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Professional identity, job satisfaction, and intention to stay among clinical nurses during the prolonged COVID-19 pandemic: A mediation analysis

Ardani Latifah Hanum[1] 🔵 | Qiulan Hu[2] | Wei Wei[3] | Huilin Zhou[1] | Fang Ma[1]

[1]Department of Nursing, The First Affiliated Hospital of Kunming Medical University, Kunming, China

[2]ICU in Geriatric Department, The First Affiliated Hospital of Kunming Medical University, Kunming, China

[3]Gastroenterology Department, The First Affiliated Hospital of Kunming Medical University, Kunming, China

Correspondence
Fang Ma, Department of Nursing, The First Affiliated Hospital of Kunming Medical University, 295#, Xichang Road, Kunming, China.
Email: rebeccamalei@126.com

Abstract

Aim: This study aims to examine the relationship between professional identity and job satisfaction and their impact on intention to stay among clinical nurses in China during the prolonged COVID-19 pandemic.

Methods: A cross-sectional survey was conducted from April 30 to May 25, 2021, in China. Data were collected using professional identity, job satisfaction, and intention to stay questionnaires from 1425 clinical nurses. A single mediation analysis was utilized to test the interrelationship among the variables, and the STrengthening the Reporting of OBservational studies in Epidemiology (STROBE) checklist as a reporting guide.

Results: Nurses indicated a medium level of professional identity, job satisfaction, and intention to stay, with mean scores of 3.85, 3.25, and 3.47, respectively. The professional identity displayed positive indirect effect on nurses' intention to stay through job satisfaction (indirect effect = 0.498, 95% CI [0.439, 0.558]).

Conclusion: Cultivating professional identity among nurses can increase their job satisfaction and ultimately enhance the intention to stay in the nursing profession. However, this study also suggests paying more attention to job satisfaction to keep nursing retention. These may be helpful to retain the nursing workforce.

KEYWORDS

intention to stay, job satisfaction, professional identity, the prolonged COVID-19 pandemic

1 | INTRODUCTION

Intention to stay is the extent to which employees intend to remain with their employers, which is a critical predictor of nursing turnover (Brewer et al., 2012; Price, 2001). Nurse intention to stay has been challenging in recent years and turnover among nurses is a global concern. In the United States, up to 50% of new nurses will change clinical areas or leave the nursing profession entirely during the first 1–2 years of practice (NSI Nursing Solutions, 2019). In mainland China, nursing turnover has increased from 6.5% to 30% in recent years (He et al., 2020; Ye et al., 2020). All the above contribute to the shortage in nursing workforce around the world (Aboshaiqah, 2016; Juraschek et al., 2019; Marć et al., 2019).

This condition is worsened by the COVID-19 pandemic which increases nurses' turnover intention (Falatah, 2021). After the pandemic, many countries reported the inclination of turnover intention among nurses (Al-Mansour, 2021; Falatah, 2021; Nashwan et al., 2021). This

condition may impact patient safety (Zaheer et al., 2021), disrupt hospital operations, and degrade healthcare services quality (Dewanto & Wardhani, 2018). Hence, maintaining and improving nursing intention to stay, especially during the prolonged COVID-19 pandemic, is essential.

1.1 | Literature review

The nursing intention to stay is influenced by multi-factors such as job satisfaction, burnout, relationship with co-workers, workload, work-life balance, professional development, professional identity, and recognition (Lee & Shin, 2020; Loft & Jensen, 2020; Wang et al., 2012). Among these, job satisfaction and professional identity play important roles in nurses' intentions to stay.

