Journal of Combinatorial Mathematics
and Combinatorial Computing
www.combinatorialpress.com/jcmcc

Combinatorial Press

A study on the differences in burnout between 24/7 caregivers and shift-based caregivers based on computational analysis of multidimensional data

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ABSTRACT

With the gradual standardization, professionalization and standardization of the senior care service industry, the construction of the talent team to grasp the senior care service has become an important part of the high-quality development in the senior care service. It is worth noting that at the present stage, there is a serious shortage of nursing staff in China's elderly care institutions, unreasonable distribution of age structure, disproportionate gender ratio, low cultural level, lagging comprehensive quality, and weak professional ability and skills. To address the above problems, based on the study of relevant information and using the questionnaire survey method, survey interviews were conducted on the nursing staff of the all-weather work mode in the nursing institutions of Hospital C and Hospital F, as well as the nursing staff of the shift work mode in the nursing center of Hospital J and the nursing institution of Hospital L, in order to grasp the personnel arrangements, the nursing staff team, and other professional trainings of the four nursing institutions. Further, comparing the 24/7 care work pattern of the nursing institutions with the shift system work pattern and the difference in burnout found that the shift system work pattern is relatively better and can reduce the burnout of caregivers in their caregiving work. Elderly caregiver work is labor-intensive content, and the burnout resulting from a heavy workload will increase the instability and uncertainty of the caregiver's career. In order to avoid this phenomenon, we should strengthen the detection and prevention of burnout among nursing staff in nursing institutions, and actively carry out heart health counseling, goal planning and professional knowledge training for nursing staff in the shift system, so as to comprehensively improve the comprehensive quality of nursing staff in the shift system, and thus contribute to the high-quality development of nursing institutions.

Keywords: nursing care institutions, nursing staff, burnout, high-quality talent team construction

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Received 20 February 2024; Revised 25 April 2024; Accepted 20 November 2024; Published Online 16 April 2025.
DOI: 10.61091/jcmcc127b-424

1. Introduction

With the transformation of modern medical diagnosis and treatment model and the reform of healthcare system under the market economy conditions, the work pressure of nursing staff is getting higher and higher, and the degree of work burnout becomes higher. The inspection and examination faced by nursing staff is the main source of stress, while the 24/7 and shift work system is another source of stress for nursing staff [1-4].

Burnout is a state of physical and mental discomfort, psychological exhaustion, emotional closure, and sub-health that occurs in the midst of stressful and busy work due to internal and external factors such as environment and emotions [5-6]. Burnout is manifested in the bewilderment of career prospects, lack of work enthusiasm and motivation, and is prone to fatigue, boredom, anxiety, irritability, depressed mood, lack of spirit, and psychological lack [7-9]. At present, by the influence of the medical environment, the doctor-patient conflict is prominent, the nursing staff long-term work in the environment full of "stressors", very easy to lead to occupational burnout. Burnout not only has a negative impact on individual nurses, but also may affect the quality of patient services [10-13]. Solving nursing burnout is a systematic project, which requires the whole society to give care and support, continuously improve relevant laws and regulations, and create a relaxed humanistic environment for nursing staff [14-15]. At the same time, nursing managers should establish the leading idea of "people-oriented", advocate nursing staff to participate in hospital management, pay attention to the life situation of nursing staff, pay attention to guiding nursing staff to link their ordinary work with the recovery of patients and the realization of self-worth, and adjust the normal work system appropriately in the course of their work, so as to really alleviate the occurrence of nursing staff burnout [16-19].

2. Research methodology

In order to front collect the disturbances and problems brought by the 24/7 care model and the shift system care model to the nursing staff, this paper utilizes the form of questionnaire survey method to distribute 189 questionnaires to the nursing staff of the four nursing homes on the spot and ask to unfold the anonymity to fill in the questionnaires.

3. Survey design

3.1. Subjects of the survey

This paper surveyed a total of 165 elderly caregivers in F City's C Home Nursing Facility, F Home Nursing Facility, J Nursing Facility, and L Home Nursing Facility.

3.2. Survey design

A total of 189 questionnaires were distributed to all elderly caregivers in the four institutions and 165 valid questionnaires were collected. Among them, 84 questionnaires were collected from around-the-clock caregivers and 81 questionnaires were collected from shift-based caregivers, with a recovery rate of 87.3%, indicating that the survey documents were recovered well.

