

Evaluation of the relationship between adversity quotient, professional identity, and perceived humanistic care of head nurses in Master's Degrees in nursings

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ABSTRACT

Background: High-level nursing talents play an important role in solving nursing scientific problems and leading nursing innovation, so the construction of high-level nursing talents has become a necessary guarantee for the health strategy in the new era. Managers have high expectations for master's degree in nursing, hoping that they will develop in all aspects of research, teaching, and professionalism, etc. However, the high expectations of managers have led to unclear job orientation, high clinical and scientific research pressure, and low recognition of nurses' sense of professional value from the outside world, which have led to the lowering of master's degree of professional identity and the tendency to leave the profession, which is not conducive to the stabilization of the nursing workforce. **Purpose:** To explore the influence of adversity quotient, perceived humanistic care of nurse leaders on professional identity of nursing masters, and to clarify the relationship model between the three. **Methods:** A convenience sampling method was used to conduct an online questionnaire survey on 160 master's degree nursing students in Ningbo and Shanghai from July to September 2022 using the general information questionnaire, adversity quotient, career identity and perceived humanistic care of nurse leaders scale. **Results:** Adversity quotient, occupational identity and perceived humanistic care of nurse leaders were all at a moderate level. Adversity quotient ($r = 0.430$, $P < 0.01$), perceived humanistic care of nurse leaders ($r = 0.443$, $P < 0.01$) and occupational identity were positively correlated, and perceived humanistic care of nurse leaders could affect occupational identity through the mediating effect of adversity quotient, with the mediating effect accounting for 31.8%. **Conclusion:** Nursing managers should create a good organizational atmosphere, build a training system for adversity quotient courses, conduct regular assessment and humanistic care to improve the ability of nursing masters to face adversity and enhance the awareness of their own professional values.

Keywords: Adversity quotient, humanistic care, Master of Science in nursing, professional identity

Introduction

As a result of rapid advances in medical technology and the needs of an ageing global population and the increase in infectious and chronic diseases, nursing education is gradually changing from vocational training to professional education.^[1] The Bachelor's

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degree has become the entry-level qualification for the nursing profession, and Master's and Doctoral degrees are becoming necessary for advanced practice nursing and education.^[2] According to the International Nurse Practitioners/Advanced Practice Nursing Network (INP/APNN), around 70 countries have established or are introducing the roles of APN and about 70% of hospitals worldwide have some form of advanced nursing practice in place.^[3,4] Nurses with baccalaureate degrees and above have been proven to be a talented workforce that reduces mortality rates, shortens hospital stays, and lowers the cost of health care in all countries.^[4]

Despite the clinical importance of nurses' academic qualifications, many problems have arisen with them. Firstly, management often expects too much from nurses with a Master's degree. Studies have shown that nursing managers often expect these highly educated nurses to take on more managerial and decision-making responsibilities while also demonstrating excellence in clinical care and research. Such high expectations lead to tremendous work pressure and psychological burden on Master's degree nurses, which may adversely affect their career development. Secondly, due to the imperfections in the hospital management system, master's degree nurses' work responsibilities in the clinic are often unclear. This leads to difficulties in giving full play to their professional strengths in actual work, which affects work efficiency and teamwork. In addition, research pressure is an issue that cannot be ignored. Although master's nurses are expected to participate in research projects, due to time and resource constraints, they may have difficulty in achieving the expected research outputs, thus feeling more pressure and frustration. Further, there is generally low social acceptance of the nursing profession, especially in some cultures where nursing is often seen as low-level labour. Such prejudices and misconceptions reduce nurses' professional identity. Therefore, as far as individual nurses are concerned, how to correctly recognise and scientifically regulate stress and improve professional identity is an urgent issue for Master's nurses.

