

Original Article

Interprofessional School Team Members' Views on the School Nurse Role: A Cross-Sectional Study

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Abstract

Background. School health services are characterized by complexity and diversity around the world. The school nurse (SN) role is multifaceted and sometimes not fully acknowledged by the school team members.

Objective. The study aim was to investigate the SN role from the interprofessional school team members' perspectives and factors affecting their views.

Methodology. A cross-sectional study was conducted in a Greek sample of 197 school nurses, 142 teachers and 137 health and social care professionals, using the Role Questionnaire. Exploratory factor analysis generated four subscales and their respective scores were used as dependent variables in subsequent statistical analyses, bivariate analyses and multivariate linear stepwise regression models.

Results. Total score and subscale scores did not present significant differences between professional categories. Factors affecting teachers' and health and social care professionals' perceptions concerning SNs' roles included the degree to which they considered collaboration with them to be significant ($p=0.006$ and

$p=0.001$). Factors affecting SNs' perceptions of their own roles were the total amount of hours in continuing education ($p=0.041$), the years of service as SNs ($p=0.025$) and working in special education ($p=0.040$).

Conclusions. Collaboration with SNs seems to increase awareness of the SN role. Educators and program developers should focus on programs of interprofessional continuing education for the appropriate preparation of professionals working in education.

Keywords: continuing education, health and social care professionals, interprofessional collaboration, school nurse, school team, teachers.

Background

School health services are characterized by high complexity and diversity around the world, where factors such as the unique national organizational conditions of educational and healthcare system, and the provision of education and health affect the school nurse's (SN) role (Baltag, Pachyna & Hall, 2015; Michaud et al., 2021).

SNs try to balance the relationship between student education and health, and collaborating with students, families, teachers, other health and social care professionals, the community and managers, always adhering to the standards of good practice (Maughan, Duff & Wright, 2016; NASN, 2020; Drakopoulou et al., 2022).

Concerning SNs' views about their roles, school nursing literature highlights SNs' interventions and activities in each of the key principles of care coordination, leader-ship, quality improvement, and community/public health, in the framework for 21st century school nursing practice (Best, Oppewal & Travers, 2018). This framework from the National Association of School Nurses (NASN) recognizes a variety of SN roles, showing the need to maintain their competence, knowledge and skills, indicating the requirement for active participation in the interdisciplinary team and the need for continuing education in working within the school team (Morse et al., 2022). Factors that impact SNs' perceptions concerning their role are, among others, SN knowledge and skills, professional development, and participation in team and cluster meetings (Guzys, Kenny, & Bish, 2013).

Additional factors have been described such as the type of school (general or special education)

(Shimizu & Katsuda, 2015), sector of education (state or private) (Ardahan & Erkin, 2018), SN interaction with the school team (Maughan, 2009; Maughan & Adams, 2011), SN professionalism (Maughan & Adams, 2011) and continuing education (Jenkins, 2016), and SN high educational level (Alexandropoulou, Sourtzi & Kalokerinou, 2010).

On the other hand, SNs' colleagues seem to understand and recognize only part of the broad role of the SN (Boutsoli, Palantza & Adamakidou, 2021). Particularly, teachers consider that the primary role of a SN is to provide first aid, and address students' health problems while focusing on the disease management of students with chronic illnesses (Mastrogiannis et al., 2013; Biag et al., 2015).

They also recognize that the presence of an SN in a school reduces students' absenteeism (Ardahan & Erkin, 2018), improves student concentration and performance (Biag et al., 2015) and provides timely health care to students (Green & Reffel, 2009). Some factors affecting teacher perceptions concerning SNs' roles have been described: the recognition that SNs are an integral part of the school team (Maughan & Adams, 2011; Shimizu & Katsuda, 2015; Ardahan & Erkin, 2018), working in a private or state school (Alexandropoulou, Sourtzi & Kalokerinou, 2010), a teachers' personal interaction with SNs, and SN professionalism (Ardahan & Erkin, 2018).

