


## ORIGINAL RESEARCH

## OPEN ACCESS

# Parallel Chart Writing and Resilience Impact the Narrative Competence of Medical Staff in China: A Cross-Sectional Study

Yun Xu<sup>1</sup>  | Hongkai Guo<sup>2</sup> | Guomei Ge<sup>3</sup> | Jing Shu<sup>4</sup> | Li Liu<sup>5</sup> | Qi Jin<sup>1</sup> | Junjun Jia<sup>3</sup>

<sup>1</sup>Department of Nursing, International Healthcare Center, The First Affiliated Hospital of Zhejiang University, School of Medicine, Hangzhou, China | <sup>2</sup>Division of General Surgery, Changxing Traditional Chinese Medicine Hospital, Huzhou, China | <sup>3</sup>Division of Hepatobiliary and Pancreatic Surgery, The First Affiliated Hospital of Zhejiang University, School of Medicine, Hangzhou, China | <sup>4</sup>Division of ICU Department, Zhejiang Xinan International Hospital, Jiaxing, China | <sup>5</sup>Department of Library, The First Affiliated Hospital of Zhejiang University, School of Medicine, Hangzhou, China

**Correspondence:** Junjun Jia ([jiajunjun1987@zju.edu.cn](mailto:jiajunjun1987@zju.edu.cn))

**Received:** 4 June 2024 | **Revised:** 27 October 2024 | **Accepted:** 3 January 2025

**Funding:** This study was supported by the General Scientific Research Project of Zhejiang Provincial Department of Education (Y202146219); Postgraduate Education Research Project of Zhejiang University (20220326); Zhejiang Health Technology Project (2022KY812); Natural Science Foundation of Zhejiang Province (LQ20H030005).

**Keywords:** narrative competence | narrative medicine | resilience | self-efficacy

## ABSTRACT

**Background and Aims:** Narrative competence is essential for good communication between medical staff and patients. It is a powerful instrument for the delivery of holistic healthcare. However, little research focuses on the influencing factors of narrative competence and the relationships among resilience, self-efficacy, and narrative competence. The study aims to explore the influence factors of narrative competence of medical staff and confirm the relationships among self-efficacy, resilience, and narrative competence.

**Methods:** A cross-sectional survey was conducted among 606 medical staff from two affiliated hospitals in Zhejiang and Heilongjiang provinces, respectively. The participants were scored using the Chinese narrative competence scale, the brief Chinese version of the resilience scale, and the Chinese version of the self-efficacy scale.

**Results:** This study showed that the score of narrative competence was  $149.76 \pm 28.70$ , including the scores of listening dimension ( $48.01 \pm 9.36$ ), understanding dimension ( $67.75 \pm 13.55$ ), and reflecting dimension ( $34.00 \pm 6.77$ ). A high narrative competence score was associated with hospital location and parallel chart writing ( $p < 0.01$ ). Pearson's correlation analysis showed resilience and self-efficacy were positively related to narrative competence.

**Conclusion:** Medical staff's narrative competence is intermediate in China. Parallel chart writing and resilience would impact this competence, which should be further improved.

## 1 | Introduction

Rita Charon proposed the concept of narrative medicine in 2001, also known as medicine practiced with narrative competence [1]. Charon states narrative competence is the ability to

acknowledge, absorb, interpret, and act on the stories and plights of others. The basis of the model is empathy, reflection, professionalism, and trust applied to clinical practice. Narrative competence allows medical staff to understand patients' feelings and deliver appropriate, targeted help [2]. Suppose medical staff

The first two authors contributed equally to this work.

This is an open access article under the terms of the [Creative Commons Attribution-NonCommercial-NoDerivs](https://creativecommons.org/licenses/by-nc-nd/4.0/) License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2025 The Author(s). *Health Science Reports* published by Wiley Periodicals LLC.

learn to appreciate and understand the patients' narration; in that case, they can respond to the patients' suffering because they are "schicksalsgemeinschaft," which translates from German to mean a community of destiny, allowing medical staff and patients to believe they are an alliance to fight against the disease. Narrative medicine strengthens doctor-patient relationships [1, 3], promotes medical staff's empathic abilities and professional achievement [4, 5], to enable physicians to recognize their journeys through medicine [6]. The potential benefit of narrative medicine may go far beyond patients' satisfaction and extend to better clinical assessment, therapeutic alliance, and compliance, and thus better clinical outcomes. Narrative competence is an essential ability for medical staff to achieve the goals of narrative medicine or nursing.