Nurses' professional identity refers to nurses' positive perceptions of the nursing profession, professional status, professional responsibility and the psychological state that determines their tendency to develop positive professional behaviors.^[5] Previous researchers found that nurses who have high and accurate professional identity may experience lower role stress and have lower turnover intention, are more motivated and engaged in their work, and are able to provide higher quality care.^[6-8] There are various factors influencing occupational identity, which are mainly classified into occupational, social and psychological factors, among which psychological factors are particularly important, and adversity quotient is one of them.^[9]

Adversity quotient (AQ) is the ability to handle adversities or a measure of human resilience.^[10] A study comparing the AQ of nurses and general office workers found a significant difference between the AQ of the two, with nurses having a lower AQ, which may be due to the fact that nurses have been subjected to

higher role expectations and irregular schedules.^[11] Some studies have confirmed that AQ is not only an influencing factor of professional identity, but also in turn is influenced by professional identity, and that the development of nurses' adversity index is an important strategy to increase nurses' work dedication, improve nurses' professional identity and reduce the willingness to leave the profession.^[12]

Nursing requires teamwork, so another important factor in changing the level of negative nurse behavior is the behavior of the head nurse.^[13] Nowadays, caring has been increasingly positioned as one of the core concepts for an evolved nursing science. Some scholars have described caring as an affect, a feeling of compassion or empathy towards the recipient of care, and consider that the staff nurses' perceptions of nurse managers' caring influenced their job satisfaction and well-being.^[14] To date, it is still not known whether the head nurse's caring as perceived by nurses can significantly affect the professional identity.

When clinical nurses feel less care from their managers, nurses are prone to burnout and faltering professionalism in their positions. Weiner proposed attribution-emotional-action model that subordinates inferred leadership behavior attributes will be attributed to themselves, and this attribution is often accompanied by a specific psychological perception, will act on the emotions to affect their subsequent responses.^[15] Subordinates who perceive leadership behavior to be caring and supportive will feel confident and satisfied, and thus engage in extra-role positive behaviors. Based on this evidences, we hypothesized that the AQ index of clinical nurses may be a mediating variable between the perceived level of care of head nurses and the professional identity of nurses, which was validated in the present study, with a view to providing references for clinical nurses to better cope with their work, and for nursing administrators to manage their human resources more effectively.

Based on the above, the objectives of this study were: (1) to investigate the current status of the Master's nurses' AQ, professional identity and perceived humanistic care of head nurses. (2) to analyze the correlation between AQ, professional identity and perceived humanistic care of head nurses. (3) to explore the mediating role of AQ between PI and perceived humanistic care of head nurses.

Study Design

The present study was a cross-sectional, observational study conducted from July 2022 to September 2022. Convenience sampling method was used to select Masters of Nursing in Ningbo and Shanghai as the study population. Inclusion criteria for the study population were working or full-time graduated master's degree in nursing; registered nurses; practicing clinical nursing for greater than or equal to years; and informed consent to participate in this study. Exclusion criteria were clinical administrators with a master's degree in nursing; trainees and interns; comorbid serious physical or psychological disorders;

and those who withdrew midway through the study. The study was reviewed by the hospital ethics committee.

Measures

Demographic characteristics

The demographic characteristics questionnaire was generated by the researcher and consisted of questions on gender, age, marital status, religion, working years, status of children, type of master's degree, etc.

Adversity Quotient (AQ)

The AQ of nurses was measured using the Chinese version of the Adversity Response Profile (ARP), which is renamed as Adversity Quotient Scale (AQS). This 40-item instrument assesses five AQ dimensions: C (control), O₂ (origin and ownership), R (reach), and E (endurance). The total score of AQS ranges from 40 to 200, and according to the AQS score, the adversity quotient can be categorized into 5 levels, equal and below 59 is very low, 60–94 is low, 95–134 is moderate, 135–165 is high, and 166–200 is very high. The higher the AQS score, the higher the level of the individual's adversity quotient. The reliability and validity of this scale was high, with a Cronbach's alpha coefficient of 0.933 and a KMO value of 0.883 for this scale in previous study.^[16]

