hill.

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REFERENCES

1. Stearns SC, D'Arcy LP. Staying the course: facility and profession retention among nursing assistants in nursing homes. *J Gerontol B Psychol Sci Soc Sci*. 2008;63:S113-S121.
2. KFF Health news. Small-town nursing homes closing amid staffing crunch. 2023. Accessed June 8, 2023. <https://www.nbcnews.com/health/aging/nursing-homes-small-towns-closing-staff-shortages-rna66779>
3. Joshi S. Staffing shortages, staffing hours, and resident deaths in US nursing homes during the COVID-19 pandemic. *J Am Med Dir Assoc*. 2023;24(8):1114-1119.
4. Costello H, Walsh S, Cooper C, Livingston G. A systematic review and meta-analysis of the prevalence and associations of stress and burnout among staff in long-term care facilities for people with dementia. *Int Psychogeriatr*. 2019;31:1203-1216.
5. Kandelman N, Mazars T, Levy A. Risk factors for burnout among caregivers working in nursing homes. *J Clin Nurs*. 2018;27(1-2):e147-e153.
6. Kunkle R, Chaperon C, Berger AM. Formal caregiver burden in nursing homes: an integrative review. *West J Nurs Res*. 2021;43(9):877-893.
7. Zimmerman S, Williams CS, Reed PS, et al. Attitudes, stress, and satisfaction of staff who care for residents with dementia. *Gerontologist*. 2005;45 Spec No 1(1):96-105.
8. National Academies of Sciences, Engineering, and Medicine. *The National Imperative To Improve Nursing Home Quality: Honoring Our Commitment To Residents, Families, and Staff*. The National Academies Press; 2022. doi:10.17226/26526
9. Folkman S, Lazarus RS. An analysis of coping in a middle-aged community sample. *J Health Soc Behav*. 1980;21:219-239.
10. Schaufeli WB. Coping with job stress. in: Wright JB (ed). *International Encyclopedia of The Social & Behavioral Sciences* (2nd ed.). Elsevier; 2015: 902-904.
11. Latack JC, Havlovic SJ. Coping with job stress: A conceptual evaluation framework for coping measures. *J Organizat Behav*. 1992;13:479-508.
12. Somers MJ, Casal J. Patterns of coping with work-related stress: a person-centred analysis with text data. *Stress Health*. 2021;37:223-231.
13. Lathren C, Sheffield-Abdullah K, Sloane PD, et al. Certified nursing assistants' experiences with self-compassion training in the nursing home setting. *Geriatr Nurs*. 2021;42:1341-1348.
14. Sloane PD, Zimmerman S, Efrid-Green L, et al. A new measure of coping with work-related stress among nursing assistants and personal care aides in nursing homes and assisted living. *Alzheimer Dement*. in press.
15. Tarlow BJ, Wisniewski SR, Belle SH, Rubert M, Ory MG, Gallagher-Thompson D. Positive aspects of caregiving: contributions of the REACH Project to the development of new measures for Alzheimer's caregiving. *Res Aging*. 2004;26(4):429-453.
16. Squillace MR, Remsburg RE, Bercovitz A, Rosenoff E, Branden L. An introduction to the National Nursing Assistant Survey. National Center for Health Statistics. *Vital Health Stat*. 2007;(44):1-54.
17. Aström S, Nilsson M, Norberg A, Sandman PO, Winblad B. Staff burnout in dementia care—relations to empathy and attitudes. *Int J Nurs Stud*. 1991;28:65-75.
18. Kroenke K, Spitzer RL, Williams JB. The Patient Health Questionnaire-2: validity of a two-item depression screener. *Med Care*. 2003;41:1284-1292.
19. Kroenke K, Spitzer RL, Williams JB, Monahan PO, Löwe B. Anxiety disorders in primary care: prevalence, impairment, comorbidity, and detection. *Ann Intern Med*. 2007;146:317-325.
20. Dolan ED, Mohr D, Lempa M, et al. Using a single item to measure burnout in primary care staff: a psychometric evaluation. *J Gen Intern Med*. 2015;30:582-587.
21. Hennessy CH, Moriarty DG, Zack MM, Scherr PA, Brackbill R. Measuring health-related quality of life for public health surveillance. *Public Health Rep*. 1994;109:665-672.
22. Centers for Disease Control and Prevention. *Measuring Healthy Days*. CDC; 2000. <https://www.cdc.gov/hrqol/pdfs/mhd.pdf>
23. Isa KQ, Ibrahim MA, Abdul-Manan HH, Mohd-Salleh ZH, Abdul-Mumin KH, Rahman HA. Strategies used to cope with stress by emergency and critical care nurses. *Br J Nurs*. 2019; 28(1):38-42.
24. Koeske GF, Kirk SA, Koeske RD. Coping with job stress: which strategies work best?. *J Occup Organ Psychol*. 1993;66:319-335.
25. Beh LS, Loo LH. Job stress and coping mechanisms among nursing staff in public health services. *Int J Acad Res Bus Soc Sci*. 2012;2(7):131-176.
26. Gary FA, Yarandi H, Hassan M. Stress and coping among Black women employed in non-professional service and professional occupations in Florida and Georgia. *Issues Ment Health Nurs*. 2015;36:621-631.
27. Köllen T. A review of minority stress related to employees' demographics and the development of an intersectional framework for their coping strategies in the workplace. In: Perrewe PL, Rosen CC, Halbesleben JRB (Eds). *The Role Of Demographics In Occupational Stress and Well-Being*. Emerald Group Publishing; 2014: 41-82.
28. Folkman S, Lazarus RS, Pimley S, Novacek J. Age differences in stress and coping processes. *Psychol Aging*. 1987;2:171-184.

29. Weiss NH, Johnson CD, Contractor A, Peasant C, Swan SC, Sullivan TP. Racial/ethnic differences moderate associations of coping strategies and posttraumatic stress disorder symptom clusters among women experiencing partner violence: a multigroup path analysis. *Anxiety Stress Coping*. 2017;30(3):347-363.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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