

The public perception of nurses. An Italian cross-sectional study

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Abstract. *Background and aim:* The public opinion about the nursing profession can influence health service users, the work performance of nurses, health policies, and the choice to become a nurse. The aim of this study was to investigate the perception of nursing in modern society. *Methods:* A cross-sectional study was conducted with a sample of 398 participants belonging to four population groups: Very Important Persons (VIPs), general population, upper-school students, and nursing students. This phenomenon was assessed through the Nursing Attitude Questionnaire (NAQ) and several additional items. *Results:* The results highlighted that general population and nursing students showed a significantly better image of nurses than did VIPs and upper-school students. *Conclusions:* Overall, the sample acknowledged nurses fundamental connotations and functions, although secondary school students poorly recognized nurses' professional autonomy, and VIPs' judgements seemed to be more sensitive to the image of nurses given by mass media.

Key words: nursing profession perception, nursing students, upper-school students, general population, Very Important Persons, Nursing Attitude Questionnaire

Background

The individual mentality, thought, and perception arise not only from social history, folklore, ethnology, sociology, and anthropology but also from art, literature, and cinema. The latter expression of art does not always reflect contemporary or historical reality and is often influenced by authors, film-makers or directors. In fact, artists and entertainers sometimes express their thoughts according to their own convenience or depending on the audience features (1). This can affect the social image of the nurse, given that the opinions of people are often strongly influenced by mass media (2). The current public opinion about nurses is varied and incoherent: society does not always correctly evaluate

the evolution of the nursing profession through innovation and education (3) and is not always aware that modern nursing is based on established theories (4).

In addition, the public opinion knows only a portion of the nurse's tasks and the requirements for practising nursing. Many people believe that nurses just need of empathy skills, rather than specific competences and training to act in their professional practice (5). In fact, although in 1859 Florence Nightingale had already claimed that nurses are independent professionals (6), they were historically seen as hierarchically subordinate to physicians (7) because people tend to accept the authority of physicians over that of nurses (8). The literature highlights that a negative image of the nursing profession causes stress, job dissatisfaction,

frustration and decreased work performance in nurses, affecting the quality of care (9) and the work climate (10). This image can also influence health service users, considering the organizational and management policies of the health systems (2), and the personal choice to become a nurse (11). Moreover, it is possible that people do not choose or recommend other persons to become a nurse because of low payment, high workload, and poor career opportunities (5), and particularly due to a lack of adequate social recognition (12).

In this regard, young people tend to believe that nurses carry out difficult and occasionally unpleasant tasks, and do not receive an adequate salary compared to hard work they perform and to very long and difficult training they complete (13). However, other surveys conducted in secondary schools showed that despite the awareness of the difficulties that the nursing courses involve, upper-school students who are inclined to choose the nursing profession are primarily motivated by the pleasure of looking after sick patients (14) and educating the population on a healthy lifestyle (15). Recently, a study conducted on Italian nursing students revealed that the development of professional identity could be related to intrinsic factors, such as being inclined to be benevolent and to act honestly and selflessly, and partly to adequate learning models and environments (16).

Finally, notable research showed that collective imagination perceives the nursing profession as valuable, despite the enormous difficulties and sacrifices that it often requires; nurses are seen as those who carry out functions that most other people would not want to perform. Hence, this role generates admiration and credit from society (17).

The contrasting views in the literature about nurses (7, 8, 13, 17), along with the deep change occurred in the nursing profession after Bologna Process, highlighted the need to better understand the perception of nurses in Italy. In fact, such changes in the educational policies could have reasonably resulted in a mutation of the perceived image of the nurse which can influence in turn the policies of national health services. Since the population is the main user of their services (18), this study aimed to investigate the perception of the nursing profession by select population groups representing modern society.

Methods

Design

A cross-sectional study was conducted in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines for observational studies (19).

Sample

A convenience sample of 398 participants composed of the following four categories was recruited: 1) celebrities, i.e. Very Important Persons (VIPs), such as actors/presenters, authors, journalists, stylists/tailor, film-makers, make-up artists, directors, audio visual technicians, football players, and psychologists, all over Italy; 2) fourth- and fifth-year students attending technical-professional upper-schools or high-schools; 3) a general population group during the 'International Nurses Day'; 4) first- and third-year students attending a Nursing Degree course. The overall sample, except VIPs, was recruited in a region of Northern Italy, i.e. Emilia Romagna. After having been informed about the aims and study design, the participants voluntarily agreed to be interviewed.