Professional Identity (PI)

The PI of nurses was measured using the Nurses' Professional Identity Rating Scale developed by Liu Ling^[17] which includes a total of 30 items in five dimensions: career cognitive appraisal, frustration coping, social skills, social support and self-reflection. Each item is scored on a 5-point Likert scale (1= serious non-compliance 5= extraordinary compliance). The total score of the scale is 30–150. A higher score on the scale indicates a stronger professional identity. According to the scores, professional identity can be categorized into four grades: 30–60 is very low, 61–90 is low, 91–120 is medium, and 121–150 is high. The Cronbach's alpha coefficient for this scale in this study was 0.936 and the KMO value was 0.886.

Perceived humanistic care of head nurses

The Scale on Behavior of Head Nurses' Humanistic Care was developed by Song to assess humanistic caring behaviors given by nurse leaders.^[11] The scale includes 26 entries in 3 dimensions of managerial quality, interpersonal communication and work support. Each item is scored on a 5-point Likert scale (1= serious non-compliance, 5= extraordinary compliance). The total score ranged from 26 to 130, and the higher the score, the better the humanistic caring behavior given by the nurse manager. The Cronbach's alpha coefficient of this scale in this study was 0.945, and the KMO value was 0.920.

Data Collection

The data were collected using a self-reported questionnaire via the service of Wenjuanxing (<https://www.wjx.cn/>). Informed

consent forms and the survey link were distributed to every clinical department through WeChat and DingDing group with the assistance of nursing administrators of the nursing department from the recruited hospitals. WeChat and DingDing are the two most popular instant chat tools in China and are widely used in work. Each participant filled in the questionnaire through clicking the survey link or scanning the QR code. To ensure the quality of this study, two methods were used to ensure the authenticity and validity of the data. First, the questionnaire is preceded by clear instructions, the participants need to be completed independently, the filling time must be greater than or equal to 5 min to submit the questionnaire, and each IP can only be filled out 1 time. Secondly, two researchers reviewed the submitted questionnaires in pairs and eliminated the questionnaires with logical errors and large survey content missing. As a result, 160 questionnaires were distributed in this study and 151 valid questionnaires were recovered, with an effective recovery rate of 94.3%.

Data Analysis

The data were analyzed using IBM SPSS Statistics software Version 24.0. Descriptive statistics were used to analyze the demographic characteristics of the respondents, as well as the AQ, PI and perceived humanistic care of head nurses. The AQ and perceived humanistic care of head nurses were treated as independent variables. PI was treated as dependent variable. Pearson's correlation was applied to explore the correlation between the AQ, PI, and perceived humanistic care of head nurses. AMOS 22.0 structural equation modeling was used to explore the pathways of perceived humanistic care of head nurses and AQ on PI. All tests were two sided with a significance level of 0.05.

Results

Sample demographic characteristics

The nurse sample included 151 Master's nurses. Women make up the vast majority. More than one-third nurses were 36 years old and above. This age distribution shows the level of experience of the participants, but also reflects the different stages of their careers, experiences that may affect their ability to adapt in the face of professional challenges and pressures. Forms of degree suggests that the majority of Master's nurses chose to study on-the-job in order to combine work and studies. This choice may reflect their high AQ, as on-the-job learning requires them to invest extra time and effort in addition to their busy work schedules. More than half Master's nurses have more than 6 years of working and have the title of charge nurse or above. This indicates that they have gained a lot of experience in the nursing field. These highly senior masters of nursing may have a high sense of PI because they have invested a great deal of time and effort in the field. Family background, marital status and child's grade level reveal that the majority of Master's nurses are in the stage of raising children and have heavy family burdens. Such family responsibilities may contribute to

the development of a higher AQ as they need to find a balance between work and family, and may also affect their PI. Only half of the nurses expressed satisfaction with their work, 43% nurses chose the profession out of interest. This may reflect the lack of attractiveness of the nursing profession and the phenomenon of burnout. This may reflect the lack of attractiveness of the nursing profession and the phenomenon of burnout, or it may be related to their PI. Specific demographic details are shown in Table 1.