Professional identity is an individual's perception of her/his profession including goals, social values and other factors related to the profession, which is consistent with society's evaluation and expectations of the profession (Zhao et al., 2010). Nurses with higher professional identity display more effort and motivation in their practice, contributing to professional fulfillment, and resulting in the increase of job satisfaction (Coetzee & van Dyk, 2018; Seo & Kim, 2017). Further, professional identity is closely related to nurses' thoughts and feelings about themselves. Since someone's thinking would lead to particular actions, nurses who regard themselves as professionals would decide to remain in the profession (Kristoffersen, 2021). Therefore, professional identity is essential to increase job satisfaction and nurses' intention to stay, which ultimately helps to decrease the global nursing shortage (Kristoffersen, 2021; Zhang et al., 2021b; Zhang et al., 2018). However, current studies have only measured the relationship between professional identity and one variable, such as job satisfaction or intention to stay. To date, there is no study conducted to examine the interrelationship between professional identity, job satisfaction, and intention to stay in the nursing profession.

During 2 years of the COVID-19 pandemic, the nursing profession as one of the essential parts of the healthcare system has been inevitably impacted in several aspects (Shun, 2021). Nurses play important work as frontline healthcare providers for COVID-19 patients by providing patient care, health education and screening, implementing appropriate precautions, and supporting vaccination (Chen et al., 2020; Enriquez, 2021). By doing so, they received considerable recognition from the public and were portrayed as white angels moving into danger (Li et al., 2020b). However, during the difficult time of the pandemic, shortage of manpower and medical supplies, stress and anxiety due to longer shifts, and fears of

infection, are issues emerging in nursing practice (Al Thobaity & Alshammari, 2020). All the above challenge nursing professional identity, job satisfaction, and intention to stay in different ways.

Some studies discovered that nursing professional identity rose during the COVID-19 pandemic (Li et al., 2020b; Zhang et al., 2021a), while other research displayed decline of job satisfaction and intention to stay (Afulani et al., 2021; Falatah, 2021; Said & El-Shafei, 2021). The above phenomenon inspired us to consider the interrelationship of nursing professional identity, nursing job satisfaction and intention to stay in the COVID-19 pandemic. Therefore, this study tried to explore whether professional identity remains positively influencing job satisfaction and intention to stay among nurses and assess their interrelationship during the COVID-19 pandemic, which can help develop strategies to improve nurses' intentions to stay. According to the above knowledge gap, we proposed the following hypotheses.

1. Professional identity influences the intention to stay.
2. Job satisfaction constitutes a mediation effect between professional identity and intention to stay.

This present study purposed to test the above hypotheses and evaluate the interrelationship between professional identity, job satisfaction, and intention to stay during the COVID-19 pandemic.

2 | METHODS

2.1 | Study design and measures

We used a cross-sectional study design by conducting an online survey from April 30 to May 25, 2021, in the First Affiliated Hospital of Kunming Medical University, in China. All questionnaires in this study implemented a five-Likert scale from very disagree (1) to very agree (5), and the higher score represented the higher level of professional identity, job satisfaction, and intention to stay.

2.1.1 | Professional Identity

The Professional Identity Scale, translated by Zhao et al., was utilized to assess nurses' professional identity (Takemura & Suda, 2006; Zhao et al., 2010). There are 21 items divided into seven domains in this scale: the sense of mastery (three items), congruence (four items), significance (three items), self-efficacy (three items), self-determination (three items), organizational influence (two items), and patient influence (two items). The summary

scores range from 21 to 105. The Cronbach's α coefficient of Chinese version of Professional Identity Scale was .84, with a reliability of 0.69–0.84 in the seven different domains. The Content Validity Index was 0.84. The factor analysis showed that 77% variance was explained by seven domains, resulting in the acceptability of the Professional Identity Scale (Zhao et al., 2010). The Cronbach's alpha in this study was .934.

2.1.2 | Job Satisfaction

This study assessed the nurses' job satisfaction using the Chinese Nursing Job Satisfaction Scale (NJSS) (Tao et al., 2009; Wang et al., 2012). A total of 38 items are clustered into eight subscales: administration/management, workloads, co-workers, work itself, salary, professional opportunity, job recognition, and family-work balance. The total scores run from 38 to 190. The NJSS was previously shown to be suitable for Chinese nurses with reliability of 0.884 (Wang et al., 2012). In this study, the internal consistency score was 0.910.