The main body of the questionnaire was divided into three parts, the first part was to fill in the basic information of the elderly caregivers, including their age and the specific occupations they had previously worked in.

The second part refers to the existing literature and utilizes the MBI-GS Burnout Scale in the Burnout Scale. This scale includes a total of 15 items and is mainly tested in three dimensions. Burnout is proposed by psychologist Freudenberger, who believes that burnout is highly prevalent in the helping service industry, because of the high intensity of work pressure, complicated work content, and long

working hours prompting staff to experience emotional exhaustion symptoms. The first is emotional exhaustion, which is divided into five items (1-5 questions); the second is work attitude, which is divided into four items (6-9 questions); and the third is personal fulfillment, which is divided into six items (10-15 questions). The MBI-GS Burnout Scale uses a 7-point scale, with the options of "never", "rarely (several times a year or less)", "occasionally (once a month or less)", "often (several times a month)", "frequent (several times a week)", "very frequently (several times a week)", and "daily" are given a score of 1 to 7, with increasing frequency from weak to strong. The first dimension, emotional exhaustion, requires the sum of the scores of the five items to be divided by 5; the second dimension, work attitude, requires the sum of the scores of the four items to be divided by 4. Since the first and second dimensions are positively scored, higher scores represent higher levels of burnout; the third dimension is negatively scored, i.e., the lower the score, the higher the level of burnout. The scores of the three dimensions were added together to arrive at a total score. If the total score is below 50, it means that the situation is good and there is no need to worry about burnout; if the total score is 50-75, it means that the situation is moderate and there is a certain degree of burnout that requires slight intervention; if the total score is 75-100, it means that the person needs to leave the job to recuperate and there is a high degree of burnout; and if the total score is 100 or more, it means that severe burnout exists and requires strong intervention from external factors.

The third part mainly summarizes the differences in burnout brought about by different work mechanisms, and mainly uses SPSS26 software to carry out descriptive analysis of the integrated data, analyzing the overall situation of the scale data and the correlation existing in the scale data. On this basis, the differences in burnout and specific sources of occupational stress between 24/7 caregivers and shift-based caregivers were compared.

4. Findings

4.1. Differences in burnout between full-time and shift-based nursing homes

4.1.1. The case for burnout. Cronbach's α reliability coefficient is a test method with high reliability coefficient usage in the current academic world, so this paper follows the existing research and utilizes Cronbach's α reliability coefficient to carry out the test. It can be seen that the α coefficients indicate the reliability, the higher the coefficient indicates that the better the reliability, the value of the range of 0.8-0.9 or less represents very high reliability; 0.7-0.8 or less represents high reliability; 0.65-0.7 or less can be used on behalf of the specific α reliability coefficients statistical table shown in Table 1.

Table 1. Job Burnout - Reliability factor statistics of Cronbach α

Dimension	Cronbach's Alpha coefficient	Number of terms
Emotional Exhaustion	0.862	5
Working Attitude	0.841	4
Low Personal Sense of Achievement	0.817	6
Job Burnout	0.851	15

Observing Table 1, it can be found that the test coefficients of emotional exhaustion, work attitude, low personal accomplishment and burnout are all more than 0.8, indicating that the reliability of burnout scale is very high. Moreover, the Cronbach α between the overall burnout scale and the dimensions of emotional exhaustion, work attitude, and personal fulfillment are 0.862, 0.841, 0.817, and 0.851, respectively, all of which are above 0.8, which again indicates that the reliability of the burnout scale is high. In this paper, the KMO significance test of each index was launched through SPSS26 software, and the test results are shown in Table 2:

Table 2. Total job burnout list KMO and Bartlett's sphericity test

Kaiser-Meyer-Olkin for Sampling Sufficiency	Measure	0.823
	Approximate chi square	1249.578
Bartlett's sphericity test	df	105
	Sig.	0.000

