



The Influence of Working Environment on Well-being and Job Satisfaction of Healthcare Providers in Geriatric Nursing Facilities in Shandong Province in China

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Abstract:

The study aimed to investigate whether different elements of the practical environment (manifested by participation in facilities affairs, nursing foundations for quality of care, manager leadership, staff and resource adequacy, and collegial relations) and job satisfaction were linked to subjective well-being in elderly caregivers. 229 employees working in geriatric nursing facilities located in the Shandong province of China were recruited for this study. Correlation analyses revealed a positive relationship between a better working environment and employees' subjective well-being and job satisfaction. Multiple linear regression analysis identified several factors that significantly increased the odds of subjective well-being: job satisfaction, the number of seniors you care for, and the working environment. Specifically, registered nurses working in geriatric nursing facilities had lower levels of subjective well-being compared with other elderly caregivers. Developing the work environment for elderly caregivers may lead to lower job dissatisfaction and an improved well-being index.

Keywords: Job Satisfaction, Nurse Work Environment, Well-being Index, China, Geriatric Nursing Facility

Introduction

Many countries face an increasingly aging population in the tide of world population development. Asia and Europe are home to some of the world's oldest people, with individuals aged 65 and above. At the top is Japan at 28 percent, followed by Italy at 23 percent. Finland, Portugal, and Greece ranked the top five at just under 22 percent^[1]. In 2019, there were 254 million people who were 60 years or older in China. According to statistics released by the National Health Commission (NHC), the average life expectancy in China increased from 77.93 years in 2020 to 78.2 years in 2021^[2]. Worldwide demand for long-term care is expected to grow because of the longevity increase. In the U.S., 47.8% of nursing home residents have Alzheimer's disease or other dementias, and individuals aged 85 years or older constitute the largest share of nursing home residents^[3]. 75% of nursing homes had seldom met the Centers for Medicare & Medicaid Services (CMS) expected nursing staffing levels which greatly decreased the care quality in protecting the health and safety of residents^[4]. According to the internationally accepted standard of one caregiver for every three disabled, elderly individuals, China requires a minimum of ten million caregivers for older people. However, about 1 million people are working as elderly caregivers nationwide, and less than 600,000 elderly caregivers are now available in geriatric care facilities in China^[5].

Previous studies have shown that the work environment of long-term elderly care can bring anxiety, depression, and other negative emotions to caregivers, which can drain caregivers of their work engagement, causing them to lose enthusiasm and energy for their work, reducing their sense of well-being and significantly increasing the turnover rate of elderly caregivers^[6-7]. Moreover, the psychological resilience, burnout, and well-being of elderly caregivers can directly affect the quality of care and can also lead to unexpected situations outside of caregiving behaviors (e.g., elder abuse)^[8]. Therefore, the mental health status of elderly caregivers should be taken seriously. Researchers have suggested improving caregivers' work environment as an effective strategy to reduce elderly caregivers' turnover and improve their well-being^[9]. Investigating the potential correlation between the work environment and unfavorable consequences for nursing staff, including job dissatisfaction and a decline in subjective well-being, is imperative.^[10-11] Despite the extensive research on the factors across countries, little is known about the role of the working environment in geriatric nursing facilities as an influencing factor towards the well-being and job satisfaction of caregivers of older adults in China. The various working environment may influence changes in psychological well-being.

The purpose of this study is to objectively reflect on the deficiencies in the practical environment in senior facilities and provide evidence about the positive relationship between it and the well-being index and job satisfaction. The following questions were asked:

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(1) What is the status quo of the practical environment, job dissatisfaction, and well-being of elderly caregivers in the senior facilities in Shandong Province, China?

(2) How is the relationship between practical environment, job satisfaction, and subjective well-being in elderly caregivers?