Regarding the views of health and social care professionals working with SNs, it has been emphasized that the SN contributes to managing students' complex needs, thereby reducing the need for other community health services (Moore, McConkey & Duffy, 2003).

The limited literature concerning the SN role was a strong motive for conducting this study, which also highlights how SNs' colleagues regard them today.

The study of SNs' views concerning their roles as well as the views of their colleagues is considered of utmost importance as it seems to reflect the obstacles and facilitators to fulfill their roles at intrapersonal and interpersonal levels (Uhm, Choi, & Lee, 2020). A better understanding of SNs' views of their role and the factors that influence them will guide targeted interventions for their professional development in order to fulfil their public health role (Bergren, 2017).

To the best of our knowledge, SNs' roles in Greece have not been studied and there is no relevant research exploring the views of teachers, health and social care professionals, as well as SNs themselves about the SN role and factors affecting them.

The aim of this study was to investigate the SN role from the interprofessional school team members' perspectives, particularly from the perspective of SNs themselves, teachers and health and social care professionals working in schools, along with the factors affecting their views.

Methodology

Participants: The convenience sample of this cross-sectional study included 180 SNs, 142 teachers and 154 allied health and social care professionals (special support staff, occupational therapists, physiotherapists, speech therapists, psychologists, social workers, etc.), working in general (state and private schools) and special education school units in Greece. Survey data was collected from February 2019 to June 2019. Potential participants for the study were approached via a national online forum for SNs, teachers and other health professionals working in education. The forum was private, open only to the abovementioned professionals following application for membership. An information letter and a questionnaire were posted on this forum. The invitation to participate in this study was disseminated through the social and

professional networks of the researchers (PB and EP) who are SNs themselves.

Instruments: The first part of the questionnaire consisted of the participants' demographic and employment characteristics, which were selected both from factors emerging from a review of the literature (such as specialty, postgraduate and continuing education, type of school, sector of education, importance of presence and collaboration with SNs) and from data which could be considered to be linked to the aims of the study (such as gender, age, years of service, school sector, work location). The second part was derived from the School Nurse Role Questionnaire (Green & Reffel, 2009) regarding the role of the SN, which is based on the "Advocacy Talking Points" (Will, 2006), as emerged from the NASN Issue Brief: "Role of the School Nurse". It includes 25 questions with answers on a 5-point Likert scale. The questionnaire was selected as it was rather short and fulfilled the NASN standards. Completion time was estimated to be about 10-12 minutes.

The translation and intercultural adaptation of the School Nurse Role Questionnaire was carried out in accordance with guidelines (Galani, 2019). Translation of the questionnaire from the English language into the Greek (forward translation) and then translation of the translated questionnaire in Greek back into the source language (backward translation) were conducted by two different English native speakers working independently. Then, an expert panel recruited by the primary researchers consisting of 2 SNs with over 15 years working experience, one academic specialized in school nursing and one researcher in the field examined and validated the content of the questionnaire version that resulted from the forward and backward translation. One focus group (5 SN, 2 teachers and 3 health and social care professionals) was organized so as to check for item understandability by assessing the questionnaire from the respondent's perspective and, finally, the expert panel reviewed each item and finalized the questionnaire, taking into consideration the focus group feedback and cross-cultural adaptation needs. No difficulties were mentioned in understanding the context of the Greek version.

Principal Component Analysis: Principal component analysis was conducted and the varimax with Kaiser normalization rotation method was used in order to group the 25 questions of the School Nurse Role Questionnaire into new subscales. Adequacy of the model was assessed with the Bartlett's test of sphericity and Kaiser-Meyer-Olkin measure. In that case, p-value for Bartlett's test of sphericity was <0.001 and Kaiser-Meyer-Olkin measure was 0.949 indicating that factor analysis could be conducted. Four factors were extracted and explained 60,2% of the variability (Table 1). Cronbach's alpha coefficient for the questionnaire was 0.95 indicating excellent reliability of the questionnaire items. Cronbach's alpha coefficient for all four factors was >0.78 indicating good reliability. The four (4) new subscales that emerged referred to the "nursing care" role, the role related to the "implementation of health policies and programs", the role related to the "promotion of public/community health" and the "liaison with family, community and healthcare providers" role. There were no subscales in the original instrument; the grouping of the items highlighted specific dimensions that are related to particular SN's roles and new findings and relationships emerged. The total score of the School Nurse Role Questionnaire was calculated as the mean value of the answers to the 25 questions, with the highest scores indicating agreement with the positive expression of the role of the SN.