2.1.3 | Intention to Stay

The Intention to Stay scale was used to measure intention to stay among nurses in this study, which was developed by Wang et al. from Turnley and Feldman's original scale of Intent to Quit and Job Search (Turnley & Feldman, 1998; Wang et al., 2012). The final version of the Intention to Stay scale consists of six items with overall scores ranging 6–30. This scale has been used among Chinese nurses and displayed Cronbach alpha of .785 for internal reliability. In this study, Cronbach's alpha coefficient for the scale was .826, indicating a good internal consistency.

2.2 | Study area and sampling

The First Affiliated Hospital of Kunming Medical University is located in the capital city of Yunnan province and is the leading hospital in the province. Bordering Myanmar in the west, Laos and Vietnam in the south, this province has a land border of more than 4000 km, one of the longest in China, which makes the prevention and coping of the COVID-19 pandemic complicated and difficult (Yixi, 2022). According to the response level toward the COVID-19 severity, the Yunnan province experienced fluctuated levels from accident 1–3 from total of four levels (Xu & Yang, 2020b; Yunnan Province Health Commission, 2020). Grade 1 suggests a huge

number of confirmed cases and a severe pandemic, while grade 4 indicates fewer infected people (Xu & Yang, 2020a). As for nurses here, besides taking care of the COVID-19 patients admitted in the hospital, nurses also had to take actions in the hospital to prevent the spread of COVID-19. Moreover, some nurses in this hospital were also transferred to the border areas to fight the COVID-19 pandemic with local professionals, and some nurses were also sent as healthcare volunteers to some provinces that were the epicenter of COVID-19 severity (Infection Management Department, 2020; Mao et al., 2020).

A convenience sampling method was adopted to select the nurses in the First Affiliated Hospital of Kunming Medical University (Patel Gunaldo et al., 2021). Then we chose the participants purposefully according to the study goals (Andrade, 2021). The participant's inclusion criteria were all nurses who worked before and during the COVID-19 pandemic in the First Affiliated Hospital of Kunming Medical University. This study excluded nurses who were absent from work or on leave for personal or academic reasons during the COVID-19 pandemic. There was no pilot study, but to achieve accurate results, 230–500 participants are required to meet the minimum sample size requirement in a single mediation analysis (Mackinnon et al., 2007; Sim et al., 2022).

2.3 | Data collection

This study invited all nurses working in the selected hospital through oral and online invitations. They received a link on WeChat that brought them to the study's online information, covering the aims, process, and right to withdraw anytime without any adverse effect, informed consent, and questionnaire. The interested participants filled out the online informed consent and questionnaire and returned it back anonymously. We only included the complete data and excluded the incomplete ones. The final responses were 1425 from 2434 nurses, representing a response rate of 58.5%. This level of response might be due to the fact that the survey was conducted online, which commonly gives a lower response rate (Wu et al., 2022). Also, it was a voluntary survey without any follow-up approach personally and no incentive for participants. Previous research displayed a 20–30% response rate of an online survey without follow-up contact, and almost 60% response rate with multiple approaches to participants (Patel Gunaldo et al., 2021). However, the acquired sample met this study's requirement for a single mediation analysis (Mackinnon et al., 2007; Sim et al., 2022).

The questionnaire was developed to answer the research questions, and online informed consent was obtained from all participants before they completed all

TABLE 1 Participants' demographics and mean scores of professional identity, job satisfaction, and intention to stay ($N = 1425$)

