



A Multidimensional Analysis of Social Responsibility Among Nursing College Students: A Perspective Based on Educational Environment and Personal Traits

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Abstract

This paper investigated the level of social responsibility and the factors influencing it among 602 nursing college students in a three-year senior high school in Quanzhou City, Fujian Province. Data were collected through a structured questionnaire and analysed using independent t-test, ANOVA, Pearson's correlation coefficient and multiple regression analysis, and it was found that the sense of social responsibility was significantly and positively correlated with professional satisfaction, nursing professionalism and sociability. Factors such as grade level and volunteer experience also influenced social responsibility. The study provides data support for nursing education and suggests ways to enhance nursing students' sense of social responsibility by optimising the curriculum and enhancing practice.

Keywords: professional satisfaction, nursing undergraduates, nursing professionalism, sociability,

social responsibility.

1 Introduction

Professional satisfaction is closely related to nursing professionalism among undergraduate nursing students, but existing research has rarely explored its interaction with sociability and social responsibility. Social responsibility refers to advocating for the needs of others and maintaining close attention and action on issues in organisations or in the international community, including individual or societal impediments to health related to poverty, precarious living conditions, abuse, violence, and lack of access to medical care [17]. The State Council of the People's Republic of China issued the Regulation on Nurses in January 2008, which specifies that nurses are required to fulfil their duties to protect life, alleviate suffering, and promote health, and emphasises the obligation of nurses to comply in public health emergencies [21]. The document stipulates that nurses are obliged to participate in public health and disease prevention and control work, and that in the event of natural disasters, public health incidents, and other emergencies that pose a serious threat to the



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life and health of the public, they should obey the arrangements and take part in medical rescue [21].

The Central Committee of the Communist Party of China and the State Council explicitly incorporated youth social responsibility education into the national talent strategy in the Medium- and Long-Term Youth Development Plan (2016-2025) released in 2017, proposing to "strengthen the ability of young people's social participation, and guide young people's orderly participation in political life and social public affairs" [5]. From the research on the social responsibility of ordinary college students, it can be seen that college students who participate in social services can effectively improve their awareness of social responsibility by means of increasing social participation, strengthening sociality, and enhancing community awareness. It was also found that social participation attitudes, civic behaviour, sociability, political awareness and professional leadership all have an impact on college students' awareness of social responsibility [23]. In particular, in Gao's [24] study of Guangdong college students, college students' existential pressure, social service experience, and intrinsic motivation are very important factors in the formation of college students' attitudes toward social responsibility. Looking at today's social responsibility from the perspective of nursing education, nursing university students also need to recognise this necessity. Nursing education at university is a critical time to develop awareness and values of responsibility for human life and social health as a healthcare professional in the future. Scholars, such as Muirhead et al. [6], established "social responsibility" as a core value for nursing school education, and made an effort to convey and reinforce the values of social responsibility to nursing students through the diversified pathways of curricular programmes within disciplines and non-disciplinary practical activities. Jia et al. [9] found in their study that nursing students exhibit a moderate level of responsibility, indicating that there is still room for improvement in this trait. The higher the self-esteem, the stronger the sense of responsibility, and the four dimensions of responsibility are also stronger. Warshawski [25] found in his research that there is a positive correlation between health activism and social responsibility, as well as between health activism and charity and environmental responsibility.

As mentioned above, the social responsibility of the average college student is often interpreted through its correlation with specific variables. However, there

is a gap in research addressing nursing university students' awareness of social responsibility. As a key healthcare organisation at the forefront of the healthcare system, professional nursing plays a central role in safeguarding the nation's health and delivering healthcare safely, and is the largest group of healthcare professionals. In light of this, the demand for social responsibility in professional nursing organisations is bound to rise progressively. In order to analyse the relevant variables affecting nursing university students' awareness of social responsibility, reference to existing research on social responsibility among general university students shows that the degree of sociability (covering satisfaction with professional education, service competence, etc.) as well as professional values have been shown to be associated with social responsibility. Therefore, it is of significant research value to take the lead in examining the correlation between nursing college students' social responsibility awareness and these variables. Based on this, the present study focused on comprehensively identifying the key factors affecting nursing students' social responsibility awareness, aiming to provide solid and reliable basic data to support the subsequent development of a social responsibility awareness programme for medical professionals.