Literature Review

1. Geriatric Nursing Facility

A geriatric facility was initially set up in a general hospital to admit elderly patients who required additional treatment or who could not be discharged due to incapacity without an effective support framework [12]. With the decline in mortality from cardiovascular disease, chronic respiratory disease, and tumors, it is predicted that there is a high probability that life expectancy will reach 81.3 years in 2035 [13]. Worldwide demand for long-term care is expected to grow because of the longevity increase. Nowadays, there are four main types of long-term care facilities: independent living for seniors, assisted living communities, geriatric nursing facilities/nursing homes, and continuing care retirement communities (CCRC). The main difference between these facilities depends on how much care the elderly need. Geriatric nursing facilities are designed for those needing nursing care, 24-hour supervision, three meals a day, and support with daily activities. Rehabilitation services, such as physical, occupational, and speech therapy, are also available [14].

2. Nurse Work Environment

Nurse work environments were found to significantly influence positive nurse and patient outcomes, such as higher job satisfaction and optimal patient safety. [15-16]. According to Tregunno, 'work environment' refers to the elements that comprise the setting in which employees work and impact workers [17]. It has been acknowledged that these elements can impact well-being, workplace relationships, collaboration, and working performance. And positive work atmosphere mirrors the positive organizational values. In 2002, p.178. Lake defined nurse work environment as 'the organizational characteristics of a work setting that facilitate or constrain professional nursing practice' [18]. She developed a practice environment scale of the nursing work index (PES-NWI), considered the most commonly used instrument to measure the nursing practice environment with high reliability and validity. According to the scale, the characteristics of the nursing practice environment are influenced by manager leadership, participation in the workplace, nursing foundations for quality of care, staffing and resource adequacy, and work relations. Many international studies have been conducted to investigate how the work environment affects nurses' psychological health and emotional strains. Findings reviewed that healthy work environments were positively associated with nurses' job and compassion satisfaction and negatively correlated with emotional exhaustion and poor well-being [19-21]. Therefore, improving the work environment for elderly caregivers may be a practical method to address the workforce shortage.

3. Job Satisfaction

Job satisfaction has been defined by Hoppock(1935) as 'any combination of psychological, physiological, and environmental circumstances that cause a person to say that they are satisfied with a job truthfully' [22]. It refers to employees' overall feelings about their jobs and can also be described as a related constellation of attitudes about various aspects of the job. Job satisfaction can be measured by the global approach, which quantifies employees' overall perspective, and the facet approach, which aims to explore various parts of job-produced satisfaction or dissatisfaction. There are critical reasons why the researcher should put more effort into job satisfaction. First, all people have the right to be treated fairly and with respect. It is to some extent a reflection of acceptable treatment in the workplace [23]. The second is job satisfaction of nurses can lead to pleased work retention [24]. Sneak (2020) studied the levels of dissatisfaction among nurses. The findings showed that nurses reported high dissatisfaction because of a lack of support, thereby increasing job turnover [25]. While many previous studies have reached the same results of high levels of job dissatisfaction among nurses, the reasons which cause a detrimental effect on nurses' job dissatisfaction have not previously been fully discussed.

4. Psychological Well-being

Psychological well-being is 'the combination of feeling good and functioning effectively [26]'. Due to healthy working conditions, caregivers are constantly exposed to challenging job-related stressors such as extensive workload, nursing shortage, lack of respect, and feelings of powerlessness regarding job control. Stressful factors can severely impact caregivers' psychological well-being, as shown by lower job satisfaction and workplace turnover [27-28]. To understand the association between psychological well-being, job satisfaction, and work environment, researchers have investigated correlations that exist between them. Lee (2019) researched the relationship between psychological well-being and practice environment and the findings revealed that psychological well-being was directly associated with the quality of nurses' practice environments [29]. Kundi(2020) proposed that the employee's psychological well-being can benefit his/her commitment to the organization, which, in turn, enhances working relationships and performance [30]. As a result, people with better working environments have positive working experiences, leading to improved psychological well-being and increased job satisfaction and vice-versa.

Methods

1. Design

A cross-sectional survey design was applied to collect data with questionnaires.