Table 2 shows the test of KMO and Bartlett's test for the total scale of burnout. Through the validity test of the data, it can be seen that the KMO value of each dimension is greater than 0.7, while the KMO value of the total table is 0.823 greater than 0.8. The significance of the statistical value of the Bartlett's sphere test is 0.000, which is less than 0.001, indicating that it passes the 1% significance test, which proves that the validity of the data used is better and is suitable for doing factor analysis. In this paper, the main indicators of the dimensionality reduction analysis, after analyzing the original extraction of each indicator as shown in Table 3:

Table 3. Interpretation table of the factor total variance

The total variance explained									
Element	Initial eigenvalue			Extract the squared sum and load			Rotate the square and load		
	Total	Percentage of variance	Accumulative perception	Total	Percentage of variance	Accumulative perception	Total	Percentage of variance	Accumulative perception
1	5.177	34.511	34.511	5.177	34.511	34.511	3.413	22.755	22.755
2	2.987	19.912	54.424	2.987	19.912	54.424	3.252	21.677	44.432
3	1.267	8.450	62.874	1.267	8.450	62.874	2.766	18.442	62.874
4	0.827	5.510	68.384						
5	0.745	4.967	73.350						
6	0.668	4.451	77.802						
7	0.594	3.957	81.758						
8	0.556	3.708	85.466						
9	0.491	3.275	88.740						
10	0.443	2.951	91.691						
11	0.417	2.782	94.474						
12	0.296	1.976	96.450						
13	0.223	1.489	97.939						
14	0.181	1.207	99.146						
15	0.128	0.854	100.000						
Extraction method: Main component analysis.									

This part is based on the default test for the extraction of feature roots greater than 1. The results show that the current number taken is 3, and the cumulative contribution rate is 62.874%, which is much more than 30% or more. It can be seen that the extracted number can effectively show the overall information of the original index, indicating that these three values have a strong interpretation of the scale. In order to ensure the maximum extraction of the original scale information and the interpretation of the extracted variables, this paper adopts the orthogonal rotation method to carry out further analysis, and the results are shown in Table 4:

Table 4. Factor load matrix after orthogonal rotation

Rotate the component matrix[a]	
	Component

	1	2	3
A1	0.689	0.289	-0.061
A2	0.871	0.168	0.072
A3	0.844	0.153	0.241
A4	0.621	0.334	0.083
A5	0.725	0.349	0.002
B1	0.429	0.734	0.140
B2	0.173	0.740	0.037
B3	0.308	0.840	-0.031
B4	0.328	0.663	0.083
C1	0.303	0.065	0.628
C2	-0.007	0.136	0.768
C3	-0.043	0.156	0.845
C4	-0.097	0.170	0.843
C5	0.176	-0.291	0.601
C6	0.081	-0.079	0.616
Extraction method: main component. Rotation method: the orthogonal rotation method that has the standardization of Kaiser.			
a. Rotation converges after 5 iterations.			

In the above matrix, the absolute value of the factor loadings mainly reflects the degree of information overlap between the main factor and the variable, and the higher the value means the stronger the explanatory power of the main component, but it is required that the loadings of the indicator are above 0.5. Observation of Table 4 shows that the absolute value of each indicator in the table is above 0.5, which indicates that it meets the requirements. As a result, the indicators are categorized into 3 types of factors and named in order according to expertise.

4.1.2. Situational analysis of the burnout scale. The total score of the scale of burnout is divided into four levels, i.e., a score of 50 or less is in zero burnout; a score of 50-75 is in mild burnout; a score of 75-100 is in moderate burnout; and a score of 100 or more is in high burnout.

1) Emotional exhaustion dimension. The scores of the emotional exhaustion dimension mainly assess whether the elderly caregivers experience emotional exhaustion due to their professional activities, and this dimension constitutes the core part of the burnout scale, which mainly contains five survey items. The following is divided into the statistical analysis of the emotional exhaustion dimension of 24/7 caregivers and the statistical analysis of the emotional exhaustion dimension of shift-based elderly caregivers, as described below.

As can be seen from the statistical analysis of the emotional exhaustion dimension of 24/7 caregivers in Table 5, no significant differences occurred between the individual question items, indicating that there is consistency in the senses of the respondents to the emotional exhaustion dimension of the scale.