This study aims to provide a comprehensive understanding of the factors influencing social responsibility awareness among nursing students with the following objectives.

- Firstly, based on the general characteristics of nursing university students, such as grade level and volunteer experience, the differences in their social responsibility awareness were analysed.
- Secondly, to gain insight into the performance of nursing students' satisfaction with their professional education, to explore the strength of their nursing professional intuition, to assess the level of development of their social traits, and to get a full picture of the actual degree of their sense of social responsibility.
- Third, the correlation between nursing college students' awareness of social responsibility and various variables such as satisfaction with professional education, nursing professional intuition, and sociability was systematically examined to clarify the pattern of association between the variables.
- Fourthly, the core factors affecting nursing

students' social responsibility awareness were precisely explored and clarified to provide directional guidance for subsequent intervention and training.

2 Methodology

This is a descriptive correlational study to identify the level of social responsibility awareness among nursing undergraduates and to determine the factors affecting that level.

2.1 Subject of the study

This study focused on college students majoring in nursing in a three-year higher vocational college in Quanzhou City, Fujian Province, China, with first- to third-year students selected as survey respondents. In terms of sample size calculation, the G-Power procedure was applied, and based on the set conditions - the significance level was set at 5% (two-sided test), the validity requirement was 95%, and the effect size was set at 0.15, while nine predictor variables were included and a certain amount of elimination space was set aside, it was ultimately determined that at least 264 subjects were needed. In order to ensure data adequacy and study reliability, the actual number of investigators was expanded to 310. In the questionnaire recovery and screening session, a total of 310 questionnaires were distributed. After careful verification, 8 invalid questionnaires with dishonest or incomplete answers were excluded, and the final number of valid questionnaires was 301, and this part of the questionnaire data will be used for subsequent in-depth analyses.

2.2 Research tools

In this study, the instrument used a structured questionnaire. The questionnaire consisted of 129 questions, including 18 questions on satisfaction with professional education, 18 questions on intuition of the nursing profession, 56 questions on sociability, 27 questions on awareness of social responsibility, and 8 questions on general characteristics. The specifics of each domain are listed below:

1. Personal characteristics

It consisted of eight questions including gender, grade level, any volunteer activities, professional courses, clinical placements, and level of professor help.

2. Satisfaction with professional education

The Program Evaluation Survey developed

and revised by Kim [11] and reconstructed by Qiuying [14] as an 18-question instrument related to professional satisfaction were used in this study [7]. The sub-domains of satisfaction with professional education cover general satisfaction (6 questions), cognitive satisfaction (6 questions), teaching satisfaction (3 questions), and satisfaction with the professor-student relationship (3 questions), and are rated on a 5-point Likert scale ranging from "Very Satisfied" (5) to "Dissatisfied" (1), and from "Very Satisfied" (5) to "Dissatisfied" (1). " (1), with higher scores indicating greater professional satisfaction. The Cronbach's alpha coefficient for this scale in this study was 0.90.

3. Nursing professional intuition

The Nursing Professional Intuition Scale was developed by Yeun et al. [26] and validated by Kim [12] through factor analysis and reduced to an 18-question instrument covering the subdomains of Professional Self-Concept (6 questions), Social Cognition (5 questions), Nursing Professionalism (3 questions), Role of the Nursing Profession (2 questions), and Independence in Nursing (2 questions). A 5-point Likert scale was used, ranging from "very much so" (5) to "not" (1), with negative questions reverse scored (e.g., questions 17 and 18), with higher scores indicating greater nursing professional intuition. The Cronbach's alpha coefficient for this scale in this study was 0.88.

4. Social

Kim [12] developed a sociality screening tool with 8 factors (autonomy, guidance, sociability, service, reliability, diligence, stability, and compliance), and Marciano et al. [15] reorganised the tool for the development of an educational project on social development of adolescents as an indicator of autonomy, guidance, sociability, and service, with 14 questions on each of the 4 sub-domains (56 questions in total). A 5-point Likert scale was used, ranging from "very much so" (5 points) to "not so" (1 point), with higher scores indicating more social development. The Cronbach's alpha coefficient for this scale in this study was 0.70.