Respondents' characteristics	n (%)	Professional identity	Job satisfaction	Intention to stay
Generation				
Generation X	177 (12.4%)	4.05 ± 0.57	3.35 ± 0.43	3.83 ± 0.71
Millennial	1248 (87.6%)	3.83 ± 0.57	3.23 ± 0.47	3.42 ± 0.73
t		4.70	3.21	6.95
P value		<.001	.001	<.001
Working years				
< 5	259 (18.2%)	3.80 ± 0.58	3.23 ± 0.48	3.31 ± 0.70
5–10	539 (37.8%)	3.76 ± 0.56	3.19 ± 0.46	3.35 ± 0.73
11–20	420 (29.5%)	3.93 ± 0.56	3.27 ± 0.47	3.58 ± 0.72
21–30	167 (11.7%)	4.06 ± 0.57	3.36 ± 0.44	3.77 ± 0.74
> 30	40 (2.8%)	3.88 ± 0.58	3.27 ± 0.43	3.83 ± 0.72
F		12.01	5.27	19.06
P value		<.001	<.001	<.001
Job title				
Nurse	116 (8.1%)	3.74 ± 0.60	3.22 ± 0.54	3.33 ± 0.71
Senior nurse	822 (57.7%)	3.81 ± 0.56	3.22 ± 0.44	3.40 ± 0.73
Supervisor nurse	464 (32.6%)	3.96 ± 0.58	3.28 ± 0.49	3.60 ± 0.75
Deputy chief nurse	22 (1.5%)	4.15 ± 0.44	3.48 ± 0.42	4.01 ± 0.65
Chief nurse	1 (0.1%)	4.14	3.71	5.00
F		7.83	2.70	10.23
P value		<.001	.03	<.001
Education				
Technical secondary school	2 (0.1%)	3.93 ± 0.10	3.18 ± 0.22	3.58 ± 0.35
College	53 (3.7%)	3.85 ± 0.64	3.22 ± 0.42	3.63 ± 0.67
Bachelor's degree	1352 (94.9%)	3.86 ± 0.57	3.24 ± 0.47	3.46 ± 0.75
Master's degree	18 (1.3%)	3.97 ± 0.55	3.44 ± 0.43	3.73 ± 0.55
F		0.23	1.12	1.65
P value		.879	.34	.176
Marital status				
Unmarried	347 (24.4%)	3.77 ± 0.56	3.20 ± 0.48	3.32 ± 0.73
Married	1044 (73.3%)	3.88 ± 0.57	3.26 ± 0.46	3.51 ± 0.74
Divorced	34 (2.4%)	3.92 ± 0.66	3.20 ± 0.42	3.71 ± 0.77
F		5.03	2.24	10.20
P value		.007	.107	<.001
Total	1425 (100%)	3.86 ± 0.57	3.25 ± 0.47	3.47 ± 0.74

t = independent sample t test.

F = one-way analysis of variance.

questionnaires. The questionnaire was divided into four sections. The first section collected the participant's demographic information, including age classified into different generations, the working year, job title, education, and marital status. The three remaining sections aimed to assess the level and relationship between professional identity, job satisfaction, and intention to stay.

2.4 | Statistical analysis

The respondent's demographic characteristics were described using numbers and percentages. The independent sample t test and analysis of variance were carried out to compare the distribution of professional identity, job satisfaction, and intention to stay across different subgroups, and

TABLE 2 Correlation among participants' demographics, professional identity, job satisfaction, and intention to stay

Variables	Professional identity	Job satisfaction	Intention to stay
Generation	−0.124[a]	−0.085[a]	−0.181[a]
Working year	0.143[a]	0.088[a]	0.216[a]
Job title	0.144[a]	0.071[a]	0.154[a]
Education	0.01	0.034	−0.017
Marital status	0.082[a]	0.043	0.119[a]
Professional identity		0.712[a]	0.424[a]
Sense of mastery		0.295[a]	0.197[a]
Sense of congruence		0.632[a]	0.469[a]
Sense of significance		0.645[a]	0.430[a]
Sense of self-efficacy		0.393[a]	0.306[a]
Sense of self-determination		0.598[a]	0.288[a]
Sense of organizational influence		0.623[a]	0.273[a]
Sense of patient influence		0.444[a]	0.195[a]
Nurse job satisfaction			0.565[a]
Management			0.425[a]
Workload			0.420[a]
Co-workers			0.437[a]
Work itself			0.332[a]
Pay/salary			0.437[a]
Professional development			0.394[a]
Work recognition			0.291[a]
Family/work balance			0.398[a]

[a]Correlation is significant at the .01 level (2-tailed).