Table 5. Statistical analysis of the emotional exhaustion dimension of the all-weather care personnel

Item content	N	Minimum value	Maximum value	Mean value	Standard deviation	Variance
A1 Work makes me feel tired and tired	84	1	7	4.82	1.97	3.93
A2 I feel exhausted when I leave work	84	1	7	4.63	1.93	3.75
A3 I feel very tired when I get up in the morning and have to face a day's work	84	1	7	4.37	1.79	3.22
A4 Working all day is really stressful for me	84	1	7	4.38	1.81	3.23
A5 Work makes me feel like I'm going to crash	84	1	7	4.46	2.09	4.42

Table 6 Statistical analysis of emotional depletion dimensions of shift-based caregivers shows that no significant differences were demonstrated between the question items, implying that there was a high degree of consistency in the perceptions on the emotional depletion dimensions of the scales with shift-based caregivers as the survey respondents.

Table 6. Statistical analysis of the emotional exhaustion dimension of the shift worker

Item content	N	Minimum value	Maximum value	Mean value	Standard deviation	Variance
A1 Work makes me feel tired and tired	81	1	7	2.48	1.41	2.02
A2 I feel exhausted when I leave work	81	1	7	3.33	1.49	2.25
A3 I feel very tired when I get up in the morning and have to face a day's work	81	1	7	3.40	1.53	2.37
A4 Working all day is really stressful for me	81	1	7	3.01	1.38	1.94
A5 Work makes me feel like I'm going to crash	81	1	7	3.19	1.60	2.60

As can be seen from the comparison of Tables 1 - 6 above, there is a significant gap between the various score profiles of the emotional exhaustion dimension of the round-the-clock caregivers compared to the generally higher scores of the shift-based caregivers. The emotional exhaustion of 24/7 caregivers is at the level of moderate burnout, and the symptoms of emotional exhaustion at this level are more obvious, which has certain hidden dangers to physical and mental health as well as quality of life.

2) Depersonalization dimension. Table 7 shows that there is no significant change between the four items in the depersonalization dimension, which indicates that there is consistency in the perception of this dimension among the caregivers on this scale around the clock.

The de-personalization dimension uses four items to test the caregivers, mainly reflecting whether the caregivers of the nursing institutions have a negative mindset or indifferent response during the work period, and if such a mindset occurs, there may be a perfunctory approach to work-related emergencies and problem solving, which is not conducive to the improvement of the quality of the work of the relevant personnel. In this dimension, a comparative analysis of the depersonalization dimensions of 24/7 caregivers and shift caregivers was conducted.

Table 7. The all-weather guard goes to the personalized dimension statistical analysis

Item content	N	Minimum value	Maximum value	Mean value	Standard deviation	Variance
B1 Since I started this job, I am increasingly disinterested in working	84	1	7	4.44	2.02	4.15
B2 I'm not as enthusiastic as I used to be	84	1	7	3.95	1.86	3.49
B3 I doubt the meaning of my work	84	1	7	4.64	1.93	3.75
B4 I'm less and less concerned about my work	84	1	7	4.42	2.01	4.32

From Table 7, it can be seen that no significant differences occurred between the four items in the depersonalization dimension, indicating that shift-based caregivers on this scale had consistent perceptions of this dimension. Based on the comparison of data in Tables 7 and 8, it can be seen that shift-based caregivers scored lower than 24/7 caregivers, indicating a good situation. The 24/7 caregivers have greater pressure in their work, and even a negative slacking state, which not only has certain doubts about the current work, but also shows a downward trend in their motivation, which is not conducive to improving the service quality of the elderly service organizations.

Table 8. The shift worker goes to the personalized dimension statistical analysis

Item content	N	Minimum value	Maximum value	Mean value	Standard deviation	Variance
B1 Since I started this job, I am increasingly disinterested in working	81	1	7	3.04	1.62	2.65
B2 I'm not as enthusiastic as I used to be	81	1	7	2.56	1.34	1.83
B3 I doubt the meaning of my work	81	1	7	2.91	1.53	2.34
B4 I'm less and less concerned about my work	81	1	7	3.25	1.79	3.24

In the follow-up interviews, only a few of the 24/7 caregivers in the nursing facility at Residence C were able to receive appropriate support at work and were satisfied with their work schedule and job content. However, the majority of the 24/7 caregivers reported depression, lack of motivation, exhaustion, and low mood during their work. The main reason for this situation lies in the fact that 24/7 caregivers' nursing work may be too compact in terms of scheduling time, heavy tasks, and lack of sufficient rest time, making it difficult to provide high-quality services to the elderly due to increasing pressure.

