

Study on the Relationship Between Perceived Social Support, Volunteer Service and Professional Identity for Medical Graduates

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Abstract: *Objective:* To study the correlation between professional identity and perceived social support and volunteer service of medical graduates. *Methods:* The social support comprehension scale, professional identity scale and voluntary service questionnaire were used to evaluate clinical medicine graduates from a medical college in Zhejiang province by random sampling. *Results:* 1. The professional identity of male medical graduates was higher than that of female medical graduates, and the perception of social support of non-only-children was significantly higher than that of only-children. 2. Social support, volunteer service and professional identity are positively correlated. 3. Volunteer service plays a mediating role in medical graduates' perception of the influence of social support on professional identity. *Conclusion:* To improve the understanding of social support for medical graduates, construct a voluntary service practice education model, and strengthen the training of medical students' professional identity.

Keywords: Perceived Social Support; Volunteer Service; Professional Identity; Medical Students

1. Introduction

Professional identity refers to learners' emotional acceptance and recognition of the subject they learn, their inner sense of appropriateness accompanied by positive external behavior, which is reflected in their emotional recognition, learning initiative, professionalism, and work initiative of the subject [4,8]. The professional identity of medical graduates can have an important impact on their employment attitudes, professional values, and professional practice activities [3]. Students and medical workers identity succession stage of medical graduates, many years theoretical study and clinical practice, in the process of knowledge and practice repeatedly polished, in different medical environment, their professional identity will be affected by employment prospects, the doctor-patient relationship, subject background, the differentiation of different factors such as social public opinion. Strong professional identity is conducive to students' career planning and affects the development of medical career [6]. Medical graduates are at an important point in their life, so the study of professional identity is helpful to improve the employment motivation and career loyalty of medical students and has certain strategic significance for the construction of medical higher education and social health system.

Voluntary service is an important part of practical education in colleges and universities [9], which helps to achieve the goal of college education, promote the all-round development of students, cultivate the sense of responsibility and dedication of college students, enhance the social significance of college education, and realize the cultivation of high-quality and applied medical talents [1,11]. In the process of social practice, volunteer service realizes ideological education and improves students' humanistic care ability and consciousness. Some studies have found that professional volunteerism can improve professional identity. Scholars Zhou et al. (2016) found that professional volunteer service activities can give full play to their role, that is, to enhance nursing students' sense of identity to nursing and enhance their sense of social responsibility. The special attribute of medical career determines that the training of medical talents pays more attention to professional dedication. It is of great research significance to explore the relationship between volunteer service and medical students' professional identity.

Perceived social support refers to an individual's recognition of external support, positive emotional experience and satisfaction degree obtained from various kinds of social support [8]. Understand that social support can buffer the impact of stressful conditions or stressful situations on individual physical

and mental health [4]. The social support of medical graduates mainly comes from family and school. It is understood that the improvement of social support is conducive to the medical students' more investment in professional learning and greater willingness to pursue postgraduate and doctoral studies. Public health emergencies prompt public opinion to pay more attention to the medical field and the training of medical talents, and the improvement of social attention and support affects the understanding and support level of medical graduates to a certain extent. Lv et al. (2021), Wu et al. (2021), Wang et al. (2014) believe that understanding social support is correlated with professional identity, that understanding social support plays an important role in medical students' professional identity and self-achievement, and that good social support can improve medical professional identity. Previous studies have pointed out that social support has a positive impact on college students' volunteer service behavior. The higher the social support, the more attention and support college students get, the more inclined they are to participate in volunteer activities and give back to others and the society.

Two hypotheses are proposed in this study: hypothesis 1: social support can positively predict medical graduates' volunteer service, and social support and volunteer service can positively predict medical graduates' professional identity. Hypothesis two is that volunteer service plays an intermediary role in medical graduates' perception of social support and professional identity.

2. Data and Methods

2.1 Data

135 valid questionnaires were collected, with an effective recovery rate of 96.4%, including 65 boys and 70 girls. 59 in urban areas and 76 in rural areas; There were 66 only children and 69 non-only children.

2.2 Tools

2.2.1 Perceived social support scale

This study applied the social support rating scale developed by Xiao [9]. The scale used to measure college students to get the support of family, social, school, etc, divided three dimension, 10 entries, respectively is objective support - the actual objective support, subjective support, experience the emotional support and support utilization degree, the active use of social support, level 4 score, the higher the score said the higher understanding level of social support. The Kronbach α coefficient of the total table in this study is 0.721.