In 2011, narrative medicine stepped into our sight with the efforts of Professor Liping Guo, who translated Charon's book into Chinese and introduced narrative medicine into China. Research in narrative medicine is like a blowout. A growing number of researchers focus on narrative medicine [2, 3, 7, 8]. To build a systematic narrative medicine curriculum [9], formulated a scale to measure the narrative competence of nurses [10] or for all healthcare professionals [11]. Previous studies have shown that narrative medicine training increases the staff's empathy abilities and humanistic care because the training may increase capacities to consider situations from multiple perspectives [7, 12, 13]. Through narrative medicine training, students can use reflective thinking to analyze people and situations from various angles to gain a deeper, more profound understanding of human experiences [13]. Understanding how people perceive their health-related issues can reveal much about the patients. In addition, researchers paid attention to the narrative ability and influencing factors of narrative competence. Previous research found that age [14, 15], position [10, 15, 16], years of working [15–17], familiarity with narrative medicine or nursing [15–17] are the influencing factors of narrative competence. Those who have worked longer or are more familiar with narrative medicine or nursing would perform better narration.

Self-efficacy is individuals' beliefs about their ability to engage in actions required to reach the desired goal [18]. It is not a skill but the confidence that an individual can achieve the work. Human behavior is result-oriented; furthermore, it is affected by self-efficacy. High self-efficacy can help nurses achieve better narrative nursing [17]. Resilience refers to positive adaptation, or the ability to maintain or regain mental health despite experiencing adversity in any situation [19]. It can be considered a personality trait (fixed and stable over time) or a dynamic process (developing throughout life and varying context and time). Both concepts are associated with positive psychology, and self-efficacy has been identified as an important component of resilience [20]. Possession of a high level of resilience is crucial for medical staff to perform professionally and manage work. High resilience can improve individuals coping with stress, solving problems, and staying motivated for career development [21].

The medical staff is the executor of narrative practice; the ability of medical staff to elicit patients' stories or narration and recognize these as a resource in healthcare practices is key to the

recent development of person-centered care [22–24]. Narrative competence is the intrinsic motivation for medical staff to implement the narrative technique. Previously, we applied narrative in organ donation communications and showed narrative medicine was an effective tool to instill "humanness" into clinical practice [8]. Here, we explore the factors influencing narrative competence and the relationships between narrative competence, resilience, and self-efficacy.

## 2 | Methods

### 2.1 | Objectives

The aim of this study was twofold: (1) to investigate the clinical medical staff's narrative competence, (2) to identify sociodemographic (i.e., age, gender, education, years of working, professional qualification, familiarity with narrative medicine) associated with the narrative competence, (3) to explore the relationships among resilience, self-efficacy, and narrative competence.

### 2.2 | Study Design

This was a cross-sectional online survey and was approved by the Ethics Committee of the First Affiliated Hospital of Zhejiang University, School of Medicine (IIT20220057B-R1). Clinical medical staff were recruited in March 2022, and written informed consent was obtained from all the participants. To guarantee comprehensive and accurate research reporting, we used the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guideline for cross-sectional studies; all methods were performed following the relevant guidelines and regulations.

### 2.3 | Survey Information

The home-made survey questionnaire included four parts: sociodemographic information including age, gender, marital status, education, department, income, narrative medicine/nursing training and parallel chart writing et al., Narrative Competence Scale, Self-efficacy Scale, and Resilience Scale.

### 2.4 | Participants

A convenience sample of clinical medical staff from two general hospitals in Zhejiang and Heilongjiang provinces, China was enrolled in the study. Inclusion criteria were: (a) working in clinical for more than 3 months, (b) delivering direct medical care to patients and written consent to participate.

### 2.5 | Instruments for Measuring Variables

The home-made survey questionnaire includes four parts: sociodemographic information including age, gender, marital status, education, department, income, familiarity with

narrative medicine or nursing, parallel chart writing et al., Narrative Competence Scale, Resilience Scale, and Self-efficacy Scale.

### 2.5.1 | Narrative Competence Scale, NCS

The study used the 27-item Narrative Competence Scale to measure clinical medical staff's narrative competence. The scale was self-reporting and originally developed through literature, group discussion, and a questionnaire survey by Ma in 2019 [11], based on Charon's conception of narrative competence and the guidance of the Storytelling/Narrative Theory, the Story Theory, and Nodding's Care Theory. The scale can be divided into three dimensions: listening, understanding, and reflecting. The Cronbach's  $\alpha$ s for the entire and three dimensions were 0.950, 0.835, 0.912, and 0.842; the split-half reliability was 0.925, 0.793, 0.924, and 0.835, respectively. The content validity for the full scale was 0.890, indicating appropriate stability and reliability of the scale. The scale is based on a 7-point Likert scale, from 1 (*strongly nonconformity*) to 7 (*strongly conformity*), leading to a summed score ranging from 27 to 189, with a higher score indicating a higher level of narrative competence. The narrative competence is classified into three levels: weak, intermediate, and strong [11]. The score of NCS lower than 145 was defined as weak, while higher than 163 was defined as strong.