3) Low personal fulfillment dimension. In the dimension of low personal accomplishment, the lower the self-accomplishment indicates that the study participants are weaker in self-efficacy as well as work accomplishment. Therefore, this paper measures the six indicators of the low personal accomplishment dimension of 24/7 caregivers in order to explore the specifics of the self-achievement of the study participants, as shown in Table 9:

Table 9. Statistical analysis of the low personal achievement of the all-weather guard

Item content	N	Minimum value	Maximum value	Mean value	Standard deviation	Variance
C1 I can solve problems in my work effectively	84	1	7	3.54	1.71	2.95
C2 I think I'm making a good contribution to the company	84	1	7	3.23	1.84	3.43
C3 In my opinion, I am good at my work	84	1	7	3.79	1.72	2.94
C4 I was very happy when I got some things done at work	84	1	7	3.57	1.73	3.02
C5 I've done a lot of valuable work	84	1	7	3.13	1.82	3.67
C6 I am confident that I can do all the work effectively	84	1	7	3.66	1.72	3.07

The statistical analysis of the above dimensions of personal accomplishment of 24/7 caregivers shows that there is no significant difference between the items of the questions, which indicates that there is consistency in the perceptions of personal efficacy and accomplishment of 24/7 caregivers.

Table 10 shows the statistical analysis of personal accomplishment dimensions of shift-based caregivers. Observation of Tables 9 and 10 shows that a careful assessment of the performance of 24/7 caregivers revealed that the data related to shift-based caregivers were poor and showed relatively low levels. The reason for this is that some shift care workers usually fall into self-doubt when facing daily work tasks, and may question their professional ability, feel frustrated and uneasy, worrying about whether they are capable of performing this highly professional and empathetic job, and thus maintain a skeptical attitude towards their ability to perform their job and efficiently complete the tasks assigned to them. This is not only detrimental to the improvement of the service standard of shift care workers, but also affects the quality development of elderly care organizations.

Table 10. Statistical analysis of the low personal achievement of the shift worker

Item content	N	Minimum value	Maximum value	Mean value	Standard deviation	variance
C1 I can solve problems in my work effectively	81	1	7	3.77	2.14	4.63
C2 I think I'm making a good contribution to the company	81	1	7	4.10	1.99	3.99
C3 In my opinion, I am good at my work	81	1	7	3.94	1.72	2.98
C4 I was very happy when I got some things done at work	81	1	7	4.28	1.91	3.68
C5 I've done a lot of valuable work	81	1	7	3.65	1.64	2.73
C6 I am confident that I can do all the work effectively	81	1	7	3.98	1.85	3.47

Subsequently, this paper conducted structured interviews with 24/7 caregivers and shift caregivers in turn, and found that the physical quality of 24/7 caregiver clients was slightly lower than that of shift caregiver clients. Overall, the physical performance of the elderly who chose the round-the-clock care model was characterized by more illnesses, ambiguous autonomy, poorer ability to express themselves, loss of self-care ability, and some of them needed gastric tube diet and pressure sore care because of prolonged bed rest. All-weather caregivers are responsible for the work of 6-7 elderly people, and the health condition of the elderly who need all-weather care is poorer, which makes the requirements for caregivers even more stringent. In the face of paralyzed and bedridden elderly, around-the-clock nursing caregivers will feel overwhelmed to a certain extent, and will not be able to obtain a sense of accomplishment from their work due to the drastic increase in work pressure, so they will be more prone to burnout.

4.2. Differential Analysis of Occupational Stress Sources of Caregivers in Full-Time and Shift Systems

4.2.1. Situation of sources of occupational stress. Table 11 shows the source of occupational stress - Cronbach's α reliability coefficient statistics, which mainly examines the sources of burnout. It can be seen that all the coefficients are greater than 0.8. Among them, the individual level, the organizational level, the social environment level and the total scale are also more than 0.8, which indicates that the reliability of the scale is high.