FIGURE 1 Single mediation path of professional identity on intention to stay through job satisfaction with controlling participants' demographics as covariates

*P < .05, **P < .01, ***P < .001
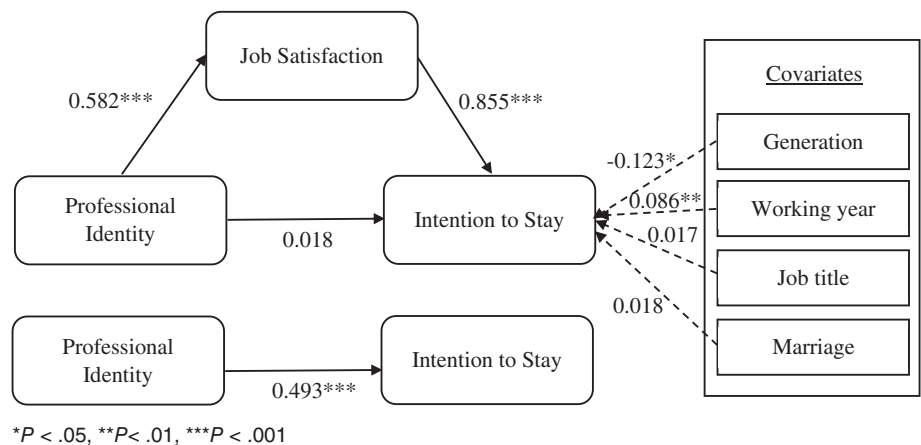
the Pearson correlation analysis was conducted to examine the correlation. The strength of the correlation was determined according to Pearson's correlation coefficient, in which $r = 0.1$ to 0.39 is a weak correlation, $r = 0.40$ to 0.69 is a moderate correlation, and $r = 0.68$ to 0.89 is a strong correlation (Schober & Schwarte, 2018). We performed the analysis using IBM SPSS statistics 26 with the significance level at $P < .05$ or $P < .001$.

The PROCESS macro version 3.5 model 4 was adopted to analyze one independent variable (professional identity), one dependent variable (intention to stay), and one mediator (job satisfaction). Further, we utilized a biased bootstrap 95% confidence interval (CI) with 5000 samples to determine the significance of total, direct, and indirect effects. Finally, the STrengthening the Reporting of OBservational studies

TABLE 3   Coefficient path for the mediation model

| Effect | Product of coefficient | | Bootstrapping 95% CI | | |
	B	SE	BootLL CI	BootUL CI	Model-fit
Total effect PI to ITS	0.493	0.031	0.432	0.554	$R = 0.454$, $F(5, 1419) = 73.76$[a]
Direct effect PI to JS	0.582	0.015	0.552	0.613	$R = 0.713$, $F(5, 1419) = 293.84$[a]
Direct effect JS to ITS	0.855	0.049	0.760	0.951	$R = 0.590$, $F(6, 1418) = 126.40$[a]
Direct effect PI to ITS	0.018	0.040	−0.060	0.097	$R = 0.590$, $F(6, 1418) = 126.40$[a]
Indirect effect PI to ITS	0.498	0.030	0.439	0.558	

[a]$P < .001$.

PI stands for professional identity; ITS stands for intention to stay; JS stands for job satisfaction; LL stands for lower limit; UL stands for upper limit.

in Epidemiology (STROBE) checklist was utilized as a reporting guide.

2.5 | Ethics

Before the data collection, ethics approval was obtained from the First Affiliated Hospital of Kunming Medical University Research Ethics Committee, China (No. L5). Informed consent was performed, and anonymity was ensured.

3 | RESULTS

3.1 | The level of three variables in relation to participant's demographics

Most respondents were millennial nurses (87.6%) and more than one-third of the sample had been working for 5–10 years (37.8%). Participants with the title of senior nurse accounted for 57.7% and mostly had bachelor's degree education (94.9%). Further, about three-quarters of respondents were married.