### 2.5.2 | Resilience Scale, RS

The Wagnild and Young Resilience Scale of 14 items, the short version of the Wagnild and Young RS-25 was used to measure the medical staff's resilience [25]. The Chinese version of the RS-14 was composed of two dimensions: personal ability and positive perception. It is the most used resilience scale worldwide. The split-half reliability was 0.890, and the internal consistency of the overall scale was 0.928, which indicated the scale is good in validity and reliability and could be used to evaluate resilience among Chinese adults. The scale was based on a 7-point Likert scale, from 1 (*strongly nonconformity*) to 7 (*strongly conformity*), leading to a summed score ranging from 14 to 98, with a higher score indicating a higher level of resilience; however, but there is not a universally recognized cut-off to distinguish between low and high resilience.

### 2.5.3 | Self-Efficacy Scale

Sherer developed the Self-efficacy Scale [26]. Jia [27] translated the Chinese version of the Self-efficacy scale in 2007. The scale is based on a 6-point Likert scale, from 1 (*strongly disagree*) to 6 (*strongly agree*), and includes 17 items (6 items are positive, 11 items are negative, and negative items are scored in reverse), which leads to a summed score ranging from 17 to 102. The internal consistency was 0.81, the split-half reliability was 0.71, and the content validity was 0.99, indicating appropriate stability and reliability of the scale.

### 2.5.4 | Data Collection and Quality Control

The online survey data were collected in March 2022. Questionnaire Star Software generated a survey link accessed from mobile phones or computers that provided the data. Each device could only answer once to avoid "one person, multiple answers". The system had set all the options and were mandatory questions. Clinical medical staff received the survey link via WeChat (one of China's most widely used social networking applications). The connection of this survey: <https://www.wjx.cn/vj/woYS3wi.aspx>.

### 2.6 | Statistical Analysis

Statistical analyses were performed using IBM SPSS version 25.0. The *t*-test and one-way analysis of variance compare the sociodemographic characteristics of medical staff and a score of narrative competence (two-sided). Pearson correlation analysis was performed to analyze the correlation between narrative competence, resilience and self-efficacy. Based on the results of the correlation analysis, a stepwise regression analysis was conducted to confirm the relations among the variables in the study.  $p < 0.05$  is statistically significant, with a 95% confidence interval (CI).

## 3 | Results

### 3.1 | Scores of Narrative Competence, Resilience and Self-Efficacy

A total of 640 questionnaires were filled out and collected in this study. After preliminary screening, 34 questionnaires with illogical answers were screened out, leaving 606 valid questionnaires with an effective rate of 94.69%. The mean age of participants was 34.13 (SD 6.77), 535 (88.3%) were female, and 484 (79.9%) were working in the north of China. The average number of years of work was 11 years (SD 7.15). Nurses represented 87.6% of the sample, representing three departments: the internal department (49.8%), the surgery department (39.4%), and the intensive care unit and emergency department (10.7%). The score for narrative competence, resilience and self-efficacy are listed in Table 1. The Cronbach's  $\alpha$ s of the instruments were analyzed in our study, and all showed that scales

**TABLE 1** | Means and standard deviations of narrative competence, resilience, and self-efficacy ( $N = 606$ ).

Items (number)	Mean	Standard
Narrative competence	149.76	28.71
Listening (9 items)	48.01	9.36
Understanding (12 items)	67.75	13.55
Reflecting (6 items)	34.00	6.77
Resilience	77.83	15.38
Personal ability (10 items)	55.27	11.05
Positive perception (4 items)	22.56	4.72
Self-efficacy	56.07	17.83

adopted for data collection are reliable and can be used for the study. The value for the entire NCS and three dimensions (listening, understanding, and reflecting) are 0.980, 0.879, 0.983, and 0.967, respectively; the value of the entire RS-14, and personal ability and positive perception dimensions are 0.970, 0.960, and 0.919, respectively; and the Cronbach's  $\alpha$ s of the Self-efficacy scale is 0.919.

### 3.2 | Scores of Medical Staffs' Narrative Competence With Different Characteristics

The sociodemographic information and scores of narrative competence revealed significant differences in gender, hospital location, working department, profession, familiarity with narrative medicine or nursing, and parallel chart writing ( $p < 0.05$ ). For example, those who were female, worked in an internal department in the north of China were nurses, were more familiar with narrative medicine/nursing, and had previously written parallel charts, demonstrating a higher level of narrative competence. The details referred to Table 2.

### 3.3 | The Correlation Among Narrative Competence, Resilience, and Self-Efficacy

The Pearson correlation analysis revealed that both the total score of narrative competence and the three dimensions were positively correlated with resilience ( $r = 0.683$ ,  $p \leq 0.01$ ), positive perception ( $r = 0.614$ ,  $p \leq 0.01$ ), personal ability ( $r = 0.688$ ,  $p \leq 0.01$ ), and self-efficacy ( $r = 0.140$ ,  $p \leq 0.01$ ). This information is given in Figure 1.