Data collection

After informed consent was obtained from each participant, data were collected between January and July 2016.

Instruments

The Nursing Attitude Questionnaire (NAQ) was used to assess the perceived image of the nurse. It was designed by Hoskins (1983) and first adopted by Toth (1998) to evaluate values and feelings about the image of the nurse perceived by certain populations, such as common citizens, nursing students and upper-school students (20, 21). In 1998, Toth reported a Cronbach coefficient of 0.75 (21). Since an Italian version of the questionnaire was not available, a translation from English into Italian was performed by two external independent translators guaranteeing all the original

items, followed by a back translation of the reconciled Italian version into English carried out by a mother tongue. After comparing the Italian and the original versions, any interpretative differences between the two questionnaires were removed. This research represents a preliminary study using an Italian translation of the NAQ scale, but further studies could provide the Italian version of the scale.

The questionnaire is composed of 30 Likert items, ranging from 1 (strongly disagree), 2 (mildly disagree), 3 (neutral), 4 (mildly agree), to 5 (strongly agree), and requires approximately ten minutes to be completed. The questionnaire explored the following five areas: professional role (10 items), professional values (7 items), stereotypes (6 items), professional activities (4 items), and nursing professionals' features and responsibilities (3 items). Moreover, each group was asked to answer some additional questions: five for upper-school students, eight for the general population group, seven for VIPs, and four for nursing students. Additional questions were the following: upper-school students were asked whether they would have an interest to choose a Nursing degree course, and the general population group was asked to express their predisposition to become a nurse. This latter variable, together with the VIPs propensity to play the nursing role, was assessed in some hypothetical situations: (i) if the nurse's category will be able to promote its own image, (ii) if mass media will refer positively to the nursing profession, and (iii) if society will no longer consider nursing stereotypes of the past. Participants expressed their level of agreement with these additional items on a Likert scale (range 1 to 5). Moreover, all participants were also asked if: (i) they had ever had a contact with a nurse, (ii) they had ever been hospitalized, (iii) they know a nurse, and (iv) they would recommend a child and/or relative to become a nurse.

Data analysis

Data were analysed using SPSS version 19.0 software (IBM Corp., Armonk, NY, USA). Sample features and NAQ scores were represented by frequencies, percentages, measures of central tendency (mean), and measures of dispersion (standard deviation). For continuous variables, the normality of the distribu-

tion was checked using the Kolmogorov-Smirnov test. The independent-samples t-test was used to compare NAQ mean scores between two independent groups in the case of a normal distribution; otherwise, the Mann-Whitney U test was used in the case of a non-normal distribution. Additionally, a one-way ANOVA or a Kruskal-Wallis test was used to compare NAQ mean scores among more than two groups in the case of normal or non-normal distributions, respectively. An additional post hoc analysis was performed using the Tukey test in order to highlight all the possible multiple comparisons of the NAQ mean scores. To analyse the correlation between ordinal variables, Spearman Rho was calculated. All statistical tests were two-sided with a 5% significance level. Finally, the Cronbach's alpha value was calculated in order to evaluate the NAQ internal consistency and estimate its reliability coefficient.

Results

Table 1 summarizes the overall characteristics of the sample composed of 398 subjects divided into four categories: 1) Very Important Persons (20.4%), 2) general population group (27.6%), 3) upper-school students (24.6%), and 4) nursing students (27.4%). The highest mean age was detected among the general population group (45.3 [SD 16.2]), while female gender prevailed in all groups, except for upper-school students.