Generally, the nurses scored 3.85, 3.25, and 3.47 for the mean score of professional identity, job satisfaction, and intention to stay, respectively. Table 1 shows the level of professional identity, job satisfaction, and intention to stay based on participants' demographics. The millennial nurses showed a significantly lower professional identity, job satisfaction, and intention to stay with a P value less than .001. There were also significant differences among the analyzed variables depending on the nurses' working year ($P < .001$) and job title ($P < .05$), but not education level ($P > .05$).

3.2 | The correlation analysis

The correlation among nurses' demographics, professional identity, job satisfaction, and intention to stay is

outlined in Table 2. In general, most of the coefficients were statistically significant at $P < .001$. The demographics such as working year and job title were positively correlated with professional identity, job satisfaction, and intention to stay, while generation showed a negative association with the above variables. Education did not correlate with the three variables, and marital status correlated only with professional identity and intention to stay.

Furthermore, professional identity was significantly associated with job satisfaction ($r = 0.712$, $P < .001$) and intention to stay ($r = 0.424$, $P < .001$). Additionally, job satisfaction was positively associated with intention to stay ($r = 0.565$, $P < .001$).

3.3 | Mediation analysis

Figure 1 displays the model paths with standardized coefficients, and Table 3 provides the total direct, direct, and indirect model paths. The outcome for analysis was the intention to stay. The predictor variable for the analysis was professional identity, and the mediator variable evaluated was job satisfaction. The demographic characteristics, including generation, the working year, job title, and marriage, were controlled as covariates. Professional identity had impact on intention to stay (Total effect = 0.493, 95% CI [0.432, 0.554]), which supported the first hypothesis. The indirect effect of professional identity on intention to stay was also found to be statistically significant (Total indirect effect = 0.498, 95% CI [0.439, 0.558]), which supported the second hypothesis. The above result displayed that a single mediation had occurred.

4 | DISCUSSION

Thus far, the literature indicate that professional identity and job satisfaction influence nurses' intentions to stay.

During 2 years of COVID-19 pandemic, professional identity, job satisfaction, and intention to stay among nurses have been influenced in different ways. To further understand the complex issues affecting nurses' intentions to stay during COVID-19, the current study analyzed the relationship between professional identity, job satisfaction, and intention to stay among nurses in order to assist with nursing retention in the pandemic era, and there was no study on the topic. The levels of professional identity, job satisfaction, and intention to stay during the prolonged COVID-19 pandemic were revealed, and a model of the relationship between professional identity, job satisfaction, and intention to stay was generated.

4.1 | The level of professional identity, job satisfaction, and intention to stay

Overall, the study suggested that nurses in our study had a middle-level of professional identity, job satisfaction, and intention to stay, which are similar to the level before the pandemic (Li et al., 2020a; Qi et al., 2021; Wang et al., 2012). However, some studies indicated the opposite phenomenon. During the COVID-19 pandemic, several pieces of research displayed the rise of nurses' professional identity due to the escalation of attention and recognition from the public to nurses (Li et al., 2020b; Zhang et al., 2021a). In the beginning of COVID-19, nurses were in the public eye, being referred to as heroes and their stories showing up in social media (van der Cingel & Brouwer, 2021). Hence, many nurses stated they were feeling supported and respected, which promoted their value as a professional nurse. Nevertheless, this "popularity" did not last long. The number of reports of nurses battling the virus skyrocketed during the first 2 months of the pandemic and returned to pre-pandemic levels a half year later (Shang et al., 2021). Nurses might experience reality shock when they discover that the nursing work does not at all meet their expectations based on the reports in the beginning of the pandemic. All the above might hinder the improvement of professional identity.