5. Social responsibility awareness

Conrad et al. [4] developed a scale to measure the level of awareness of social responsibility, and the present study adopted the version adapted by Kim [10], which consists of 27 questions divided

into five subscales, namely, Attitude towards Responsibility (5), Responsibility Obligations (5), Responsibility Competence (3), Responsibility Effectiveness (7), and Responsibility Fulfilment (7). A 5-point Likert scale was used, ranging from "very much so" (5 points) to "no" (1 point), with higher scores indicating higher levels of perceived social responsibility. The Cronbach's alpha coefficient for this scale in this study was 0.89.

2.3 Data analysis

In this study, SPSS and other statistical software were used to analyse the data collected in multiple ways: in order to explore the role of general characteristics of nursing college students on the level of social responsibility, the basic characteristics of the data were first sorted out by using technical statistical analysis (e.g., descriptive statistics, normality test), then the differences between the groups were examined by the t-test for independent samples and the one-way analysis of variance (ANOVA), and the differences were clarified by using the post hoc test of Scheffe. At the same time, for the independent variables such as satisfaction with professional education, the distribution pattern and potential characteristics were further analysed through technical statistics; in order to clarify the association between the perception of social responsibility and the variables, the correlation between variables was quantified by Pearson's correlation coefficient analysis, and then the core factors influencing the level of perception of social responsibility were screened out through multiple regression analysis.

3 Findings

3.1 Personal characteristics

The personal characteristics and perceptions of social responsibility of the subjects of this study were as follows: in terms of gender, women predominated, with a total of 283 (94.0%). In terms of grade distribution, grade 4 had the largest number of participants, 148 (49.2%), grade 3 had 77 (25.6%), and grade 2 had 76 (25.2%). In terms of volunteer activity experience, those with no experience amounted to 232 (77.1%), far exceeding those with experience. For those with experience in service activities, the average monthly service time was 1 - 2 hours for 24 (33.7%), 3 - 4 hours for 22 (31.0%), and 7 hours or more for 17 (24.0%); the target clients were mainly young children and teenagers with 30

(42.3%), the elderly with 18 (25.4%), and others with 20 (28.1%). Regarding the current number of service activities, 109 (36.2%) thought that it was "not enough, very not enough". The degree of help from professional courses and clinical internships in social participation was high, with 184 (61.1%) and 198 (65.8%) respondents acknowledging this respectively, while 127 (42.2%) respondents said they were "dissatisfied, very dissatisfied" with the degree of help from professors in social participation. The majority of respondents started their volunteering activities in the 1st year, 231 (77.3%), 52 (17.4%) in the 2nd year, and 16 (5.3%) in the 3rd year. Differences in social responsibility by personal characteristics are shown in Table 1.

3.2 Satisfaction with professional education, nursing intuition, sociability, and sense of social responsibility

The total satisfaction of the study participants with professional education was rated at 3.88 ± 0.50 out of 5. From the sub-domains, the highest level of satisfaction with social awareness of professional education was 4.22 ± 0.62 points, and the level of general satisfaction, course satisfaction, and teacher-student relationship satisfaction decreased in that order. The mean score of nursing professional intuition was 3.74 ± 0.46 out of 5 and sociality score was 3.24 ± 0.20 . The total score of perceived social responsibility was 3.39 ± 0.39 out of 5, which was at a low level. Analysed in terms of sub-domains, the degree of responsible obligation (sense of obligation to social problems of the group or community to which the students belong) is the highest, with a score of 3.67 ± 0.45 ; the degree of responsible implementation (practical action on social problems) is 3.54 ± 0.56 ; the degree of responsible attitude (concern about social problems) is 3.52 ± 0.51 ; and the degree of responsible implementation of practical implementation of solutions to social problems that produce results is similarly 3.52 ± 0.51 ; the lowest level of responsibility is the ability to solve social problems, which is only 3.24 ± 0.58 . In addition, based on the general characteristics of the study population, the degree of awareness of social responsibility was found in the grade ($t=6.89$, $p<.001$), whether or not they were engaged in voluntary activities ($t=2.57$, $p=.011$), the school's contact with voluntary organisations ($t=7.02$, $p<.001$), and the degree of social participation in helping in the professional curriculum ($t=7.55$, $p<.001$), There were significant differences in the degree of social involvement help in clinical placement