### 3.4 | The Stepwise Regression Analysis

Stepwise regression was conducted to establish the regression model of narrative competence. Resilience, self-efficacy, and those variables that  $t$ -test and ANOVA showed would influence narrative competence were independent variables, with narrative competence as a dependent variable. Findings revealed that resilience, hospital location, and previously written parallel charts were independent factors that influenced narrative competence. Further, we did the regression model for three dimensions of narrative competence. All this information is presented in Table 3.

## 4 | Discussion

We conducted a cross-sectional survey among 606 medical staff and found that the level of narrative competence was intermediate in China. Moreover, the resilience of medical staff was at a strong level, while self-efficacy was at a weak level. Besides, we found both resilience and self-efficacy positively related to narrative competence. We ran the regression analysis to confirm the independent influencing factors of narrative competence. Finally, resilience and parallel chart writing were the independent variables that would impact narrative competence.

According to the Narrative Competence Scale (NCS), narrative competence is classified into weak, intermediate, and strong [11]. The score of NCS lower than 145 was defined as weak, while higher than 163 was defined as strong. Our study revealed that the general score of narrative competence was  $149.76 \pm 28.70$  (intermediate level), similar to the research of medical staff in general hospitals in China [15–17, 28], indicating that the narrative competence of medical staff in China needs to be improved. The possible reasons are as follows: (1) narrative medicine is a “new” concept for medical staff; in this study, data showed that about 78.2% of participants had never heard or only heard of narrative medicine before, and only 9.4% of medical staffs had written parallel chart before. From this viewpoint, these professionals' knowledge of narrative medicine is low, which can lead to a lower level of narrative competence. (2) Nowadays, most of the training in narrative medicine is for medical students rather than clinical medical staff. In our study, about 80% of medical staff worked for more than 5 years, which means the medical staff have fewer opportunities to receive narrative medicine training. On the other hand, narrative competence is a kind of capacity that can be improved through training and practice [9, 12, 29–31]. In addition, it can be a form of psychological support for patients and caregivers. Furthermore, adopting a narrative medicine procedure in medical practice has positive consequences for patients [32]. Hospital managers may use the results of this study to promote the medical staff's narrative competence training program. In addition, a comprehensive organizational platform should be developed to promote narrative practice and enrich general clinical information focused on the needs and critical aspects of patients' lives.

Another influencing factor of narrative competence is whether medical staff have written parallel charts before. This finding is consistent with previous reports [14–17], suggesting that writing a parallel chart offers one approach to facilitating practitioners' reflection on the connection between their personal story and their professional practices. According to knowledge, attitude/belief, and practice (KAP) theory, knowledge is the foundation for practice. Writing a parallel chart is a kind of narrative competence, which more likely shows they have sufficient knowledge about narrative, which may narrow the gap between knowing and doing. In this sense, those medical staff who had written parallel charts before would perform better narrative competence—clinical medical staff who are more familiar with narrative medicine and may do better in narrative practice. However, only 9.4% of medical staff in this study had written parallel charts before; the scores were significantly higher than those who had never written, meaning that medical staff performed better in conveying if they were more familiar with narrative medicine or nursing.

Reflective writing promotes self-reflection and sense-making by putting thoughts and feelings into words [33]. When medical staff write and reflect on the patients' narration during medical care procedures, they may describe and elucidate something not taught in school, find their professional individuality from a good role model, and experience the art of empathy through patient-professional encounters [29]. They note the patients' narration, prefer narrative medicine and deem this helpful and