2. Samples

A convenient sampling method was used to select all caregivers in three geriatric nursing facilities in Shandong Province, China. Informed consent was obtained from all participants. To be eligible for the study, the caregiver had to be a China citizen, aged 18-60 years, able to read and understand the questionnaire, which was available in Chinese language, and currently are a full-time caregiver in geriatric nursing facilities and engaged in work for more than six months. We excluded caregivers of geriatric nursing facilities who were absent from their positions during the study's investigation period, such as taking leave or going for further training and study. The caregivers with cognitive and audiovisual impairments, communication disorders, and a history of mental illness or reluctance to cooperate with the investigation are also excluded. The questionnaires were distributed to 260 elderly caregivers from 5 geriatric nursing facilities, and 250 caregivers returned the questionnaires (96.2% response rate).

3. Data Collection

We conducted using a self-administered online survey. Data were collected and managed electronically through an online crowdsourcing platform in mainland China, which provides a function equivalent to Amazon Mechanical Turk. We recruited 250 participants and dropped those who failed to meet the quality requirement (n=21). If the participants miss 2/3 of the total number of questions, provide contradictory answers to the beginning and final part of questionnaires, and answer the questions in a clear pattern of repetition, the questionnaires will be considered invalid. Data collection took place from March 1 through May 2023. The geriatric nursing facilities' review board reviewed and approved the study.

4. Measurement -量表工具

Practice Environment Scale (PES)

The Practice Environment Scale of the Nursing Work Index (PES-NWI), comprising 31 items, is a reliable and widely accepted measurement tool that has been supported by the National Quality Forum^[31] and has previously undergone rigorous validation in the nursing home setting^[51]. It was developed by Lake^[31] as one of the instruments to examine the practice environment for nurses and has been used worldwide with reliable internal consistency^[32]. Chinese scholars Wangli and Li Lezhi^[33] interpreted this scale in Chinese and evaluated the reliability and validity of the Chinese version. Cronbach's α of PES was 0.91 and the content validity was 0.94. They edited the item from 31 to 28. After consulting with experts from geriatric facilities, we revised the 'the hospital' in the scale to 'geriatric nursing facilities' without changing the other parts. And we tested the scale's reliability again, which showed excellent Cronbach's α of 0.969.

PES-NWI subscales include Nurse Participation in Geriatric Facilities Affairs; Nursing Foundations for Quality of Care; Nurse Manager Ability, Leadership, and Support of Nurses; Staffing and Resource Adequacy; and Collegial Nurse-Physician Relations. There are 28 items distributed into these five subscales. The four response categories were from 'strongly agree (=1)'—'strongly disagree (=4)'. Lake considers 2.5 as the neutral midpoint for a 4-point response set, with values above 2.5 indicating agreement and a favorable environment and below 2.5 disagreements or an unfavorable environment.

Job Satisfaction

Job dissatisfaction was measured by asking the elderly caregivers to rate their satisfaction with their current job. Elderly caregivers were considered to be dissatisfied with their job if they reported being "very satisfied" or "satisfied", as compared to elderly caregivers who reported being "very dissatisfied" or "dissatisfied" with the job. The single-item measure has confirmed the reliability and validity when determining global job satisfaction.^[34]

General Well-being Schedule (GWB)

The General Well-Being Schedule (GWB) is an 18-item, self-administered questionnaire developed for the U.S. Health and Nutrition Examination Survey (HANES I). In 1996, Chinese scholar Duan^[35] revised the questionnaire in Chinese version, and the Cronbach's α of GWB was 0.91 in males and 0.95 in females, and test-retest reliability was 0.85. And we tested the scale's reliability again with the elderly caregiver's results which showed excellent Cronbach's α of 0.864. The GWB includes positive and negative questions across six dimensions: positive well-being, emotional self-control, vitality, depressed mood, anxiety, and general health. It mainly reflects the subjective happiness of individuals and has been independently applied among various groups of people such as teachers and workers in China. Each item has the time frame "during the last month," and the 2,3,5,6 questions use 5-point Likert-type response scales and the 1,4,7,8,9,10,11,12,13,14 questions use 6-point Likert-type response scales. The remaining four questions use 0-10 rating scales defined by adjectives at each end. The polarity of items 1, 3, 6, 7, 9, 11, 13, 15, and 16 is reversed for scoring, and items within each subscale are added together. The lowest score is 0 and the highest is 120. The better the score, the stronger the individual's subjective well-being^[36].