Table 1. Table of differences in social responsibility by individual characteristics.

| variant | categorisation | n (%) | social responsibility | | |
|--|--------------------|------------|-----------------------|--------|------|
| | | | M± SD | t or F | p |
| distinguishing between the sexes | females | 283 (94.0) | 3.71±0.50 | 1.79 | .182 |
| | a male | 18 (6.0) | 3.47±0.40 | | |
| grade | first year | 76 (25.2) | 3.36±0.37 | 6.89 | .001 |
| | second year | 77 (25.6) | 3.48±0.43 | | |
| | third grade | 148 (49.2) | 3.61±0.41 | | |
| Whether or not they have been involved in volunteering | be | 69 (22.9) | 3.60±0.41 | 2.57 | .011 |
| | clogged | 232 (77.1) | 3.45±0.41 | | |
| Volunteer hours (per month) | 1~2 | 24 (34.8) | 3.52±0.43 | 2.25 | .064 |
| | 3~4 | 22 (31.9) | 3.67±0.44 | | |
| | 5~6 | 8 (11.6) | 3.65±0.38 | | |
| | ≥7 | 15 (21.7) | 3.64±0.36 | | |
| Service Targets | disability | 3 (4.2) | 3.82±0.09 | 2.38 | .052 |
| | Children and youth | 30 (42.3) | 3.63±0.41 | | |
| | older people | 18 (25.4) | 3.54±0.47 | | |
| | the rest | 20 (28.1) | 3.64±0.35 | | |
| Current number of service activities | adequacy | 77 (25.6) | 3.67±0.41 | 7.02 | .001 |
| | usual | 115 (38.2) | 3.49±0.36 | | |
| | inadequate | 109 (36.2) | 3.46±0.41 | | |
| Extent to which professional programmes contribute to social participation | accreditation | 184 (61.1) | 3.59±0.41 | 7.55 | .001 |
| | usual | 84 (27.9) | 3.40±0.37 | | |
| | disapproval | 33 (11.0) | 3.43±0.35 | | |
| The extent to which clinical placements contribute to social engagement | accreditation | 198 (65.8) | 3.59±0.38 | 8.04 | .001 |
| | usual | 82 (27.2) | 3.40±0.40 | | |
| | disapproval | 21 (7.0) | 3.38±0.48 | | |
| Extent to which professors are helpful in social participation | accreditation | 67 (22.3) | 3.71±0.44 | 10.05 | .001 |
| | usual | 107 (35.5) | 3.48±0.35 | | |
| | disapproval | 127 (42.2) | 3.46±0.39 | | |
| How often do you start volunteering | first year | 231 (77.3) | 3.53±0.39 | 1.51 | .199 |
| | second year | 52 (17.4) | 3.52±0.37 | | |
| | third grade | 16(53) | 3.36±0.58) | | |

(t=8.04, p<.001), and the degree of social involvement of professors (t=10.05, p<.001), which are shown in Table 2.

3.3 Relationship between satisfaction with professional education and nursing professional intuition, sociability, and social responsibility

The results of the correlation analysis between the variables showed that the level of perceived social responsibility was significantly and positively correlated with professional education (r=.54, p<.001), also significantly and positively correlated with nursing professional intuition (r=.46, p<.001), and had a significant positive correlation with sociability (r=.65, p<.001). Professional education satisfaction was significantly positively correlated with

nursing professional intuition (r=.65, p<.001) and also had a significant positive correlation with sociability (r=.50, p<.001). There was also a significant positive correlation between nursing professional intuition and sociability (r=.39, p<.001). The correlations between the variables are shown in Table 3.