Further, the job satisfaction result also differs from other studies showing that the COVID-19 pandemic negatively impacts nurses' job satisfaction (Afulani et al., 2021; Said & El-Shafei, 2021). The dissatisfaction increases because, in the beginning, the COVID-19 disease, while it is contagious, had no well-established management plan. It caused nurses to become stressed initially since many healthcare providers got infected and were short of resources. They ultimately fell into a burnout in the later stage of the pandemic (Afulani et al., 2021). Further, the rise of nursing workload without sufficient reward and recognition also explain the reason behind the low job satisfaction of nurses during the pandemic (Said &

El-Shafei, 2021). The above conditions have also happened in China at the beginning. However, the Chinese government made fast responses to decrease the severe shortage of healthcare providers and help the hospitals tackle the escalating amount of patients. For instance, the government built temporary hospitals known as "Fangcang Hospital" and developed technology such as internet hospitals and artificial intelligence robots to distribute and reduce healthcare workloads (Sun et al., 2021). Furthermore, measures were enacted during the pandemic to reward and protect healthcare professionals on all fronts, including subsidies and allowances, work-related injury compensation, psychological health services, and basic requirements, among others, which contributed to improved job satisfaction (Xiaoyu, 2020; Xinhua, 2020).

Moreover, although some countries reported the rise of turnover intention after the COVID-19 pandemic, this study indicated a dissimilar result. However, it should be noted that this study was undertaken during a prolonged pandemic when COVID-19 was controlled better in China than in other countries. The Chinese government requires that society must provide positive support to healthcare professionals during the COVID-19 period, which can decrease the stress of health professionals and help improve intention to stay among nurse (Chen et al., 2021; Huang, 2020). Furthermore, the Chinese government released modifications to China's COVID-19 diagnosis and treatment guidelines based on the development of the virus, which lowered the factors causing work frustration and improved controllability, and positively impacted the intention to stay among nurses (Jensen et al., 2013; Xiaoyu, 2022).

In terms of demographic characteristics, this study's findings support previous studies indicating millennial nurses have less job satisfaction and intention to stay than other generations (Sparks Coburn & J. Hall, 2014; Waltz et al., 2020). We contend that it is related to the lower professional identity of millennial nurses, as demonstrated by our study. However, there is currently no study that investigates the impact of generational characteristics on nursing professional identity.

4.2 | Correlation between professional identity, job satisfaction, and intention to stay

First, our study showed the professional identity had a high association with job satisfaction. In this study, sense of congruence, sense of significance, and sense of organizational influence were the domains of professional identity that most correlated with job satisfaction. The sense of congruence expresses the meaning of the nursing profession, while the sense of significance indicates how

important nursing is for nurses. These results indicated that nurses' perception of the meaning and importance of their work might help nurses to get pleasure in their work, which is in line with prior research (Sabanciogullari & Dogan, 2015). Further, nurses who obtain more responsibilities and could make some impact in their organization might develop a better sense of achievement and value of their work, resulting in an increase in job satisfaction (Knoop, 1994; Yasin et al., 2020).

Second, there was a moderate positive association between job satisfaction and intention to stay, which is consistent with prior research (Alnuaimi et al., 2020; Mcgilton et al., 2013; Wang et al., 2012). The subscales of co-workers, workload, pay/salary, and management in job satisfaction had a stronger correlation with the intention to stay, suggesting that the above variables might be essential in improving nurses' choices to stay. Tourangeau (2010) delineates that a relationship with a colleague is the most important reason for nurses to remain working and vice versa (Tourangeau et al., 2010). Further, workloads, including working hours and the existing risks, play an essential role in nurses' intentions to stay before and during the COVID-19 pandemic (Afulani et al., 2021; Loft & Jensen, 2020). Furthermore, nurses who perceive they obtain the equivalent salary with their effort may choose to stay in their profession (Engeda et al., 2014). Then, management tailored to the nurse's needs, having control in work, and supportive leaders are managerial components that support job satisfaction and lead the nursing workforce to remain being employed in the profession (Li et al., 2020a; Michelle et al., 2015).

Our study indicated that compared with job satisfaction, professional identity had a lower association with intention to stay, which means that nursing job satisfaction might associate with the nursing intention to stay stronger than professional identity does. This is also supported by previous research that job satisfaction is the most influential factor of intention to stay among nurses (Chan et al., 2013).