**TABLE 2** | Scores of medical staffs' narrative competence with different characteristics ( $N = 606$ ).

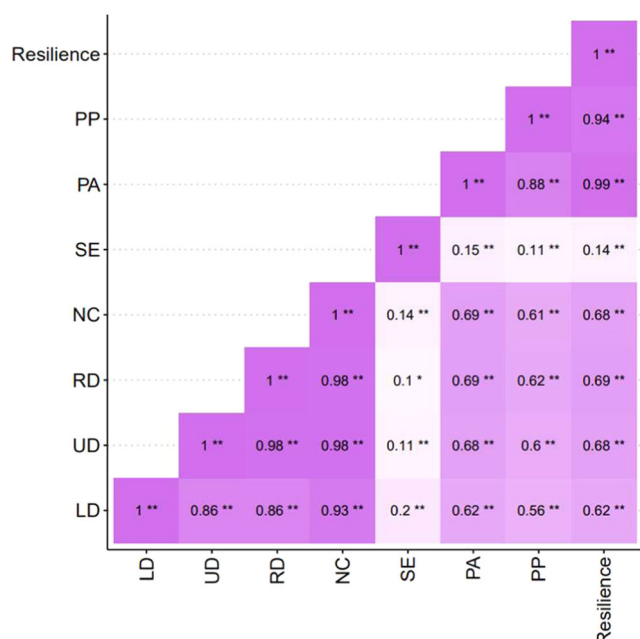
Variable	<i>n</i> (%)	Mean (SD)	<i>t/F</i>	<i>p</i>
Gender			2.29	0.02
Male	71 (11.7%)	142.45 ± 37.77		
Female	535 (88.3)	150.73 ± 27.18		
Age			0.01 <sup>a</sup>	0.98
< 30	135 (22.3%)	149.41 ± 27.85		
30–40	362 (59.7%)	149.83 ± 29.50		
≥ 41	109 (18.0%)	149.94 ± 27.27		
Marital status			1.41 <sup>a</sup>	0.24
Single	161 (26.6%)	146.38 ± 30.09		
Married	432 (71.3%)	150.74 ± 28.25		
Divorced	13 (2.1%)	157.90 ± 24.21		
Education			1.77 <sup>a</sup>	0.13
High school	11 (1.8%)	137.82 ± 39.64		
Junior college	60 (9.9%)	154.11 ± 30.44		
Bachelor	464 (76.6%)	150.45 ± 28.49		
Postgraduate	48 (7.9%)	143.29 ± 23.11		
Doctor degree	23 (3.8%)	143.61 ± 31.21		
Location of hospital			3.73	0.00
South of China	122 (20.1%)	141.12 ± 29.14		
North of China	484 (79.9%)	152.08 ± 28.16		
Department			4.76 <sup>a</sup>	0.00
Internal department	302 (49.8%)	152.56 ± 25.18		
Surgery department	239 (39.4%)	148.62 ± 30.43		
Intensive care unit and emergency room	65 (10.7%)	140.92 ± 35.25		
Years of working (year)			1.80 <sup>a</sup>	0.13
< 3	53 (8.7%)	145.09 ± 20.15		
3–5	66 (10.9%)	144.14 ± 36.73		
6–10	170 (28.1%)	148.70 ± 31.27		
11–20	247 (40.8%)	152.92 ± 26.75		
≥ 21	70 (11.6%)	150.00 ± 24.84		
Monthly income (RMB)			1.24 <sup>a</sup>	0.30
< 3000	21 (3.5%)	141.81 ± 22.12		
3000–4999	255 (42.1%)	151.56 ± 32.47		
5000–9999	249 (41.1%)	149.67 ± 25.33		
≥ 10000	81 (13.4%)	146.43 ± 27.07		
Profession			3.13	0.00
Nurse	531 (87.6%)	151.12 ± 27.67		
Doctor	75 (12.4%)	140.12 ± 33.82		
Professional qualification			0.08 <sup>a</sup>	0.92
Primary	325 (53.6%)	149.34 ± 30.00		
Intermediate	244 (40.3%)	150.33 ± 27.10		
Advanced	27 (6.1%)	149.70 ± 27.85		

(Continues)



TABLE 2 | (Continued)

Variable	<i>n</i> (%)	Mean (SD)	<i>t/F</i>	<i>p</i>
Position			0.22	0.83
No	551 (90.9%)	149.68 ± 28.71		
Yes	55 (9.1%)	150.56 ± 28.94		
Familiarity with narrative medicine			7.31 <sup>a</sup>	0.00
Never heard before	221 (36.5%)	145.33 ± 30.09		
Only heard before	253 (41.7%)	149.46 ± 24.93		
Know a little	68 (11.2%)	157.24 ± 27.66		
Received training before	27 (4.5%)	143.41 ± 37.55		
Skillful to practice	37 (6.1%)	169.14 ± 29.64		
Whether have written parallel chart before			5.05 <sup>a</sup>	0.00
Never	549 (90.6%)	148.31 ± 28.04		
Have written 1	34 (5.6%)	163.65 ± 29.93		
Have written 2	5 (0.8%)	166.40 ± 19.59		
Have written 3 and more	18 (3.0%)	163.00 ± 37.87		

<sup>a</sup>F-value.

**FIGURE 1** | Pearson correlation among narrative competence, resilience and self-efficacy ( $N = 606$ ). LD, listening dimension; NC, narrative competence; PA, personal ability; PP, personal perception; RD, reflecting dimension; SE, self-efficacy; UD, understanding dimension. \*\*  $p \leq 0.01$ ; \*  $p \leq 0.05$ .

achievable. They would more likely anticipate more integrated and complementary medical care.