3.4 Factors affecting awareness of social responsibility

In order to investigate the influencing factors of social responsibility perceptions of the study participants, this study conducted dummy variables for the variables of personal characteristics such as grade level to be concerned, having experience in service activities, whether there is a connection with the service organisations at the school level, the degree of social participation in helping in the professional course,

Table 2. Professional satisfaction, nursing professionalism, social.

| variant | realm | M± SD |
|--------------------------------|--------------|-----------|
| Major satisfaction | 1.94~5.00 | 3.88±0.50 |
| Generally meets | 2.00~5.00 | 3.96±0.61 |
| Professional social awareness | 1.67~5.00 | 4.22±0.62 |
| Subject satisfaction | 1.33~5.00 | 3.56±0.71 |
| Professor-student relationship | 1.00 to 5.00 | 3.35±0.83 |
| Nursing Professionalism | 2.00 to 5.00 | 3.74±0.46 |
| Nursing self-concept | 1.50 to 5.00 | 3.86±0.54 |
| social consciousness | 1.00 to 5.00 | 3.17±0.70 |
| Nursing specialisation | 2.00~5.00 | 4.00±0.60 |
| The role of nursing services | 2.00~5.00 | 4.01±0.66 |
| Nursing Innovation | 1.00 to 5.00 | 4.15±0.89 |
| social | 2.50~3.98 | 3.24±0.20 |
| self-governance | 2.36~4.14 | 3.24±0.29 |
| leading | 2.07~4.29 | 3.06±0.37 |
| social accomplishment | 2.57~4.00 | 3.26±0.25 |
| do sth at the expense of | 2.57~4.43 | 3.43±0.32 |
| social responsibility | 1.85~4.59 | 3.39±0.39 |
| posture | 1.80~5.00 | 3.52±0.51 |
| liabilities | 2.00 to 5.00 | 3.67±0.45 |
| abilities | 1.33~5.00 | 3.34±0.58 |
| validity | 1.00 to 5.00 | 3.49±0.52 |
| put into practice | 1.57~5.00 | 3.54±0.50 |

the degree of social participation in helping in the clinical internships, the degree of social participation in helping in the professors, etc., and included them together with the variables of satisfaction with the professional education, the nursing professional intuition, and the sociality Together with the variables of satisfaction with professional education, intuition of nursing profession, and sociability were included in the multiple regression analysis, and the results are detailed in Table 4.

In the validation of mutual independence of residuals in multiple regression analyses, the value of the DW test statistic was 1.813, which is close to 2, indicating that the residuals are independent of each other; for the test of multiple covariance, the range of tolerances was 0.554 to 0.758, which are all greater than 0.1, and the variance inflation factor (VIF) was 1.01 to 1.81, which indicates that there is no problem of multiple covariance among the independent variables. The regression model for the factors influencing the perception of social responsibility was statistically significant ($F=142.67$, $p<.001$), and the model coefficient of determination (R^2) was 0.51, which means that the explanatory power of the model was 51.0%. The variables that were analysed to influence the perception of social responsibility were sociability ($B=1.40$, $p<.001$),

nursing professional intuition ($B=0.24$, $p<.001$) and professional education satisfaction ($B=0.14$, $p=.016$).

4 Discussion

This is a descriptive correlational study focused on determining the level of social responsibility awareness and its influencing factors among first to third year nursing undergraduates. The results showed that the mean score of social responsibility awareness of the study participants was 3.39 out of 5, with the highest mean responsibility obligation score (3.67) and the lowest responsibility ability score (3.34) in the sub-domains. There are fewer previous national and international studies related to the social responsibility awareness of nursing college students or nurses, and a study of engineering college students yielded social responsibility competence scores that were contrary to the results of this study [2]. The results of this study showed that engineering students had higher social responsibility scores because they realised that their professional competence was essential to positively impacting society and solving social problems through engineering. On the other hand, the nursing students in this study had a higher sense of social responsibility but a lower competence score, suggesting that the nursing profession could focus on improving students' ability to solve specific social problems and make contributions. In the future, the nursing programme should further define its position and role.