In this population, 27.6% of the VIPs were graduated, compared to 22.7% of the general population group. In the latter group, all of this set were employed, mainly in the private sector (20.0% were freelance professionals and 20.9% were labourers), followed by the public sector (31.8%). The 79.6% of the upper-school students attended technical or professional schools, while the remaining 20.4% attended high schools (mainly classical studies and science education). A total of 60.9% of the sample reported to have been hospitalized at least once, with percentages obviously lower among the younger groups, and 87.5% said to have had at least one contact with nurses during their life. However, the general population group had more often had contact with nurses (95.5%) than the

Table 1. Characteristics of the sample

Subgroups	Very Important Persons (VIPs) (N=81)	Upper-school students (N=98)	Nursing students (N=109)	General population group (N=110)	Total (N=398)
Age (years)					
Mean±SD	37.7±10.8	18.7±1.6	21.2±2.5	45.3±16.2	30.85±15.20
Max	63.0	28.0	36.0	96.0	96.0
Min	17.0	17.0	19.0	18.0	17.0
Age groups					
Up to 25 years	16.0%	98.0%	94.9%	19.1%	57.6%
From 26 to 55 years	76.5%	2.0%	5.1%	52.7%	32.8%
Over 55 years	7.4%	--	--	28.2%	9.6%
Gender					
Female	58.8%	30.6%	82.1%	61.8%	58.9%
Education					
Upper-school	55.3%	--	--	47.3%	50.5%
Academic degree	27.6%	--	--	22.7%	24.7%
Post-degree	5.3%	--	--	3.6%	4.3%
Technical-Professional upper-school	--	79.6%	--	--	--
High school	--	20.4%	--	--	--
Job					
Actor/Presenter	19.8%	--	--	--	4.0%
Author	6.2%	--	--	--	1.3%
Public employee	--	--	--	31.8%	8.8%
Journalist	6.2%	--	--	--	1.3%
Freelance professional	--	--	--	20.0%	5.5%
Workman	--	--	--	20.9%	5.8%
Retired	--	--	--	11.8%	3.3%
Film-maker	17.3%	--	--	--	3.5%
Director	7.4%	--	--	--	1.5%
Stylist/Tailor	11.1%	--	--	--	2.3%
Audio visual technician	4.9%	--	--	--	1.0%
Makeup artist	9.9%	--	--	--	2.0%
Other	16.0%	--	--	15.4%	7.5%
Knowing a nurse	38.3%	43.9%	58.9%	73.6%	55.1%
Being hospitalized	66.7%	56.1%	42.1%	79.1%	60.9%
Having had contact with a nurse	87.3%	79.6%	--	95.5%	87.5%

other groups, and most of them (73.6%) declared to have known a nurse.

Data analysis showed a statistically significant difference among the NAQ scores in the four analysed categories ($p < 0.001$), highlighting the highest value (109.3) in the general population group, and the lowest (102.6) in upper-school students. A deeper analysis (post hoc) of all possible multiple comparisons of the NAQ mean scores detected in the four investigated groups showed a potential differentiation of these four

primary categories in two homogeneous groups: VIPs with upper-school students and the general population group with nursing students.

Overall, females reported higher NAQ mean scores than males (108.1 [SD 8.9] and 104.1 [SD 8.9], respectively), even though, among the investigated categories, this difference was statistically significant only in the nursing students group (females: 109.0 [SD 7.5]; males: 105.0 [SD 6.6]). However, the differences of the NAQ score between age groups did not show

Table 2. NAQ reliability according to subgroups

Subgroups	Reliability (α)
Very Important Persons	0.726
Upper-school students	0.637
Nursing students	0.633
General population group	0.750
Total	0.695

homogeneous values within the investigated categories (Table 2). The total NAQ had a moderate internal reliability (Cronbach's $\alpha=0.695$) (Table 3).

The items whose mean values were higher than the 90th percentile corresponded to the following statements:

1. Nurses act as a resource for people with health problems;
2. Being a nurse takes intelligence;
3. Nursing activities are important as medical activities.

In contrast, the items whose mean values were lower than the 10th percentile corresponded to the following statements:

4. Nurses who seek advanced roles really such as being physicians;
5. Nurses are adequately paid for their work;
6. One of the advantages for a nurse is to marry a physician.

A deepened analysis was also performed to measure, for each NAQ item, the level of disagreement (Δ) among the four investigated subgroups. Nursing students recognized the ability of nurses to work in an independent way more than upper-school students, whereas the general population group acknowledged the need to wear a white uniform for nurses more than nursing students. Table 4 shows the items and categories for which the highest differences (above the 90th percentile) were observed between these subgroups.

The analysis of additional items showed that 'having had contact with a nurse' produces significant effects on mean NAQ scores in the overall sample, unlike 'Having been hospitalized' and 'Knowing a nurse' (Table 5).