Our correlation and regression analysis has shown that resilience is positively correlated with narrative competence, implying that resilience could be used as an internal motivation to promote the narrative competence of medical staff, and the results are consistent with other studies [16, 34, 35]. Resilient individuals are inclined to be optimistic and see everything as

an experience, developing close relationships and social skills. Those medical staff with good resilience have a strong sense of responsibility and are more enthusiastic and willing to devote the energy to communicate with patients to meet the growing demand for patient-centred services and shared decision-making in a more diverse modern medical environment [29]. Meanwhile, the procedure promotes professional individuality and narrative competence. Hsieh and colleagues revealed that nurses with low resilience are more likely to experience anxiety, depression, fear, and other adverse emotional changes [36]. Emotional exhaustion and fatigue would lead to regret over career choice and the inability to establish a good nurse-patient relationship with the patients. Even more, the job involvement and satisfaction of medical staff decrease, resulting in lower narrative competence [16].

Self-efficacy is individuals' beliefs about their ability to engage in actions required to achieve the desired goal [18]. Consistent with this study, high self-efficacy can help nurses achieve better narrative nursing [17]. Self-efficacy is an essential factor in narrowing the gap between knowledge and practice. Those with higher self-efficacy are more likely to find support from family members, colleagues, and organization, resulting in better performance in daily healthcare services. More detailed case observations, reflections, and an emphasis on medical interaction will help individuals internalize relationship competence and enhance their confidence to work with different patients and colleagues [37]. During the medical care duration, they would become more confident in dealing with patients and meeting their needs, including medical services and emotional needs. Our correlation analysis revealed that self-efficacy was significantly related to narrative competence, consistent with previous research [16, 34]. However, self-efficacy did not show a relationship with narrative competence in regression analysis. One possible reason might be that self-efficacy is an important component of resilience, and both would impact narrative competence, but the correlation between narrative competence and resilience is stronger.

**TABLE 3** | Stepwise regression of sociodemographic variables, resilience, self-efficacy ( $N = 606$ ).

Model	<i>B</i>	SE	Beta	<i>T</i>	Sig
Narrative competence					
Constant	55.82	5.44	—	10.26	0.00
Resilience	1.25	0.06	0.67	22.55	0.00
Location of hospital	6.56	2.13	0.09	3.09	0.00
Whether have written parallel chart before Listening Dimension	4.08	1.47	0.08	2.77	0.00
Constant	17.10	2.04	—	8.37	0.00
Resilience	0.36	0.02	0.59	18.36	0.00
Location of hospital	1.88	0.74	0.08	2.54	0.01
Self-efficacy	0.06	0.02	0.12	3.72	0.00
Whether have written parallel chart before Understanding Dimension	1.69	0.51	0.10	3.30	0.00
Constant	23.86	2.59	—	9.21	0.00
Resilience	0.59	0.03	0.66	22.21	0.00
Location of hospital	2.97	1.01	0.09	2.94	0.00
Whether have written parallel chart before Reflecting Dimension	1.65	0.70	0.07	2.36	0.02
Constant	11.97	1.28	—	9.36	0.00
Resilience	0.30	0.01	0.67	22.74	0.00
Location of hospital	1.59	0.50	0.09	3.18	0.00
Whether have written parallel chart before	0.80	0.35	0.07	2.30	0.02

## 5 | Limitations

The study has several limitations that should be considered when interpreting these results. First, this is a cross-sectional study. Second, the study sample size was small; we surveyed 606 medical staff from two hospitals, and most are nurses, which may not be generalizable to all medical staff. Third, we collected the data through online questionnaires, and all data were self-reported. Therefore, future studies should include varieties of medical staff and other important factors that were not included in this study, which can help explain the narrative competence of medical staff.

## 6 | Conclusions

In this study, we reported the narrative competence of medical staff in China and found it was at an intermediate level. Parallel chart writing and resilience would impact healthcare professionals' narrative competence. The competence of medical staff in China needs to be improved. However, narrative medicine-informed health practitioners may use their multidimensional narrative competence to enhance their awareness and preparation in different areas of competence in medical services. Narration can be seen everywhere in hospital, the core of the medical relationship is communication, and healthcare professionals should be able to facilitate patient's narratives and have the skills to empower them to respond and provide feedback appropriately to patients and family members. More importantly, medical personnel with narrative competence can understand their emotional reactions to patients and actively

enter the patients' stories, listen to and communicate with each other's concepts, and construct and implement mutually understandable healthcare behaviors and cultures.

### Author Contributions

**Yun Xu:** writing—original draft, writing—review and editing, funding acquisition. **Hongkai Guo:** investigation, data curation. **Guomei Ge:** data curation, resources. **Jing Shu:** supervision, project administration. **Li Liu:** formal analysis, software. **Qi Jin:** investigation, data curation. **Junjun Jia:** conceptualization, funding acquisition, methodology, supervision, writing—review and editing.