The degree of social responsibility awareness among nursing undergraduates was characterised by higher grades than lower grades, which contradicts the findings of Rulifson and Bielefeldt's study with first and fourth year and postgraduate students of engineering universities, which showed that there was no difference in social responsibility awareness among students of different grades [20]. In that study, the degree of social responsibility awareness increased with the increase of grade level in 20% of all subjects, 23% decreased, and the majority (57%) of students reported no change. This suggests that some students' social responsibility awareness decreased with increasing grade level, which may be due to the fact that they perceived that professional education was not strongly associated with social responsibility awareness, or that they participated in voluntary activities less frequently. Taken together, the results of the existing studies can be hypothesised that the extent to which nursing university students' professional education fuelled their social participation and whether they participated in volunteering activities

Table 3. Correlation between variables.

| variant | Major satisfaction | Nursing specialisation | social | social responsibility |
|------------------------|--------------------|------------------------|------------|-----------------------|
| | r(p) | r(p) | r(p) | r(p) |
| Major satisfaction | 1 | | | |
| Nursing specialisation | .65 (.001) | 1 | | |
| social | .50 (.001) | .39 (.001) | 1 | |
| social responsibility | .54 (.001) | .46 (.001) | .67 (.001) | 1 |

Table 4. Factors affecting social responsibility.

| variant | B | SE | β | t | p |
|------------------------|-------|------|---------|-------|------|
| constant | -1.15 | 0.38 | | -3.04 | .003 |
| social | 1.40 | 0.12 | .71 | 11.95 | .001 |
| Nursing specialisation | 0.24 | 0.05 | .29 | 4.53 | .001 |
| Major satisfaction | 0.14 | 0.05 | .18 | 2.44 | .016 |

R=.51, Adj R² =.51, F=142.67, p<.001

in the present study were associated with social responsibility awareness, and that the two are logically consistent with each other.

In addition, the results of this study showed that only 23% of the nursing student respondents (71 in total) answered that they were “currently involved in volunteer activities”. However, further analyses revealed that personal characteristics such as whether or not they were involved in volunteer activities was a key factor influencing their awareness of social responsibility. The combined findings make it clear that whether subjects engage in volunteer activities or not plays a crucial role in enhancing their awareness of social responsibility. In view of this, in order to effectively improve the social responsibility awareness of nursing college students, it is necessary to integrate social responsibility values into the education of professional subjects. Specifically, a series of extracurricular activities can be designed and carried out to seek solutions to social, economic, and policy issues related to community health issues through the establishment of a partnership between the community and the campus. These extracurricular activities are expected to enhance nursing students’ awareness of social responsibility through community engagement practices, positive interpersonal interactions, ethical decision-making skills, and leadership development.

Among the many factors affecting nursing students’ perception of social responsibility, the dimension of sociability scored 3.24 on a 5-point out of 5 rating system. Further analyses revealed that the mean score for each sub-division of sociability was the highest at 3.43, while the guidance dimension

scored the lowest at 3.06. The study suggests that the higher the positive attitude towards service among nursing undergraduates, the more fully they develop sociability, which not only contributes to personal self-actualisation, but upholding the process of respecting the basic spirit of humanity and working satisfactorily with others significantly contributes to the development of sociability. Furthermore, the results of the regression analyses in this study clearly showed that sociability is the most critical factor influencing nursing students’ perception of social responsibility. Therefore, nursing education, as a practical discipline, needs to prioritise service learning based on the philosophy of experiential education, as well as nursing education activities focusing on the development of student leadership, if it is to respond to the needs of society and to function effectively and make a positive contribution [19].

Nursing students’ level of nursing professional intuition was associated with their perception of social responsibility, which scored 3.74 on a 5-point scale. Further analysis of the mean values for each sub-domain of nursing professional intuition revealed that the social cognition dimension of nursing had the relatively lowest score of 3.17. Scholars such as AHN et al. [1] conducted a study on nursing students’ nursing professional intuition, which revealed an overall score of 3.73 out of 5. Specifically, nursing students scored high on the role of the nursing system and nursing professional knowledge, but performed poorly on the social cognition dimension, earning a score of 3.43, a result that is similar to the present study. Compared to the nursing students’ perceived level of nursing expertise, their social cognition was low. Previous studies have shown that nurse image is a key factor influencing intuitions about nursing expertise [13]. Despite the increase in the recognition of the image of nurses with professional knowledge among nursing undergraduates, the social perception of nurses has not yet shifted in tandem. The results of regression analyses confirmed that nursing professional intuition is an important factor influencing the perception of

social responsibility, while nurse image is crucial for nursing students to form ideal nursing professional intuition. Based on the above findings, we believe it is necessary to explore in depth the effective ways to enhance nursing social cognition and improve the image of nurses, and to conduct extensive and in-depth research around this.