Taken together, these data reveal the diversity of the Master of Nursing population in terms of gender, age, family background, academic background, and career attitudes. Understanding these factors is important to improve their AQ and PI. Targeted career development programmes and policies should take these diversities into account to support Master's nurses to better cope with challenges in their careers and enhance their sense of identity with the nursing profession.

AQ, PI, and perceived nurse leader care scale scores of Master's Nursest

The score of AQS was (131.70 ± 26.90), with the lowest scoring dimension being origin and ownership at (3.23 ± 0.99) each item. The score of Nurses' Professional Identity Rating Scale was (103.63 ± 19.10), with the lowest scoring dimension being self-reflection at (3.45 ± 0.98) each item. The score of Scale on Behavior of Head Nurses' Humanistic Care was (91.36 ± 20.00), with the lowest scoring dimension being work support at (3.48 ± 0.91) each item. AQ, PI and perceived humanistic care of head nurses of Master' nurses in the present study were at medium level. Table 2 shows the scores for the three scales and each dimension.

Correlation analysis of PI, AQ and perceived humanistic care of head nurses

The results of Pearson correlation analysis showed that PI was significantly positively correlated with AQ and its four dimensions (control, attribution, extension, and tolerance) ($P < 0.05$). Additionally, AQ was significantly positively correlated with perceived humanistic care of head nurses and its dimensions (job support, interpersonal communication, and managerial quality) ($P < 0.05$). Table 3 presents the correlations among the three scales.

Regression analysis of PI of master's degree nurses

In the linear regression analysis, with PI as the dependent variable and AQ and perceived humanistic care of head nurses as independent variables, the model for professional identity was:

$$PI = 27.117 + 0.458 * \text{perceived humanistic care of head nurses} + 0.263 * AQ$$

The R^2 of the model was 0.516, indicating that perceived humanistic care of head nurses and AQ explain 51.6% of the

Table 1: Demographic characteristics (n=151)

Characteristics	n (%)
Gender	
Male	13 (8.6)
Famle	138 (91.4)
Age (years)	
≥36	51 (33.8)
31~35	46 (30.5)
26~30	40 (36.5)
≤25	14 (9.2)
Years of experience	
≥11	69 (45.7)
6~10	37 (24.5)
≤5	45 (29.8)
Professional title	
Nurse-in-charge and above	93 (61.6)
Nurse practitioner	38 (25.2)
Nurse	20 (13.2)
Type of degree	
Professional masters	50 (33.1)
Academic masters	101 (66.9)
Forms of degree	
Full-time	46 (30.5)
On-the-job	105 (69.5)
Marital status	
Married	100 (66.2)
Unmarried	47 (31.2)
Divorced/widowed	4 (2.6)
Family background	
Non-only children	94 (62.3)
An only child	57 (37.7)
Child's grade level	
University and above	6 (4.0)
Junior and senior	14 (9.3)
School age	58 (38.4)
Infants and toddlers	15 (9.9)
Without children	58 (38.4)
Reasons for choosing nursing	
Out of interest	65 (43.0)
Not out of interest	86 (57.0)
Job satisfaction	
Satisfied	79 (52.3)
Not matter	21 (13.9)
Wanna change	12 (7.9)
Wanna quit	39 (25.8)

variation in PI. Table 4 shows the results of the regression analysis.

Analysis of the mediating effect of AQ in the relationship between PI and perceived humanistic care of head nurses

The results of the model fitness test showed that the mediated effects model fit well [see Table 5].