Ethical issues: The study protocol was approved by the Postgraduate Program Ethical Committee of the Nursing Department of the University of West Attica (Approval number 15/07-02-2019). An information letter preceding the questionnaire, explained the study aims, stated voluntary participation, the possibility of exiting the study at any stage and obtained informed consent. The questionnaires were completed anonymously via a web-based electronic form which allowed only one answer per participant. Permission was also received from the creators of the School Nurse Role Questionnaire.

Results

Table 2 shows the descriptive characteristics of the participants. In particular, 41,4% were SNs, 29,8% were teachers and 28,8% were health and social care professionals, 52,6% of the participants worked in special education. The vast majority of the study participants (93%) worked in a school where there was a SN and 92,3% of the teachers and health and social care professionals considered the presence of the SN at the school and their collaboration with them very much/extremely important. Almost one out of 5 of the SNs had attended further education seminars in school nursing; the median value of attendance hours was 52 (IR=143.5 hours).

Scores in the four subscales ("nursing care" role, "implementation of health policies and programs" role, "promotion of public/community health" role and "liaison with family, community and healthcare providers" role) and the total score did not present significant differences between professional categories (SNs, teachers, health and social care professionals) ($p>0.05$) (Table 3).

Regarding the results of the linear regressions, an increase in the degree to which teachers considered the presence of the SN significant was related to an increase in the score of all the SN roles and total score ($p<0.05$). Teachers working in private education had higher ratings in the "liaison with family and the community and healthcare providers" role ($p=0.012$) and the total score of the SN role ($p=0.028$) compared to those teachers working in state education. Teachers working in the Attica metropolitan area had higher ratings in the "nursing care" role ($p=0.03$), the "promotion of public/community health" role ($p=0.013$) and the total score of the SN role ($p=0.032$) compared to those working in other areas in Greece (Table 4).

An increase in the degree to which health and social care professionals considered the presence of the SN at school and their

collaboration with them significant was related to an increase in the score of almost all the SN roles (except the “public/community health promotion” role score) and the total score ($p < 0.05$) (Table 5).

Regarding the SNs, an increase in the hours of attending seminars in school nursing was related to an increase in the “nursing care” role score ($p < 0.001$), the “public/community health promotion” role ($p = 0.013$), and the total score ($p = 0.041$). Additionally, an increase in the years

of service as a SN was related to an increase in the “implementation of health policies and programs” role score ($p = 0.025$) and the “liaison with family, community and healthcare providers” role score ($p = 0.032$). Finally, SNs working in special education scored higher in the “promotion of public/community health” role, than those working in general education ($p = 0.002$), as well as had a higher total score of the School Nurse Role Questionnaire ($p = 0.040$) (Table 6).

Table 1. Exploratory factor analysis for the items of the School Nurse Role Questionnaire.

Question no	Factor ^a				Name of new factor	Cronbach's Alpha
	1	2	3	4		
1	0.159	0.011	0.014	0.746		
2	0.209	0.164	0.090	0.726		
3	0.143	0.175	0.366	0.624		
4	0.113	0.439	0.227	0.473	Nursing care role	0.78
7	0.211	0.407	0.254	0.507		
5	0.202	0.540	0.298	0.412		
8	0.098	0.568	0.496	0.124		
9	0.295	0.716	0.229	0.117		
10	0.341	0.545	0.415	0.011	Role concerning public / community health promotion	0.89
11	0.514	0.512	0.243	0.079		
12	0.469	0.587	0.018	0.266		
13	0.404	0.428	0.261	0.337		
14	0.516	0.630	0.049	0.193		
15	0.601	0.421	0.140	0.242		