2.2.2 Professional Identity Scale

This study draws on the professional identity scale of college students compiled by Qin [4] and adapts it appropriately according to the characteristics of medical students. The scale includes professional cognitive identity, professional emotional identity, professional behavioral identity and professional appropriability identity. Likert 5 score is adopted (1= "very inconsistent, 5=" very consistent "), and the score reflects the level of professional identity. The Kronbach α coefficient of the total table in this study is 0.932.

2.2.3 Volunteer service questionnaire

This study medical graduates volunteer service activities including the type of voluntary service, investigation contents harvest feeling, behavior, frequency, the service will contact, work sense of responsibility, professional degree, including frequency, contact service will, of responsibility, professional degrees by 4 points, the higher the score indicates the frequency or intensity. As shown in Figure 1, among the types of voluntary services, medical graduates mainly provide medical guidance in hospitals (83.7%), community service (48.15%), blood donation (41.48%), free diagnosis (36.3%), nursing home and welfare home service (23.7%), and recycling of old books and clothes (11.85%). As shown in Figure 2, among the benefits of volunteer activities, 92.59% of medical graduates believe that they can contact the society, increase social experience, and accumulate social experience through volunteer service; 62.22% of medical graduates believe that they can help others and themselves by applying theoretical knowledge in practice; 57.04% of medical graduates believe that they can strengthen their sense of social responsibility. 54.07% of medical graduates think that the ability to solve problems can be improved.

2.3 Statistics process

The questionnaire was anonymous and collected after the test. The data obtained were analyzed and processed by SPSS 22.0. T test and regression analysis were mainly used to carry out the study. Stepwise regression method and Bootstrap test were used to analyze the mediating effect.

3. Results

3.1 Descriptive Statistics

There were 135 valid samples in this questionnaire. Volunteer service was divided into four dimensions: behavioral frequency, service willingness, job responsibility and professional connection; social support was divided into three dimensions: subjective support, objective support, and support utilization; professional identity was divided into four dimensions: cognitive dimension, emotional dimension, behavioral dimension, and relevance dimension.

Table 1: descriptive statistics of medical graduates perceived social support, volunteer service and professional identity

| | N | Range | Min. | Max. | Mean | | S.d. | Variance | Skewness | | Kurtosis | |
|--------------------------|------|-------|-------|-------|--------|------|-------|----------|----------|------|----------|------|
| | Num. | Num. | Num. | Num. | Num. | Sx | Num. | Num. | Num. | Sx | Num. | Sx |
| Volunteer service | 135 | 12.00 | 7.00 | 19.00 | 13.674 | .184 | 2.137 | 4.565 | -.074 | .209 | .358 | .414 |
| Perceived social support | 135 | 26.00 | 19.00 | 45.00 | 31.889 | .457 | 5.305 | 28.144 | .040 | .209 | -.275 | .414 |
| Professional identity | 135 | 36.00 | 34.00 | 70.00 | 56.170 | .671 | 7.795 | 60.769 | -.126 | .209 | .062 | .414 |
| Behavior frequency | 135 | 3 | 1 | 4 | 2.21 | .053 | .612 | .375 | 1.043 | .209 | 1.861 | .414 |
| Service commitment | 135 | 4 | 1 | 5 | 3.16 | .086 | 1.002 | 1.003 | -.198 | .209 | -.636 | .414 |
| Responsibility | 135 | 4 | 1 | 5 | 4.12 | .061 | .713 | .508 | -.929 | .209 | 2.410 | .414 |
| Professional connection | 135 | 3 | 2 | 5 | 4.19 | .063 | .735 | .540 | -.994 | .209 | 1.548 | .414 |
| Subjective support | 135 | 16.00 | 12.00 | 28.00 | 21.637 | .324 | 3.767 | 14.188 | -.300 | .209 | -.505 | .414 |
| Objective support | 135 | 6 | 0 | 6 | 2.33 | .114 | 1.326 | 1.759 | .471 | .209 | -.632 | .414 |
| Support utilization | 135 | 9.00 | 3.00 | 12.00 | 7.926 | .170 | 1.980 | 3.920 | .274 | .209 | -.189 | .414 |
| Cognitive dimension | 135 | 11.00 | 9.00 | 20.00 | 16.519 | .183 | 2.130 | 4.535 | -.104 | .209 | .670 | .414 |
| Emotional dimension | 135 | 11.00 | 4.00 | 15.00 | 12.082 | .182 | 2.120 | 4.493 | -.757 | .209 | 1.042 | .414 |
| Behavior dimension | 135 | 11.00 | 9.00 | 20.00 | 16.378 | .213 | 2.470 | 6.102 | -.166 | .209 | -.355 | .414 |
| Appropriate dimension | 135 | 10.00 | 5.00 | 15.00 | 11.193 | .207 | 2.402 | 5.769 | -.257 | .209 | -.365 | .414 |
| Active cases | 135 | | | | | | | | | | | |