### Acknowledgments

The authors wish to acknowledge Professor Zhang Jing, Harbin Medical University, for her help in collecting the participants of this study. And thanks to all medical staffs who participate in this study. This study was supported by grants from the general scientific research project of the Zhejiang Provincial Department of Education (Y202146219), the Natural Science Foundation of Zhejiang Province (LQ20H030005), the Zhejiang Health Technology Project (2022KY812) and the Postgraduate Education Research Project of Zhejiang University (20220326).

### Conflicts of Interest

The authors declare no conflicts of interest.

### Data Availability Statement

The datasets generated and analyzed during the current study are not publicly available due to the small sample size and the possibility of compromising anonymity/individual privacy; however, data may be made available from the corresponding author upon reasonable request.

## Transparency Statement

The lead author Junjun Jia affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

## References

1. R. Charon, "Narrative Medicine: A Model for Empathy, Reflection, Profession, and Trust," *Journal of the American Medical Association* 286, no. 15 (2001): 1897–1902.
2. K. Salana, S. Maty, and R. Hage, "A Whole Other Story: Interpreting Narrative Medicine," *Global Advances in Health and Medicine* 10 (2021): 1–6.
3. D. A. Fox and J. M. Hauser, "Exploring Perception and Usage of Narrative Medicine by Physician Specialty: A Qualitative Analysis," *Philosophy, Ethics, and Humanities in Medicine* 16, no. 1 (2021): 7.
4. P. J. Chen, C. D. Huang, and S. J. Yeh, "Impact of a Narrative Medicine Programme on Healthcare Providers' Empathy Scores Over Time," *BMC Medical Education* 17, no. 1 (2017): 108.
5. N. Yang, H. Xiao, Y. Cao, S. Li, H. Yan, and Y. Wang, "Does Narrative Medicine Education Improve Nursing Students' Empathic Abilities and Academic Achievement? A Randomised Controlled Trial," *Journal of International Medical Research* 46, no. 8 (2018): 3306–3317.
6. C. Lemogne, C. Buffel du Vaure, N. Hoertel, et al., "Balint Groups and Narrative Medicine Compared to a Control Condition in Promoting Students' Empathy," *BMC Medical Education* 20, no. 1 (2020): 412.
7. J. Shao, W. Luo, X. Liu, C. Wang, and Z. R. Wang, "The Effect of Narrative Nursing Clinical Practice on Improving the Quality of Humanistic Care of Psychiatric Nurses," *Chinese Nursing Management* 20, no. 11 (2020): 1713–1716.
8. J. J. Jia, J. Luo, J. Shu, and S. S. Zheng, "Narrative Medicine Principles and Organ Donation Communications," *Hepatobiliary and Pancreatic Diseases International* 22, no. 3 (2023): 323–325.
9. H. R. Yu, L. Liu, J. Zhang, J. Shen, and A. L. Jiang, "Development and Application of the Humanistic Course 'Narrative Nursing,'" *Nursing Journal of Chinese People's Liberation Army* 35, no. 22 (2018): 18–22.
10. H. Huang, Y. L. Liu, and J. He, "A Qualitative Study of Nurses' Views on Patient Narratives," *Journal of Nursing Science* 30, no. 20 (2015): 74–76.
11. W. Z. Ma, P. Gu, J. J. Zhang, and H. X. Yi, "Development of the Narrative Competence Scale and Its Test of Reliability and Validity," *Chinese Journal of Nursing* 55, no. 04 (2020): 578–583.
12. H. R. Shi, X. Zhou, B. F. Sha, et al., "The Practice and Effects of Narrative Nursing Course for Nursing Undergraduates," *Chinese Journal of Nursing Education* 18, no. 06 (2021): 510–514.
13. H. C. Liao and Y. Wang, "Storytelling in Medical Education: Narrative Medicine as a Resource for Interdisciplinary Collaboration," *International Journal of Environmental Research and Public Health* 17, no. 4 (2020): 1135.
14. J. K. Hou, H. Z. Zhou, R. D. Hu, and Y. Y. Liu, "Narrative Competence and Its Influencing Factors Among Clinical Nurses," *Journal of Nursing Science* 36, no. 01 (2021): 63–65.
15. Q. M. Zheng, H. P. Pu, J. H. Yu, and X. W. Wang, "Medical Narrative Competence and Countermeasures Among Nurses Working in 3A Hospital," *Journal of Nurses Training* 36, no. 03 (2021): 284–287.
16. L. Tian, M. Y. Li, S. Q. Xiao, and H. Z. Li, "Medical Narrative Ability and Its Influencing Factors Among Nurses Working in 3A Hospitals," *Journal of Nursing Science* 36, no. 07 (2021): 72–75.