16	0.703	0.096	0.254	0.196	Liaison with family community and healthcare providers role	0,88
17	0.679	0.239	0.376	0.088		
18	0.586	0.203	0.366	0.169		
23	0.624	0.330	0.290	0.164		
24	0.602	0.170	0.135	0.193		
25	0.697	0.223	0.173	0.190		
6	0.122	0.407	0.596	0.384	Role related to the implementation of health policies and programs	0.86
19	0.490	0.296	0.539	0.081		
20	0.468	0.259	0.580	0.119		
21	0.385	0.091	0.688	0.231		
22	0.380	0.182	0.662	0.209		
Total score of the School Nurse Role Questionnaire						0.95

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. α Rotation converged in 14 iterations.

Table 2. Participants' demographics and work-related characteristics.

Characteristic	N (%)
Gender	
Male	79 (16.6)
Female	397 (83.4)
Age (years)	
< 30	160 (33.7)
31 - 40	201 (42.3)
41 - 50	75 (15.8)
51 - 60	37 (7.8)

> 60	2 (0.4)
Specialty	
School nurse	197 (41.4)
Teacher	142 (29.8)
Health and social care professional	137 (28.8)
Postgraduate education	
Master's degree related to Community Nursing and / or School Nursing	23 (4.8)
Master's degree in another subject	234 (49.2)
PhD	2 (0.4)
Years of service	
1-5	248 (52.5)
6-10	107 (22.7)
11-15	47 (10.0)
16+	70 (14.8)
Type of school	
General education	208 (43.8)
Special education	250 (52.6)
Other	17 (3.6)
Sector of education	
State	458 (98.5)
Private	7 (1.5)
Work location (region)	
Attica	294 (61.9)
Other	181 (38.1)

If you are not a school nurse, how important do you consider the presence of the school nurse at school and the collaboration with him/her?

not at all important	1 (0.4)
a little important	3 (1.1)
rather important	17 (6.2)
very important	89 (32.2)
extremely important	166 (60.1)

If you are a school nurse, have you attended any school nursing training seminars?

No	104 (26.6)
Yes	76 (19.4)

If you have attended school nursing training seminars, what was the training length in hours?^a

52.0 (143.5)

Values are presented as absolute (n) and relative (%) frequencies. a: median (IR).

Table 3. New subscales scores descriptive statistics per professional category.

Score	Mean value	SD	Median	Minimum value	Maximum value	P value
Nursing care role score						0.503 ^a
School Nurse	4.5	0.5	4.6	2.6	5.0	
Teacher	4.4	0.5	4.4	2.4	5.0	
Health and social care professional	4.4	0.5	4.4	1.4	5.0	
Role related to the implementation of health policies and programs score						0.247 ^a

School Nurse	4.0	0.7	4.0	1.0	5.0	
Teacher	3.8	0.8	3.8	1.8	5.0	
Health and social care professional	3.9	0.7	4.0	1.0	5.0	
Role related to the promotion of public/ community health score						0.096 ^a
School Nurse	4.2	0.6	4.1	2.4	5.0	
Teacher	4.1	0.7	4.1	2.0	5.0	
Health and social care professional	4.2	0.6	4.3	1.1	5.0	
Liaison with family, community and healthcare providers role score						0.693 ^a
School Nurse	4.1	0.6	4.0	2.1	5.0	
Teacher	4.0	0.7	4.0	1.7	5.0	
Health and social care professional	4.1	0.7	4.0	1.0	5.0	
Total score for the School Nurse Role Questionnaire						0.304 ^a
School Nurse	4.2	0.5	4.2	2.6	5.0	
Teacher	4.1	0.6	4.0	2.3	5.0	
Health and social care professional	4.2	0.6	4.2	1.1	5.0	

a: ANOVA; *Reference category

Table 4. Multivariate linear regression analyses' results for the teachers' sample.