Table 11. Occupational stress source - Reliability factor statistics of Cronbach α

dimension	Cronbach'sAlpha	Term number
Personal level	0.892	5
Organizational level	0.828	5
Social environment	0.810	5
Inventory of total	0.895	15

Table 12 shows the KMO and Bartlett's sphere test for the total table of stress sources. According to the results of the validity test, it can be seen that the KMO value of the total table is 0.873, which is higher than 0.8, while the significance level of the Bartlett's sphericity test is 0.000, which is much lower than the 0.001 threshold, indicating that the significance level passes the test. This means that the validity of the data is good and it is suitable to start factor analysis.

Table 12. Total pressure source table KMO and Bartlett's sphericity test

Kaiser-Meyer-Olkin for Sampling Sufficiency	Measure	0.873
	Approximate chi square	1274.219
Bartlett's sphericity test	df	105
	Sig.	.000

The indicators were analyzed for dimensionality reduction, and the original extraction of each indicator was analyzed as shown in Table 13:

Table 13. Interpretation table of the factor total variance

The total variance explained									
Element	Initial eigenvalue			Extract the squared sum and load			Rotate the square and load		
	total	Percentage of variance	Accumulative perception	total	Percentage of variance	Accumulative perception	total	Percentage of variance	Accumulative perception
1	6.176	41.172	41.172	6.176	41.172	41.172	3.441	22.940	22.940
2	1.870	12.464	53.635	1.870	12.464	53.635	3.171	21.140	44.080
3	1.578	10.523	64.159	1.578	10.523	64.159	3.012	20.079	64.159
4	1.884	5.890	70.049						
5	1.701	4.674	74.723						
6	1.639	4.259	78.982						
7	1.540	3.599	82.581						
8	1.508	3.384	85.965						
9	1.464	3.095	89.060						
10	1.405	2.699	91.759						
11	1.307	2.050	93.809						
12	1.280	1.864	95.674						
13	1.250	1.669	97.343						
14	1.207	1.381	98.724						
15	1.191	1.276	100.000						
Extraction method: main component analysis.									

This part is based on the default test for the extraction of feature roots greater than 1. The results show that the current number taken is 3, and the cumulative contribution rate is 64.159%, which is much more than 30%. In this regard, the extracted number can effectively show the overall information of the original index, indicating that these three values have a strong interpretation of the scale. In order to ensure the maximum extraction of the original scale information and interpretation of the extracted variables, this paper adopts the orthogonal rotation method to carry out further analysis, and the results are shown in Table 14:

Table 14. The factor load matrix after orthogonal rotation

Rotational composition matrix[a]			
	Component		
	1	2	3
Q1	0.819	0.164	0.196
Q2	0.857	0.155	0.187
Q3	0.793	0.204	0.224
Q4	0.804	0.065	0.089
Q5	0.683	0.444	0.152
Q6	0.202	0.737	0.048
Q7	0.088	0.640	0.165
Q8	0.150	0.848	0.225
Q9	0.205	0.757	0.112
Q10	0.136	0.635	0.481
Q11	0.274	0.345	0.508
Q12	0.121	0.262	0.681
Q13	0.112	0.090	0.829
Q14	0.143	0.057	0.725
Q15	0.203	0.173	0.773
Extraction method: main component. Rotation method: the orthogonal rotation method that has the standardization of Kaiser.			
a. Rotation converges after 5 iterations.			

In Table 14, the absolute value of the factor loadings mainly reflects the degree of information overlap between the main factor and the variable, and the higher the value means the stronger the

explanatory power of the main component, but it is necessary to have the loadings of the indicator above 0.5. Observation of Table 14 shows that the absolute value of each indicator in the table is above 0.5, indicating that the indicators meet the requirements. As a result, the indicators are categorized into 3 types of factors.

4.2.2. Situational analysis of sources of occupational stress:

1) Individual dimension. According to Table 15, it can be observed that 24/7 elderly caregivers' work stress has the following problems on the individual dimension: first, the work tasks are too heavy and complex, which leads to great work pressure and makes it difficult to complete all the tasks within the specified time. Secondly, the 24/7 caregivers lacked a clear definition and understanding of their job duties and purposes, and were usually confused. Finally, 24/7 caregivers lack a clear understanding and goal of their career planning, and it is difficult for them to find a clear direction and goal, resulting in a lack of motivation and direction in their work. Among them, 42.86% of the 24/7 elderly caregivers are fully compatible with the question choices of large workload, tedious work content, and unclear my work tasks and work goals, implying that the influencing factors of elderly caregivers' burnout are strongly related to the amount of work and work content.