The path coefficients between perceived humanistic care of head nurses and AQ, perceived humanistic care of head nurses

Table 2: Scores of AQS, Nurses' Professional Identity Rating Scale and Scale on Behavior of Head Nurses' Humanistic Care (n=151)

Scale and dimensions	Item number	Item scores ($\bar{x} \pm s$)	Total scores ($\bar{x} \pm s$)
Adversity quotient	40	3.29 \pm 0.67	131.70 \pm 26.90
Control	10	3.36 \pm 0.97	33.59 \pm 9.74
Origin and ownership	10	3.23 \pm 0.99	32.26 \pm 9.99
Reach	10	3.23 \pm 1.02	32.30 \pm 10.25
Endurance	10	3.36 \pm 1.00	33.55 \pm 10.04
Professional identity	30	3.45 \pm 0.64	103.63 \pm 19.10
Frustration coping	6	3.53 \pm 0.90	21.17 \pm 5.40
Career cognitive	9	3.25 \pm 0.88	29.29 \pm 7.93
Social skills	6	3.54 \pm 0.92	21.26 \pm 5.55
Social support	6	3.59 \pm 0.79	21.56 \pm 4.71
Self-reflection	3	3.45 \pm 0.98	10.34 \pm 2.93
Perceived humanistic care of head nurses	26	3.51 \pm 0.77	91.36 \pm 20.00
Work support	13	3.48 \pm 0.91	45.20 \pm 11.86
Interpersonal communication	8	3.49 \pm 0.96	27.91 \pm 7.67
Managerial quality	5	3.65 \pm 0.93	18.25 \pm 4.65

Table 3: Results of correlation analysis of PI, AQ, and perceived humanistic care of head nurses (value of r , n=151)

Scale and dimensions	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
work support (1)	1														
Interpersonal communication (2)	0.552**	1													
managerial quality (3)	0.391**	0.498**	1												
perceived nurse leader care (4)	0.895**	0.826**	0.655**	1											
Control (5)	0.169*	0.257**	0.246**	0.256**	1										
origin and ownership (6)	0.241**	0.190*	0.199*	0.262**	0.228**	1									
reach (7)	0.193*	0.296**	0.344**	0.308**	0.497**	0.165*	1								
endurance (8)	0.303**	0.200*	0.178*	0.297**	0.202*	0.275**	0.248**	1							
Adversity quotient (9)	0.337**	0.351**	0.360**	0.418**	0.712**	0.619**	0.715**	0.643**	1						
frustration coping (10)	0.339**	0.469**	0.374**	0.468**	0.210**	0.241**	0.360**	0.230**	0.389**	1					
career cognitive (11)	0.382**	0.406**	0.362**	0.466**	0.295**	0.259**	0.336**	0.258**	0.427**	0.223**	1				
social skills (12)	0.303**	0.425**	0.437**	0.444**	0.365**	0.351**	0.356**	0.255**	0.494**	0.485**	0.468**	1			
social support (13)	0.406**	0.397**	0.324**	0.468**	0.281**	0.235**	0.282**	0.212**	0.375**	0.362**	0.544**	0.467**	1		
self-reflection (14)	0.361**	0.362**	0.285**	0.419**	0.242**	0.260**	0.217**	0.123	0.313**	0.294**	0.232**	0.320**	0.281**	1	
professional identity (15)	0.498**	0.578**	0.507**	0.635**	0.394**	0.375**	0.448**	0.318**	0.571**	0.651**	0.784**	0.787**	0.754**	0.495**	1

* $P < 0.05$ ** $P < 0.01$ **Table 4: Multiple linear regression analysis of factors influencing professional identity**

	Unstandardized coefficient		Standardized coefficient	t	P	VIF
	B	SE	$Beta$			
Constant	27.117	6.238	-	4.347	0.000**	-
perceived nurse leader care	0.458	0.060	0.480	7.626	0.000**	1.212
adversity quotient	0.263	0.045	0.371	5.890	0.000**	1.212
R^2			0.516			
adjusted R^2			0.510			
F			$F(2,148)=79.026, P=0.000$			
D-W value			1.117			

* $P < 0.05$ ** $P < 0.01$

and PI, as well as AQ and PI, were evenly statistically significant ($P < 0.01$). AQ had a partially mediating effect between PI and perceived humanistic care of head nurses [see Table 6].