4.3 | Mediating effect of job satisfaction on intention to stay

Based on the mediation analysis, job satisfaction significantly mediated the effect of professional identity on intention to stay, which supported the hypotheses. The results indicated that nurses who had a high level of professional identity were likely to be more satisfied with their job, which led to the higher intention to remain in their work. Nurses with a high sense of identity have greater motivation to encounter professional challenges, such as broadening their nursing role (Loft &

Jensen, 2020). Thus, they may obtain more sense of achievement from acting as a professional nurse, with meaningful feeling, as well as work-related well-being that increases their overall job satisfaction and ultimately raises their intention to stay (Chen et al., 2016; Hao et al., 2020; Kristoffersen, 2021).

Surprisingly, although there was a significant total effect, the professional identity did not demonstrate a meaningful direct effect on the intention to stay, which indicated that the influence of professional identity on the intention to stay was mediated by job satisfaction and it was not in accordance with previous studies (Kristoffersen, 2021; Sabanciogullari & Dogan, 2015). It might be due to the short- and long-term changes to nurses' work during the COVID-19 pandemic. During the pandemic, nurses experienced severe work overload, exposure to infection, unpleasant interactions at work, discrimination, despair, and isolation from their families, which exacerbated the existing and widespread workforce stress in the nursing profession (Chen et al., 2021; Piotrowski et al., 2022) and might trigger nurses to leave their job due to stress and fear (Janet Alexis A & Leodoro J, 2021; Khattak et al., 2021; Said & El-Shafei, 2021). To improve nursing intention to stay, in many countries, medical professionals including nurses working directly with COVID-19 patients have been given raises, suggesting the financial factor is an important element shaping job satisfaction and intent to stay (Piotrowski et al., 2022). However, nursing professional identity concentrates on the meaning of the nursing profession, self-efficacy, and the impact as a nurse, and it might affect job satisfaction by influencing some components directly but not for the rest, such as salary and workload. As a result, we argue that nurses with high professional identity may also have a possibility to leave their job. Hence, besides improving professional identity, interventions such as increasing pay, decreasing workload and stress to improve job satisfaction are vital in the improvement of intention to stay among nurses (Chan et al., 2013).

There are some limitations to this study. First is the lack of generalization due to the convenience of the sampling method and selecting the sample from only one hospital that was placed in a low-to-moderate area of COVID-19. Meanwhile, the severity of the COVID-19 epidemic varied between China's regions, allowing for the possibility that the assessed variables (professional identity, work satisfaction, and intention to remain) were manifested at a different level than in the studied area. Therefore, further study needs to be conducted with random sampling to select more representative participants and from different areas with higher severity of the COVID-19 pandemic to increase the finding's generalizability. Second, we only included one mediator in this

cross-sectional design. In the future, researchers may build new models that include other mediators to find out how professional identity affects the intention to stay.

5 | CONCLUSIONS

In conclusion, nurses showed a medium level of intention to stay. Professional identity influences nurses' intentions to stay by affecting job satisfaction. With a higher professional identity, nurses may act like a professional and be satisfied with their work which ultimately enhances their motivation to remain in the profession. However, this study implies that we should focus not only on professional identity but also on job satisfaction variables to improve nurses' intentions to stay.

Nursing intention to stay should be observed throughout the prolonged COVID-19, and intervention programs to improve nursing intentions to stay should be undertaken. This baseline data can assist in developing measures to increase and sustain clinical nurses' intentions to stay during this pandemic.

AUTHOR CONTRIBUTIONS
All authors contributed to the conception, and design of the study. Ardani Latifah Hanum, Qiulan Hu, and Fang Ma carried out the data collection, analysis, interpretation of data. Ardani Latifah Hanum drafted the manuscript. Fang Ma, Wei Wei, and Huilin Zhou revised it critically. All authors read and approved the final version of the manuscript.

DISCLOSURE AND CONFLICT OF INTEREST
The authors declare they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. All authors also declare there is no conflict of interest.

ORCID
Ardani Latifah Hanum https://orcid.org/0000-0002-8937-3414

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