3.2 Demographic variables of medical graduates' perceived social support, volunteer service and professional identity

As can be seen from Table 2, the gender difference in professional identity is statistically significant ($P < 0.05$). Male clinical medicine graduates have higher professional identity than female clinical medicine graduates. There was no statistically significant difference in professional identity between students' place of origin and only child. The perceived social support of non-only-child was higher than that of singleton ($P < 0.05$). There was no significant difference between gender and student origin in understanding social support statistics. There was no significant difference in gender, place of origin and only child.

Table 2: Demographic variables of medical graduates' understanding of social support, volunteer service and professional identity ($x \pm s$)

| Variables | | Member | Volunteer service | Perceived social support | Professional identity |
|------------|--------|--------|-------------------|--------------------------------|--------------------------------|
| Gender | Female | 65 | 13.69 \pm 2.48 | 31.31 \pm 5.49 | 57.77 \pm 7.52 ¹⁾ |
| | Male | 70 | 13.66 \pm 1.78 | 32.43 \pm 5.10 | 54.69 \pm 7.80 ¹⁾ |
| Origin | Rural | 76 | 13.58 \pm 2.06 | 32.43 \pm 5.20 | 56.86 \pm 7.37 |
| | City | 59 | 13.80 \pm 2.24 | 31.19 \pm 5.40 | 55.29 \pm 8.29 |
| Only child | Yes | 66 | 13.92 \pm 2.10 | 31.18 \pm 5.98 ²⁾ | 55.80 \pm 7.83 |
| | No | 69 | 13.43 \pm 2.16 | 32.57 \pm 4.51 ²⁾ | 56.52 \pm 7.80 |

1) Sig.(two-tailed) =0.034; 2) Sig.(two-tailed) =0.028

3.3 Correlation analysis of medical graduates' perceived social support, volunteer service and professional identity

As shown in Table 3, perceived social support and volunteerism, perceived social support and professional identity, volunteerism and professional identity are positively correlated. There is a positive correlation between the frequency of volunteer behavior, service intention, job responsibility, professional connection and professional identity, and there is a positive correlation between the frequency of volunteer behavior, service intention and perceived social support.

Table 3: Correlation analysis of perceived social support, volunteer service and professional identity among medical graduates

| Variables | Professional identity | Perceived social support |
|--------------------------|-----------------------|--------------------------|
| Volunteer service | .503** | .261** |
| Behavior frequency | .254** | .246** |
| Service commitment | .366** | .193* |
| Responsibility | .320** | 0.144 |
| Professional connection | .443** | 0.151 |
| Perceived social support | .330** | 1.000 |

** At 0.01 level (two-tailed), the correlation was significant. * At level 0.05 (two-tailed), the correlation was significant

3.4 Analysis of the mediating effect of volunteer service participation on medical graduates' understanding of social support and professional identity

Stepwise regression was used to examine the mediating effect of medical graduate volunteer service on perceived social support and professional identity of medical students. According to the results of correlation analysis, four dimensions of perceived social support were used as independent variables to complete the following three mediating steps. Step 1: Take perceived social support as independent variable and professional identity as dependent variable to test the regression analysis of perceived social support to professional identity. Step 2: Take perceived social support as the independent variable and volunteer service as the dependent variable to test the regression analysis of the former to the latter. Step 3: Take perceived social support and volunteer service as the dependent variable, and professional identity as the dependent variable to test the regression analysis of the former to the latter.