Figure 1 shows the structural equation modeling using AMOS 22.0.

Discussion

The findings showed the PI of these the Master's nurses were at an intermediate level, which is consistent with Peng's study.^[18] The main reasons may include the inequality between social evaluation

and self-worth, differing emphasis by hospitals on medical versus nursing education, lack of suitable platforms to leverage their strengths, imperfect mechanisms for cultivating nursing master's graduates in hospitals, poor employment environment, and the dual pressures of epidemic prevention and daily clinical work in China.^[19,20]

Meanwhile, the study found that the PI scores of working graduate students were slightly higher than those of full-time graduate students. This may be related to their richer work and social experience, enabling them to more accurately position their roles and dynamically adjust their mindset and expectations according to external situations.^[21]

Negrillo Durán's study^[22] emphasized that the student era is the key period for establishing PI. Therefore, nursing educators should utilize this period to actively guide students, using the unique charm and advantages of the nursing profession to facilitate the formation of correct PI. After entering the workforce, nursing administrators should improve mechanisms for cultivating professional values, address workload and work pressure, provide

platforms for learning and growth, explore intrinsic value, and adopt nurse-led vocational psychological counseling to further enhance the PI of Master's degree nursing students.

PI of master's degree nurses is positively correlated with their AQ and perceived humanistic care of head nurses. This may be because nurses with a higher AQ have strong belief control when facing setbacks, can actively cope with adversity, and effectively use communication skills to manage relationships with patients and colleagues, thereby gaining respect and recognition.^[23,24] This study indicates that 39.7% of master's degree nurses wish to leave their positions or hold indifferent attitudes towards their profession. Domestic data also show that master's degree nurses generally have unclear professional concepts,^[25] and the COVID-19 pandemic has intensified their intention to resign.^[26] Therefore, nursing managers should pay attention to this phenomenon.

Nurse leader as a primary care manager, the organizational climate is closely related to its leadership style. A good organizational climate is more conducive to the master's degree in nursing to play their own professional advantages, lead the development of nursing professional discipline, and play a positive role in the establishment of PI and AQ.

This study showed that perceived humanistic care of head nurses can directly affect their PI ($\beta = 0.578, P < 0.001$), and AQ partially mediates the relationship between PI and perceived humanistic care of head nurses ($\beta = 0.269, P < 0.05$), suggesting that perceived humanistic care of head nurses can also indirectly affect PI through AQ. Behavioral science theory suggests that the environment and interpersonal relationships have a significant impact on human cognition and behavior.^[27] Relationships between coworkers and leaders are the main interpersonal relationships at work. Nurse leaders give care, such as life care accompaniment, work encouragement and support, etc., nurses feel that the organization to give respect, care, understanding and support, invariably give their confidence in overcoming difficulties, can improve their AQ.^[19]

Table 5: Overall model goodness-of-fit metrics results

Indicators	CMIN/DF	RMSEA	GFI	IFI	TLI	CFI
Optimal Indicator	<3	<0.08	>0.90	>0.90	>0.90	>0.90
Measurement results	1.406	0.052	0.927	0.956	0.942	0.955
Whether the standard is met or no	Yes	Yes	Yes	Yes	Yes	Yes

Table 6: Effect analysis of AQ as a mediating variable of perceived humanistic care of head nurses affecting PI (n=151)

Path	Effect Name	Effect Value	Lower	Upper	P
perceived humanistic care of head nurses=>adversity quotient=>professional identity	indirect effect	0.269	0.098	0.791	0.001
	Direct effect	0.578	0.132	0.822	0.024
	total effect	0.847	0.720	0.967	0.000