17. T. T. Shi, Y. Han, J. Zhang, P. Y. Zhang, M. Q. Zhao, and X. N. Hu, "Oncology Nurses' Medical Narrative Ability and Its Influencing Factors," *Journal of Nursing Administration* 21, no. 09 (2021): 650–654.
18. A. Bandura, "Self-Efficacy: Toward a Unifying Theory of Behavioral Change," *Psychological Review* 84, no. 2 (1977): 191–215.
19. H. Herrman, D. E. Stewart, N. Diaz-Granados, E. L. Berger, B. Jackson, and T. Yuen, "What Is Resilience?," *Canadian Journal of Psychiatry* 56, no. 5 (2011): 258–265.
20. P. L. Hart, J. D. Brannan, and M. De Chesnay, "Resilience in Nurses: An Integrative Review," *Journal of Nursing Management* 22, no. 6 (2014): 720–734.
21. A. Wyllie, M. DiGiacomo, D. Jackson, P. Davidson, and J. Phillips, "Acknowledging Attributes That Enable the Career Academic Nurse to Thrive in the Tertiary Education Sector: A Qualitative Systematic Review," *Nurse Education Today* 45 (2016): 212–218.
22. N. Britten, I. Ekman, Ö. Naldemirci, M. Javinger, H. Hedman, and A. Wolf, "Learning From Gothenburg Model of Person Centred Healthcare," *BMJ* 370 (2020): m2738.
23. S. Josephsson, J. Ohlen, M. Mondaca, M. Guerrero, M. Luborsky, and M. Lindstrom, "Using Ricoeur's Notions on Narrative Interpretation as a Resource in Supporting Person-Centredness in Health and Social Care," *Nursing Philosophy* 23 (2022): e12398.
24. R. Schenell, A. Ozanne, S. Strang, and I. Henoch, "To Make and Execute Decisions Throughout Life: A Person-Centred Model That Facilitates Self-Determination in Residential Care, Developed Through Participatory Research," *Applied Nursing Research* 55 (2020): 151318.
25. Q. Y. Ni and J. Tian, "Evaluation on Reliability and Validity of 14-Item Resilience Scale," *Chinese Journal of Public Health* 29, no. 10 (2013): 1524–1527.
26. M. Sherer, J. E. Maddux, B. Mercandante, S. Prentice-Dunn, B. Jacobs, and R. W. Rogers, "The Self-Efficacy Scale: Construction and Validation," *Psychological Reports* 51 (1982): 663–671.
27. T. Jia and J. P. Li, "Investigation of Clinical Nurses' Work Empowerment, Self-Efficacy and Job-Control Level," *Chinese Nursing Management* 10, no. 7 (2010): 30–32.
28. J. R. Cui, L. H. Hu, W. Kuang, H. Xiao, H. Y. Zhang, and J. Y. Liu, "Relationship Between Humanistic Care Quality and Narrative Competence Among Clinical Nurses," *Journal of Nursing Science* 36, no. 9 (2021): 58–60.
29. S. Y. Chu, C. C. Wen, and C. W. Lin, "A Qualitative Study of Clinical Narrative Competence of Medical Personnel," *BMC Medical Education* 20, no. 1 (2020): 415.
30. M. Hillier, D. Luff, and E. C. Meyer, "Innovative Communication Learning: Combining TED Talks and Reflective Writing for Nursing Students," *Creative Nursing* 26, no. 3 (2020): 182–188.
31. S. L. Casapulla, J. A. Bianco, L. M. Harter, et al., "Moving Toward Narrative Competence and Inclusive Healthcare Through the Open Book Project," *Health Communication* 35, no. 2 (2020): 257–261.
32. C. Fioretti, K. Mazzocco, S. Riva, S. Oliveri, M. Masiero, and G. Pravettoni, "Research Studies on Patients' Illness Experience Using the Narrative Medicine Approach: A Systematic Review," *BMJ Open* 6, no. 7 (2016): e011220.
33. R. Charon, N. Hermann, and M. J. Devlin, "Close Reading and Creative Writing in Clinical Education: Teaching Attention, Representation, and Affiliation," *Academic Medicine* 91, no. 3 (2016): 345–350.
34. D. Zhang, W. Li, M. Li, Liu L., X. An, and J. H. Ma, "Correlation Analysis Between Medical Narrative Capacity and Self-Efficacy Sensation of Clinical Nursing Staffs," *Journal of Clinical Medicine in Practice* 25, no. 19 (2021): 111–114.
35. S. L. Edwards, "Narrative Analysis: How Students Learn From Stories of Practice," *Nurse Researcher* 23, no. 3 (2016): 18–25.



36. H. F. Hsieh, Y. M. Chen, H. H. Wang, S. C. Chang, and S. C. Ma, "Association Among Components of Resilience and Workplace Violence-Related Depression Among Emergency Department Nurses in Taiwan: A Cross-Sectional Study," *Journal of Clinical Nursing* 25, no. 17–18 (2016): 2639–2647.
37. R. Charon, "Medicine, the Novel, and the Passage of Time," *Annals of Internal Medicine* 132 (2000): 63–68.