Table 3. Groups comparison analysis of NAQ scores

Subgroups	Very Important Persons (VIPs) (N=81)	Upper-school students (N=98)	General population group (N=110)	Nursing students (N=109)	Total (N=398)
(Mean \pm SD)					
Gender					
Male	102.8 \pm 9.5	101.8 \pm 8.1	108.3 \pm 9.2	105.0 \pm 6.6	104.1 \pm 8.9
Female	106.1 \pm 8.8	104.4 \pm 8.4	110.0 \pm 10.1	109.0 \pm 7.5	108.1 \pm 8.9
	p>0.05	p>0.05	p>0.05	p<0.05	p<0.001
Age groups					
Up to 25 years	105.4 \pm 8.1	102.6 \pm 8.3	109.6 \pm 9.3	108.5 \pm 7.7	105.9 \pm 8.6
From 26 to 55 years	104.8 \pm 9.7	100.0 \pm 1.4	107.7 \pm 10.1	109.6 \pm 6.5	106.2 \pm 9.8
Over 55 years	99.8 \pm 7.1	--	112.2 \pm 8.9	--	110.2 \pm 9.7
Total	104.5 \pm 9.3	102.6 \pm 8.2	108.2 \pm 7.8	109.3 \pm 9.8	106.4 \pm 9.2
					p<0.001

Table 4. Items with the highest disagreement (Δ) among the categories (over the 90th percentile)

Item	Δ	Lowest-value category	Highest-value category
Nurses should have a right to strike	1.13	Upper-school students	General population group
Nurses should wear a white uniform in order to be identified	1.34	Nursing students	General population group
Nurses are able to work in an independent way	1.39	Upper-school students	Nursing students

Table 5. Analysis of additional items

	Very Important Persons (VIPs) (N=81)	Upper-school students (N=98)	General population group (N=110)	Nursing students (N=109)	Total (N=398)
Subgroups	(Mean±SD)				
Having had a contact with a nurse					
Yes	105.1±9.4	102.8±8.2	109.7±9.6	--	106.3±9.6
No	102.6±8.6	101.9±8.6	102.2±10.3	--	102.8±9.3
	p>0.05	p>0.05	p>0.05		p<0.05
Having being hospitalized					
Yes	105.1±9.4	102.0±8.6	110.0±10.0	107.9±7.0	106.7±9.5
No	103.4±9.1	103.3±7.8	106.8±8.7	108.7±8.2	106.0±8.6
	p>0.05	p>0.05	p>0.05	p>0.05	p>0.05
Knowing a Nurse					
Yes	104.6±9.9	103.1±7.9	109.5±9.6	108.4±7.0	107.2±9.0
No	104.5±9.0	102.2±8.6	109.0±10.3	108.4±8.7	105.5±9.4
	p>0.05	p>0.05	p>0.05	p>0.05	p>0.05

For the total sample, the perception of the nursing image correlates well with the propensity to 'recommend children and/or relatives to become a nurse' (Spearman $Rho=0.302$; $p<0.01$), while for upper-school students, it correlates poorly with the interest to 'choose a Nursing degree course' (Spearman $Rho=0.183$; $p>0.05$). For the VIP group, NAQ scores correlated well with the propensity to act the part of a nurse, whether nurse's category will be able to promote its own image throughout the mass media, and in a weaker way whether the society will no longer consider nursing stereotypes of the past. Instead, for the general population group, the propensity to undertake the nursing career correlated well with NAQ scores, even if nurses will be unable to promote their own image (Table 6).

Discussion

Overall, the sample showed a favourable perception of the nursing image. A better judgement on the nursing profession was expressed by women, especially female students in Nursing, compared to men, as well as by subjects over 55 years old (except for VIPs) compared to younger people. This could be since women often demonstrate more empathy than males; such personality trait plays a key role in nursing care (22). The perception of the nursing image seems to be influenced by belonging to specific social subgroup: compared to the general population group, VIPs had a less perceived positive image of the nurse. Secondary school students expressed opinions like those of VIPs,

Table 6. Correlation coefficients (Spearman Rho) between NAQ and additional items scores