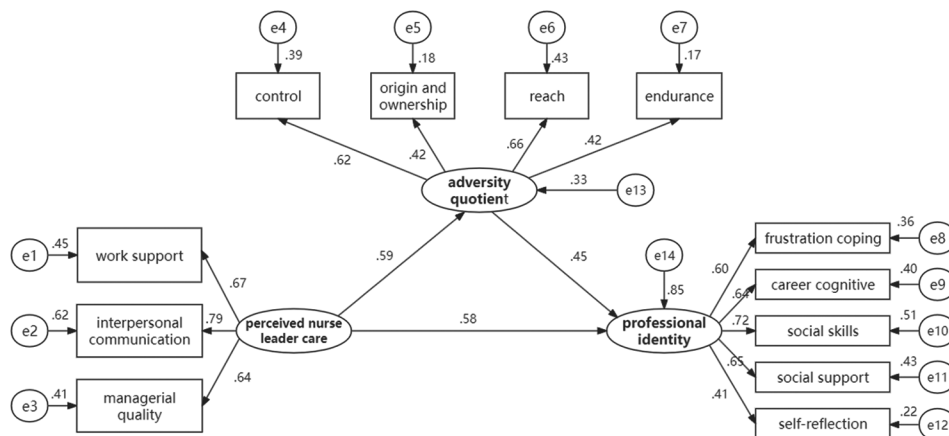


Figure 1: Structural equation model of the relationship between perceived nurse leader care, AQ and PI

People with a higher AQ have a stronger control intention of the dilemma, can quickly identify the causes of the dilemma, and take timely measures to minimize the negative impact and shorten the impact of adversity on them; they are more likely to experience a sense of well-being from their work^[25]; and they are more positive and positive towards their PI.^[28]

Therefore, nursing managers should give humanistic care at the right time and focus on cultivating the AQ of the master's nurses, which can be implemented by creating a training team, formulating a scientific, standardized and effective training program, and implementing the modules of relevant knowledge training, situational case sharing and coping, and training and assessment, to improve the level of AQ and then enhance the PI.

The study's limitations include a small sample size of the master's nurses and limited resources available to the research group. These constraints may have led to potential biases and reduced the generalizability of the findings. The relatively small sample size may not fully capture the diversity of experiences and perspectives among the master's nurses, potentially affecting the robustness of the results. Additionally, the limited resources could have constrained the depth of the data collection and analysis.

Future research should aim to address these limitations by expanding the sample size to include a more diverse and representative group of the master's nurses. Collaborating with higher platforms or institutions with greater resources could provide additional support and enhance the quality of the research. This would allow for a more comprehensive exploration of the relationships between PI, AQ and perceived humanistic care of head nurses, as well as a deeper understanding of the underlying mechanisms. Such improvements could lead to more accurate and generalizable findings, offering valuable insights for enhancing PI and addressing challenges within the nursing profession.

Conclusion

This study examined the current status and relationship between AQ, PI and perceived humanistic care of head nurses in master's degree nurses, and explored the mediating role of AQ between PI and perceived humanistic care of head nurses. The results showed that perceived humanistic care of head nurses, AQ and PI were at an intermediate level; the PI of master's degree nurses was positively correlated with AQ and perceived humanistic care of head nurses; and the AQ of master's degree nurses had an intermediate effect between their PI and perceived humanistic care of head nurses. Nursing managers should create a good organizational atmosphere, build an adversity quotient course training system, regular assessment and humanistic care to improve the ability of the master's degree nurses to face adversity and enhance the awareness of their own professional values.

Ethical statement

This study was approved by the ethics committee of the First Affiliated Hospital of Ningbo University (approval no.2022-

043A).We certify that the study was performed in according with the 1964 declaration of HELSINKI and later amendments.

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Conflicts of interest

There are no conflicts of interest.

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