Table 4: The mediating effect of volunteer service participation on perceived social support and professional identity

| Dependent variable | independent variable | R | R ² | Adjusted R ² | F | β | t | P |
|-----------------------|--------------------------|-------|----------------|-------------------------|--------|---------|-------|--------|
| Professional identity | Perceived social support | 0.330 | 0.109 | 0.102 | 16.290 | 0.330 | 4.036 | <0.001 |
| Volunteer service | Perceived social support | 0.261 | 0.068 | 0.061 | 9.707 | 0.261 | 3.116 | 0.002 |
| Professional identity | Perceived social support | 0.544 | 0.296 | 0.285 | 27.740 | 0.214 | 2.823 | 0.005 |
| | Volunteer service | | | | | 0.448 | 5.918 | <0.001 |

It can be seen from Table 4 that perceived social support has an impact on professional identity, and the influence coefficient (standardized) is 0.330, $P < 0.001$. When there is an intermediary variable

volunteer service, the influence coefficient (standardized) is 0.214, $P < 0.05$, indicating that the independent variable social support still has an impact on the dependent variable, but the influence coefficient becomes smaller. It shows that voluntary service plays a partial intermediary role.

Bootstrap test results showed that volunteer service had a significant mediating effect between perceived social support and professional identity, and the 95% confidence interval did not contain 0 [95%CI=(0.0596,0.3093)], indicating that the mediating effect was significant, accounting for 35.35% of the total effect (see Table 5).

Table 5: Bootstrap method was used to test the mediating effect of voluntary service on the understanding of social support and professional identity

| | Effect | BootSE | BootLL CI | BootUL CI | Relative effect value |
|------------------|--------|--------|--------------|--------------|-----------------------|
| Total effect | 0.4854 | 0.1203 | 0.2475 | 0.7233 | |
| Mediating effect | 0.1716 | 0.0634 | 0.0596 | 0.3093 | 35.35% |
| Direct effect | 0.3138 | 0.1112 | 0.0939 | 0.5337 | |

4. Conclusions

This study result shows that the professional identity of medical male undergraduates is higher than the female graduates. The reason may be that medical study takes longer time than other majors in China, except architecture. Plus, clinical medical work is known for plenty of pressure. Male students are more willing to be a clinical doctor in some way [7]. Non-onlies' perception of social support is significantly higher than that of the onlies, which is consistent with the research results of Liang et al. [6]. The reason may be that non-onlies have brothers and sisters, so they have more communication and support from peers than the onlies, and family communication is richer. At the same time, families with only children tend to be spoiled, parents tend to neglect spiritual communication with their children, and only children tend to think that there is less social support subjectively.

The results of correlation analysis shows that volunteer service is positively correlated with perceived social support, and the frequency of volunteer service and willingness to serve are positively correlated with perceived social support. Perceived social support can positively predict volunteer service. The higher perceived social support is, the higher the degree of support is from school, family, personal social contact, and public opinion. Medical students will pass the support to others and are more willing to participate in volunteer service and put it into action. Understanding that social support is significantly positively correlated with professional identity is consistent with the research results of Lv et al. [6]. The understanding of social support can positively predict professional identity. The more fully medical students get emotional care, identity respect and understanding of support during the undergraduate period, the more active they are in the medical professional learning process, the closer and firmer the medical professional learning goal, and the higher medical professional identity. There is a significant positive correlation between volunteer service and professional identity, and the four dimensions of volunteer service are all positively correlated with professional identity. Volunteer service can positively predict professional identity. Medical students' participation in volunteer service can enhance their understanding of society, improve humanistic care of medical students through social practice, and then improve medical professional identity.

Through multiple regression analysis, we found that volunteer service plays a partial mediating role in understanding the influence of social support on professional identity. Understanding that social support can improve medical students' professional identity and indirectly affect medical graduates' professional identity through volunteer service. Therefore, the first is to increase the emotional care of medical students, and to improve the understanding of social support of medical graduates. Colleges and universities should strengthen the mental health care of medical students at all stages, explore a new model of home-school contact in colleges and universities, and create an "emotional post station" for medical graduates. Create a good social atmosphere that respects medicine and doctors and protect medical graduates' expectations for career prospects. The second is to combine mental health education with moral education and actively construct the model of volunteer service practice. Medical colleges and universities should take the initiative to combine the characteristics of disciplines, strengthen the construction of campus culture, build a diversified volunteer service activity platform, let medical students play a role in volunteer service, realize personal value, and then make clear the initial intention of professional learning and perfect career planning. Thirdly, pay attention to the cultivation of professional spirit and humanistic spirit, and strengthen the cultivation of medical students' professional

identity. Enrich medical humanities education activities, give play to the role of medical masters as role models, cultivate medical students' emotional and behavioral identity to their profession, and improve medical graduates' professional belonging and identity.

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