5. Ethical consideration

All participants gave informed consent before study participation, and their anonymity was preserved. The questionnaires were coded to classify geriatric nursing facilities without identifying individuals who completed the questionnaires.

6. Methodology

All statistical analyses were performed using SPSS version 23.0. The analysis included two hundred and twenty-nine participants with complete data on all three measures, General Information Scale, PES, and GWB. Descriptive statistics were computed on the participants' demographic variables. The Person's Product-Moment correlation analysis and multiple linear regression analysis models were used to predict the relationship between general information, working environment, job satisfaction, and general subjective well-being.

Results

Participants' demographics are presented in Table 1. Almost all participants were female 177 (77.29%), and around 97 (42.36%) were below 30. Most participants had been in their current job for about 1 to 10 years as elderly caregivers. 98 (42.79%) participants graduated from junior college, accounting for the most significant number of participants. Approximately 50 (56.18%) have been married, and an average monthly income of 2,000-5,000 yuan for 195 (85.15%). A majority of participants, 119 (51.97%) works 8-10 hours a day, while 119 (51.96%) participants take care of more than ten seniors, and 134 (58.51%) participant have more than 5-night shifts per month. Approximately 57 (34.98%) caregivers reported being dissatisfied with their job.

Table 1 Demographic Information (N=229)

Demographic Characteristics	All respondents
Gender	
Male	52(22.71%)
Female	177(77.29%)
Age	
≤30	97(42.36%)
31-45	68(29.69%)
≥46	64 (27.95%)
Length of work	
6 months~1 year	79(34.5%)
1-5 years	110(48.03%)
6-10 years	20(10.92%)
11-15 years	8(3.49%)
more than 15 years	7(3.06%)
Educational Level	
primary school	6(2.62%)
junior high school	53(23.14%)
vocational secondary school	12(5.24%)
senior high school	17(7.42%)
junior college	98(42.79%)
bachelor degree	43(18.78%)
postgraduate degree	0(0%)
Marital Status	
single	83(36.42%)
married	142(62.01%)
devoiced	4(1.75%)
The average income per month	
less than 2000 RMB	11(4.80%)
2000-5000RMB	195(85.15%)
5001-8000RMB	20(8.73%)
more than 8000 RMB	3(1.31%)
Job Title	
Registered Nurse	55(24.02%)
Care Aides	142(62.01%)
Others	32(13.97%)
Daily working hours	
less than 8 hours	11(4.80%)
8-10 hours	119(51.97%)
more than 10 hours	99(43.23%)
The number of seniors you care for	
1-5 persons	56(24.45%)

6-10 persons	54(23.58%)
11-15 persons	23(10.04%)
more than 15 persons	96(41.92%)
How many night shifts do you have per month?	
0	48(21.96%)
1-4	47(20.52%)
5-8	72(31.44%)
More than 8	62(27.07%)
Caregivers who report 'very dissatisfied' and 'dissatisfied.'	57 (34.89%)

Subscale scores for the PES-NWI and classified work environment are presented in Table 2. The composite score, the mean of 5 PES-NWI subscales, is 3.13. The collegial nurse-physician relations had the highest mean score (3.24). The subscale with the lowest mean scores was the nurse participation in geriatric nursing facilities affairs (3.03).

Table 2 Subscale scores for the PES-NWI (N=229).

Variables	Mean (S.D.)	Range	Sorting
Subscale scores for the PES-NWI			–
Participation in Geriatric Nursing Facilities Affairs	3.03(0.49)	1.63-4.00	5
Nursing Foundations for Quality of Care	3.20(0.44)	1.67-4.00	2
Manager Ability, Leadership, and Support of Nurses	3.09(0.49)	1.00-4.00	4
Staffing and Resource Adequacy	3.11(0.53)	1.00-4.00	3
Collegial Nurse-Physician Relations	3.24(0.49)	1.00-4.00	1
Composite score	3.13(0.43)	2.00-4.00	

PES-NWI, Practice Environment Scale of the Nursing Work Index.