Subgroups	Additional Items	Rho
All	Would recommend children and/or relatives to become a nurse	0.302*
Upper-school students	Would have interest to choose Nursing degree course	0.183
Very Important Persons	Propensity to act the part of the nurse if:	
	1) mass media will refer positively to the nursing profession	0.272*
	2) society will no longer consider nursing stereotypes of the past	0.135
	3) nurses category will be able to promote its own image	0.378*
General population group	Propensity to become a nurse	0.347*
	Propensity to become a nurse if:	
	1) mass media will refer positively to the nursing profession	0.053
	2) society will no longer consider nursing stereotypes of the past	0.161
	3) nurses category will be able to promote its own image	0.387*

* $p<0.05$

in contrast with nursing students, whose opinions were closer to those of the general population group. This phenomenon can be justified by the fact that teenager students take the VIPs as model (1) more often than the general population and nursing students do who both live in the real world where also nurses work (16).

However, the total sample recognized the primary connotations and functions of nurses, who were defined as important resources for patients and intelligent persons. Since the sample demonstrated the awareness of equal dignity for nurses' and physicians' roles, the resulting image of nursing is strengthened in terms of professional autonomy and dignity, in contrast to the literature (7, 8, 23). The sample also acknowledged the need for a better economic reward for nurses, as also highlighted by other researchers (13). Nevertheless, some of the four subgroups showed disagreement about some themes investigated through the NAQ items, such as the right to strike and the professional autonomy of nurses. In fact, secondary school students poorly recognized these features of nurses, as opposed to what the general population group and nursing students declared. Moreover, referring to the opportunity to wear a white uniform, nursing students and the general population group were in disagreement. This is probably because the former group considers it as an obligation, while the general population group, who often find themselves to be patients, may find it difficult to distinguish health professionals.

Although previous studies showed that people would not recommend their acquaintances to become a nurse (5), the image of the nurse perceived by this sample seems to be positively influenced by having had previous contact with nurses. This consideration for the nursing role increased along with the propensity to encourage a child or a relative to undertake the nursing career.

Regarding VIPs, NAQ scores increased along with the propensity to act the role of the nurse if nurses would be able to promote their own image and if the mass media would spread a good opinion of the nursing profession. Therefore, VIPs give more importance to mass media divulgation. Instead, among the general population group, the propensity to undertake the nursing career increased with their own NAQ scores, even if the nurses' category will not be able to promote its own image.

Regarding upper-school students, perhaps their interest to choose the nursing degree course is influenced by mass media, since their own perception of the nursing image poorly correlated with the interest to choose a Nursing degree course.

Conclusions

The primary limitation of this study is that it was conducted on a non-probabilistic sample; thus, its results are not fully generalizable. Since, to the best of our knowledge, this report describes the first Italian study assessing the opinions of different subgroups of society regarding the image of the nurse, comparisons with the literature could not be performed. Furthermore, no other health care categories were included in this research, e.g. nurses, physicians, or nurse assistants, as opposed to the vast literature on the above topics (24).

This research represents a preliminary study using an Italian translation of the NAQ scale, but further studies could perform the validation of the Italian version through confirmative factorial statistics.

This study helps to determine the opinions of a participants of Italian society regarding the nursing profession. Overall, the sample expressed a favourable view of nurses and acknowledged their primary connotations and functions in health care settings. Hence, changes in the educational policies perhaps have led to a variation of the perceived image of the nurse, since the sample demonstrated to be aware of equal dignity of nurses' and physicians' roles and acknowledged the need for a better economic reward for nurses. Moreover, the image of the nurse perceived by the total participants seems to be positively influenced by having had previous contact with nurses. Nevertheless, several differences among the investigated subgroups were detected. For example, the general population group and nursing students together showed a significantly better image of nurses than did VIPs and upper-school students, as well as females compared to males.

Further research aimed to assess the perception of nurse's image could be useful to better understand whether such perception could affect the choices of people with different socio-cultural backgrounds to become a nurse.

Highlights

- Modern society acknowledges nurses fundamental connotations and functions.
- Nurses are best perceived by the general population group and nursing students.
- Secondary school students poorly acknowledge a professional autonomy of nurses.
- Mass media affects the choices of Very Important Persons to act a nursing role.
- The peoples' image of nurses is positively influenced by having had contact with them.

Ethical considerations

The research was approved by broadcast editors, headmasters of schools, 'Italian Federation of Nurses', an Italian professional organization that looks after the interests of nurses, and the University Board.

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