Table 15. Based on the pressure source of all-weather care personnel at the individual level

Personal level(%)						
Question item	Title	Complete mismatch	Discrepancy	Coincidence	Match with	Perfect coincidence
1	The workload is large and the work is trivial	5.95	5.95	19.05	26.19	42.86
2	I don't know the scope of my job	4.76	10.71	14.29	35.71	34.52
3	My job and job goals are unclear	5.95	8.33	20.24	22.62	42.86
4	My job doesn't make any sense	5.95	5.95	21.43	30.95	35.71
5	I don't know my career expectations	7.14	8.33	28.57	19.05	36.90

Observing the sources of stress at the individual level for shift-based elderly caregivers in Table 16, it can be observed that the overall stress values for shift-based elderly caregivers are relatively low, with 41.98% difference only in the question item of heavy workload, and the choice of fully compliant in tedious work, and less than 40% in the rest of the four choices for fully compliant choices. This suggests that elderly caregivers practicing a shift system are relatively less stressed at the individual level compared to caregivers providing a 24/7 service.

Table 16. Based on the pressure source of the shift adjustment of the rotation

Personal level(%)						
Question item	Title	Complete mismatch	Discrepancy	Coincidence	Match with	Perfect coincidence
1	The workload is large and the work is trivial	9.88	4.94	12.35	29.63	41.98
2	I don't know the scope of my job	7.41	7.41	12.35	33.33	38.27
3	My job and job goals are unclear	11.11	9.88	17.28	24.69	35.80
4	My job doesn't make any sense	7.41	7.41	22.22	34.57	27.16
5	I don't know my career expectations	9.88	12.35	19.75	35.80	20.99

2) Organizational level. According to the results of the analysis in Table 17, it can be seen that the main influencing factors at the organizational level that affect the burnout of elderly caregivers involve job promotion, rules and regulations, promotion training, and development space. The largest value in this table is 44.05%, which indicates that caregivers choose to be fully compliant in the topic of unreasonable rules and regulations in the organization; secondly, 39.29% of caregivers choose to be fully compliant in the topic of little structural training, making it difficult to learn new knowledge and skills; and lastly, 36.90% of caregivers choose to be more compliant with the option of not having enough space for development.

Table 17. Based on the pressure source of all-weather care members at the organizational level

Organizational level(%)						
Question item	Title	Complete mismatch	Discrepancy	Coincidence	Match with	Perfect coincidence
6	Institutional managers lack understanding and support for me	10.71	7.14	14.29	34.52	33.33
7	Institutional benefits (vacation, insurance, allowance, etc.) are better	30.95	14.29	23.81	10.71	20.24
8	Less training, less learning and skills	7.14	7.14	19.05	27.38	39.29
9	Institutions have unreasonable rules and regulations	7.14	5.95	14.29	28.57	44.05
10	There is not enough room for development	9.52	8.33	19.05	36.90	26.19

A comparison of Table 18, Shift Caregivers' Stress Scale in the Organizational Level, reveals that only one category of question items exceeds 40% of the choices that fit perfectly, and the rest of the choices are less than those of the 24/7 senior caregivers.

Table 18. Based on the pressure source of the gear shift

Organizational level(%)						
Question item	Title	Complete mismatch	Discrepancy	Coincidence	Match with	Perfect coincidence
6	Institutional managers lack understanding and support for me	9.88	8.64	6.17	33.33	40.74
7	Institutional benefits (vacation, insurance, allowance, etc.) are better	9.88	6.17	17.28	41.98	23.46
8	Less training, less learning and skills	9.88	6.17	11.11	44.44	27.16
9	Institutions have unreasonable rules and regulations	11.11	3.70	16.05	39.51	28.40
10	There is not enough room for development	12.35	19.75	16.05	33.33	29.63

3) Social environment dimension. Based on the social environment dimension, the main question examined is whether the source of stress of elderly caregivers has an impact in the content of social recognition, social atmosphere, and work atmosphere. Observation of Tables 19 and 20 shows that 24/7 elderly caregivers show significant concern about the sense of support from the organization and the recognition from service recipients, upper management, family and friends. Among them, 38.1% of 24/7 elderly caregivers and 30.86% of shift-based caregivers reflected on the social recognition perspective. The service recipients and families of these personnel and the staff of the institution do not recognize the caregivers, so the recognition aspect of the elderly and caregiver status needs to be improved.