*A higher score represents a more positive work environment

The study results show that 68% of elderly caregivers for older people, who were examined using the GWB scale, had scores exceeding 73, which indicates positive well-being. Meanwhile, 27% of elderly caregivers were classified in the moderate distress category and 5% in the type of severe distress. The total GWB scores ranged between 51 and 110, averaging 82.14 (SD, 13.69).

Table 3 Subscale scores for the GWB (N=229).

Variables	Mean (S.D.)	Range
Subscale scores for the GWB		
Positive Well-being	11.78(2.75)	6.00-17.00
Self-Control	13.05(2.52)	5.00-17.00
Vitality	16.00(3.89)	7.00-22.00
General Health	6.59(2.49)	1.00-16.00
Depression	16.90(4.04)	2.00-22.00
Anxiety	17.83(4.43)	4.00-26.00
Composite score	82.14(13.69)	51.00-110.00

GWB, General Well-being Schedule

* "severe distress" for scores between 0 and 60; "moderate distress" for scores between 61 and 72; "positive well-being" for scores between 73 and 120.

After conducting Pearson's correlation analysis, it was discovered that there is a significant positive relationship between the quality of the working environment and the subjective well-being and job satisfaction of caregivers ($P<0.01$). This implies that as the quality of the working environment improves, the caregivers' subjective well-being and job satisfaction also increase. Additionally, a positive correlation was found between job satisfaction and subjective well-being, indicating that improved job satisfaction results in higher levels of subjective well-being among caregivers.

Table 4 Correlation analysis results of working environment, job satisfaction, and subjective well-being(N=229)

Variables	1	2	3	4	5	6	7	8
1.Job Satisfaction	1							
2.Work Environment	0.270**	1						
3.Participation in Geriatric Nursing Facilities Affairs	0.325**	0.911**	1					
4.Nursing Foundations for Quality of Care	0.194**	0.933**	0.769**	1				
5.Manager Ability, Leadership and Support of Nurses	0.174**	0.895**	0.774**	0.819**	1			
6.Staffing and Resource Adequacy	0.281**	0.855**	0.740**	0.707**	0.718**	1		
7.Collegial Nurse-Physician Relations	0.185**	0.820**	0.619**	0.780**	0.686**	0.724**	1	
8. Subjective well-being	0.296**	0.405**	0.357**	0.389**	0.330**	0.363**	0.354**	1

Note: ** $P < 0.01$

Multiple linear regression analysis identified several factors that significantly increased the odds of subjective well-being. These included job satisfaction, the number of seniors you care for, job position (R.N.), and working environment. (see Table 5)

Table 5 Results of Multiple Linear Regression Analysis for Subjective Well-being (N=229)

Model	β	S.E.	<i>t</i>	<i>P</i>	Tolerance	VIF
(Constant)	43.213	5.886	7.341	0.001***		
Job Satisfaction	6.446	1.933	3.334	0.001***	0.894	1.119
The number of seniors you care for(6-10)	-3.917	1.858	-2.109	0.036**	0.993	1.007
Job Position (Registered Nurse)	-7.175	1.860	-3.858	0.001***	0.978	1.022
Working Environment	0.420	0.070	5.989	0.001***	0.876	1.142

** Significant at 0.05; *** Significant at 0.01; $R^2 = 0.271$, Adjusted $R^2 = 0.258$, $F = 20.682$, $P < 0.001$

Discussion

This study aimed to investigate the work environment of a geriatric nursing facility and its possible relationship with both job dissatisfaction and subjective well-being among elderly caregivers in Shandong Province, China. The results of this study have practical implications for healthcare executives, policymakers, and academics alike.

Study findings indicate that a majority of elderly caregivers are satisfied with their job and an average score of well-being means a positive subjective well-being. These results are consistent with findings described in other studies conducted in China^[37] and internationally^[38]. This may be due to the increasing aging population in the country, which has led to more attention being paid to the elderly care industry and increasing demand for nursing staff. Moreover, nursing homes are generally experiencing a labor shortage, which has brought more recognition to the nursing profession. Our subscale analysis showed that multiple components contributed to better subjective well-being, not just job satisfaction. This suggests that, in addition to improving job satisfaction, reducing workload is necessary to support caregivers in experiencing a higher level of well-being^[39]. Findings from Li^[40] showed that heavy working burdens decreased the subjective sense of well-being among caregivers, mainly due to the difficulty in achieving a work-life balance which could lead to lower job satisfaction, increased emotional exhaustion, and higher turnover intention among staff. Specifically, registered nurses working in geriatric nursing facilities had lower subjective well-being levels than care aides. The study conducted by McHugh^[41] indicated that nursing home R.N. reported higher rates of burnout and job dissatisfaction than R.N. employed in any other setting. High Physical and mental workload for geriatric nurses and lower social status can develop serious mental risk factors^[42].