The results of this study showed that nursing university students' professional education satisfaction was positively correlated with their sense of social responsibility, i.e., the higher the professional education satisfaction, the stronger the sense of social responsibility. In the 5-point rating system, the overall score of professional education satisfaction was 3.88, and the average satisfaction of each sub-division reached 4.22, while the lowest satisfaction of teacher-student relationship was 3.35. This result fits with the results of a survey conducted by Jung et al. [8] using the same assessment tool on 588 nursing undergraduates, whose study showed that the overall professional education satisfaction score was 3.56, with the highest social perception satisfaction (4.08) and the lowest faculty-student relationship satisfaction (2.96) among the lower domains. It is worth noting that the low level of satisfaction with the professor-student relationship stems from the fact that previous studies have shown that the level of support of professors for studies and the level of closeness to professors are important factors affecting the satisfaction with the teacher-student relationship [22]. Differences in the perceptions of the subjects of professional education - professors and learners in terms of the content, characteristics and importance of professional programmes hinder the establishment of in-depth communication and intimacy between professors-students in nursing universities. Based on this, in order to improve the level of social responsibility of nursing students, the key is to create an environment that eliminates the gap in the perception of the unique characteristics and importance of nursing education, guides learners to actively participate in the educational process, and builds an intimate relationship between teachers and students through organic interactions within and outside the academy. It is recommended that nursing education programmes be developed and implemented to meet the needs of society and achieve high quality nursing education, to jointly convey the meaning and value of social responsibility, and to help nursing students cultivate leadership in the practice of social responsibility.

5 Conclusion

Through data collection and analysis, this study confirms that the social responsibility awareness of nursing college students is not only governed by a single factor of personal characteristics, but is the result of a combination of multidimensional factors, such as the educational environment, professional cognition, and social attributes. The study provides detailed data support for comprehensively analysing the current situation of nursing college students' social responsibility awareness and constructing an effective cultivation path.

The combined study found that professional education satisfaction, nursing professional intuition, and sociability were key positive factors influencing nursing college students' sense of social responsibility. In addition, variables such as grade level, volunteer service experience, university support for volunteer activities, clinical placement experience, and depth of professorial guidance significantly influenced nursing college students' social responsibility awareness. Specifically, the higher the level of professional education satisfaction, nursing intuition level, and degree of sociability, the more prominent the nursing college students' social responsibility awareness was. Although this study focuses on a specific group of nursing students in a specific region, and the findings need to be carefully considered when generalising the findings to other regions, the findings still provide important insights for nursing education practice. Based on this, the following recommendations are made:

- For one thing, nursing colleges and the nursing profession should collaborate to promote institutional innovation, broaden the field of volunteering, enrich the choice of service projects, and encourage nursing college students to participate in a wide range of interprofessional volunteering at the university level, deepen their knowledge of social responsibility and accumulate diversified social experiences in practice [3].
- Secondly, nursing colleges need to systematically optimise the curriculum system to develop special educational courses integrating different clinical practice scenarios oriented to social responsibility cultivation. By constructing an interdisciplinary and transdisciplinary teaching framework, it promotes nursing college students' comprehensive understanding of the social

value of the nursing profession and strengthens their practical ability to transform professional competence into socially responsible actions [16, 18].

- Thirdly, given that the research on social responsibility of nursing students and nurses is still in its infancy, the theoretical construction of the concept of social responsibility and the development of measurement tools are still insufficient in the nursing field. Subsequent research should focus on the analysis of the conceptual connotation, the construction of theoretical models and the development of localised measurement tools, in order to deepen the understanding of the nature of social responsibility in nursing through multi-dimensional empirical research, and to provide a scientific basis for nursing education and social practice.

Data Availability Statement

Data will be made available on request.

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Conflicts of Interest

The authors declare no conflicts of interest.

Ethical Approval and Consent to Participate

Not applicable.

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