Table 19. The pressure source of all-weather nurses on the social environment level

Social environment (%)						
Question item	Title	Complete mismatch	Discrepancy	Coincidence	Match with	Perfect coincidence
11	The service object and the family, the supervisor, the colleague and my friend don't approve of my work	6.17	4.94	16.67	23.81	38.10
12	My family doesn't agree with my work	9.88	3.70	14.29	32.14	30.95
13	Working hours are stressful for my personal life	4.94	19.75	27.38	16.67	19.05
14	Work environment is neat, work atmosphere harmony	8.64	8.64	15.48	27.38	35.71
15	The organization is concerned about the daily life of employees	7.41	22.22	15.48	15.48	17.86

Table 20. Based on the pressure source of the shift worker in the social and environmental level

Social environment level (%)						
Question item	Title	Complete mismatch	Discrepancy	Coincidence	Match with	Perfect coincidence
11	My service object, family members, superior managers, colleagues and friends do not recognize my work	10.71	10.71	27.16	29.63	30.86
12	My family didn't understand or approve of my work	4.76	17.86	20.99	30.86	33.33
13	Working hours put stress on my personal life	4.76	32.14	16.05	23.46	34.57
14	Clean working environment and harmonious working atmosphere	9.52	11.90	20.99	30.86	29.63
15	Institutions care about the daily lives of their employees	9.52	41.67	18.52	22.22	28.40

5. Conclusions and recommendations

This paper unfolds the measurement of burnout and sources of work stress of elderly caregivers by collecting and summarizing the burnout measurements and work stress sources of elderly caregivers from C-hospital nursing facility, F-hospital nursing facility, J-hospital care center and L-hospital nursing facility in F city, as well as conducts the CSR analysis of the management workers of the four elderly care facilities. The results show that the turnover rate and vacancy rate of nursing staff in nursing care institutions with shift-based care model are significantly lower than that of nursing staff in all-weather nursing care institutions. At the same time, the work pressure, labor hours, and work load of all-weather caregivers are much higher than those of shift caregivers, while the overall content satisfaction of the work of caregivers of nursing care institutions with shift care model is higher than that of caregivers of all-weather nursing care institutions.

Based on the above conclusions, the following countermeasure suggestions and outlook are proposed:

Major nursing institutions should conduct heart health counseling, goal planning setting and professional knowledge training for shift nursing staff to comprehensively improve the comprehensive quality of shift nursing staff, so as to provide professional services for the elderly in nursing institutions while promoting the sustainable and high-quality development of nursing institutions. First, major nursing institutions should learn from the experience and knowledge of other institutions, and establish assessment and incentive mechanisms to activate the learning enthusiasm and initiative of shift nursing staff, and stimulate their spirit, so that shift nursing staff can have the motivation to learn and serve the elderly, comprehensively improve the comprehensive quality of nursing staff, so as to enhance the professional level of nursing institutions. Secondly, major nursing institutions should formulate professional knowledge test papers, regularly assess the shift system nursing staff, so that their professional level can be maintained in a certain range, and give pay incentives to the shift system nursing staff with higher points, so as to practically improve the professional service level of the shift system nursing staff, and help the high-quality development of the nursing institutions.

To sum up, the shift system nursing model on the one hand is conducive to nursing institutions to better protect the rest rights and interests of nursing staff, labor rights and interests, labor standards, nursing workload, and improve the number of nursing institutions in the workforce and quality of service, so that it can be stable and high-quality development; on the other hand, the shift system nursing model can not only ensure the standardization of the implementation of the elderly nursing staff employment system, but also conducive to the standardized development of the elderly care

service industry. Standardized development. However, it is worth noting that, in the face of the rapidly aging society, the major nursing institutions also need to focus on service, according to the development of society and constantly innovate to meet the modern society's service mode and management mode, and effectively promote the high-quality development of nursing institutions.

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