The overall score of for work environment measured by the PES-NWI is 3.06, which means the elderly caregivers consider the work environment is favorable. According to our analysis, it has been determined that a conducive work environment has the potential to increase job satisfaction and improve the overall well-being of healthcare professionals. Conversely, an unfavorable work atmosphere can result in job dissatisfaction and cause feelings of anxiety among healthcare providers. These results agree with other studies [43]that have shown that the work environment is an important area to improve caregivers' input into organizational affairs, job satisfaction and increase subjective well-being in nursing homes. Elderly caregivers had the lowest score for participation in geriatric nursing facilities affairs by the PES-NWI as this may be due to policymakers sometimes not making an effort to understand the

concerns of elderly caregivers. Therefore, elderly caregivers will have limited access to resources or opportunities to participate in policymaking [44-45].

Additionally, caregiving responsibilities can be overwhelming, leaving little capacity or emotional energy for advocacy work. Ultimately, policymakers and nursing home management should proactively engage elderly caregivers in policymaking and ensure they feel valued and heard [46]. In addition, in a good work environment, elderly caregivers have adequate staff and resources, supportive managers, a strong nursing foundation underlying care, and productive relationships with colleagues, playing a vital role in predicting the well-being of elderly caregivers and improving nursing outcomes [47]. The nursing home patients were described as becoming increasingly complex with a subsequent requirement for higher nurse competencies [48]. Nursing foundations for quality of care should also be prioritized, including providing ongoing education and training to help nursing staff keep up to date with advances in geriatric care. According to a scholarly study [49], inadequate time or resource often leads to missed nursing care in nursing homes. It contributes to Registered Nurse burnout and job dissatisfaction, ultimately detrimental to the well-being of elderly caregivers. Thus, attention should be paid to improving staffing and resource development to improve caregivers' job satisfaction and subjective well-being. Numerous interventions supported by evidence can improve work environments through modifications in organizational practices and culture [50-51]. In this regard, interventions to help nursing staff include the managers demonstrating a supportive and encouraging leadership style and directors of nursing must have support from other senior-level administrative staff [49]. Positive relationships between caregivers and other healthcare providers can promote better collaboration, communication, and teamwork, creating a supportive and cohesive work environment [49]. When caregivers feel respected and supported, they are more likely to experience subjective well-being and job satisfaction. This can translate into better care for elderly residents and fewer staff retention and turnover issues. In this area, implementing interventions involves promoting the consistent participation of all employees in interdisciplinary conferences, such as morning rounds and care plan meetings, and providing training programs that focus on optimizing communication between medical staff and caregivers.

Conclusion

This study explored how subjective well-being and job satisfaction among elderly caregivers are significantly affected by the working environment in geriatric nursing facilities in Shandong Province in China. Our research revealed that a superior nursing work environment is the fundamental element of nurse well-being and job satisfaction. Therefore, it is recommended that policymakers emphasize the improvement of working conditions to promote nurse retention in the workforce. Additionally, further research is warranted to explore nursing home managers' strategies, policies, and interventions to foster a healthy and welcoming work atmosphere. This will aid in enhancing job satisfaction and the well-being of elderly caregivers, eventually leading to delivering high-quality geriatric care.

Author Contributions

Xiaoli Hu conceived, designed, and supervised the study. Xiaoli Hu also responsible for the design of the questionnaire. Ying Ren collected and organized the data. Yan-fei Qi and Sheng-yong Chu were accountable for understanding the current progress of the work environment in geriatric nursing facilities as presented in the literature. All authors reviewed and approved of the final version of the manuscript.

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Ethical approval

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