	B coefficient	95% CI for B	P-value
Nursing care role score (R²=16.8%, p<0.001)			
Work location (Attica*/Other)	-0.329	-0.625 to -0.033	0.030
Presence of a school nurse at the school you work (Yes*/No)	-0.343	-0.669 to -0.018	0.039
Perceived importance of the presence of a school nurse at your school and his/her cooperation with you	0.248	0.118 to 0.377	<0.001
Role related to the implementation of health policies and programs score (R²=8.4%, p<0.001)			
Age	0.203	0.010 to 0.396	0.039
Years of service	-0.180	-0.347 to -0.014	0.034
Perceived importance of the presence of a school nurse at your school and his/her cooperation with you	0.256	0.066 to 0.446	0.009
Role related to the promotion of public/ community health score (R²=14.9%, p<0.001)			
Type of school (general/special education*)	0.297	0.057 to 0.536	0.016
Work location (Attica*/Other)	-0.481	-0.859 to -0.103	0.013
Presence of a school nurse at the school you work (Yes*/No)	-0.532	-0.974 to -0.090	0.019
Perceived importance of the presence of a school nurse at your school and his/her cooperation with you	0.213	0.043 to 0.382	0.014
Liaison with family, community and healthcare providers role score (R²=16.5%, p<0.001)			
Sector of education (public/private)	0.838	0.186 to 1.489	0.012

Perceived importance of the presence of a school nurse at your school and his/her cooperation with you	0.272	0.101 to 0.443	0.002
Total score for the School Nurse Role Questionnaire (R²=15.1%, p<0.001)			
Sector of education (public/private*)	0.650	0.071 to 1.230	0.028
Work location (Attica*/Other)	-0.336	-0.642 to -0.030	0.032
Perceived importance of the presence of a school nurse at your school and his/her cooperation with you	0.214	0.062 to 0.365	0.006

*Reference category

Table 5. Multivariate linear regression analyses' results for the health and social care professionals' sample.

	B coefficient	95% CI for B	P-value
Nursing care role score (R²=6.4%, p<0.001)			
Perceived importance of the presence of a school nurse at your school and his/her cooperation with you	0.213	0.068 to 0.357	0.004
Role related to the implementation of health policies and programs score (R²=4.3%, p<0.001)			
Perceived importance of the presence of a school nurse at your school and his/her cooperation with you	0.224	0.035 to 0.413	0.021
Liaison with family, community and healthcare providers role score (R²=12.9%, p<0.001)			
Perceived importance of the presence of a school nurse at your school and his/her cooperation with you	0.291	0.111 to 0.471	0.002
Total score for the School Nurse Role Questionnaire (R²=11.4%, p<0.001)			

Perceived importance of the presence of a school nurse at your school and his/her cooperation with you	0.270	0.116 to 0.424	0.001
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*Reference category

Table 6. Multivariate linear regression analyses' results for the school nurses' sample.

	B coefficient	95% CI for B	P-value
Nursing care role score ($R^2=28.1\%$, $p<0.001$)			
Gender (male*/female)	0.401	0.073 to 0.728	0.017
Age	0.208	0.042 to 0.375	0.015
Hours of attended seminars in school nursing	0.001	0.000 to 0.001	<0.001
Role related to the implementation of health policies and programs score			
($R^2=11.1\%$, $p<0.001$)			
Gender (male*/female)	0.649	0.074 to 1.225	0.028
Years of service as a school nurse	1.667	0.218 to 3.115	0.025
Role related to the promotion of public / community health score			
($R^2=30.5\%$, $p<0.001$)			
Type of school (general/special education*)	0.482	0.179 to 0.784	0.002
Hours of attended seminars in school nursing	0.001	0.000 to 0.001	0.013
Liaison with family, community and healthcare providers role score			
($R^2=17.4\%$, $p<0.001$)			
Work location (Attica*/Other)	-0.413	-0.746 to -0.080	0.016
Years of service as a school nurse	1.356	0.120 to 2.592	0.032
Total score for the School Nurse Role Questionnaire ($R^2=18.9\%$, $p<0.001$)			

Type of school (general/special education*)	0.315	0.015 to 0.615	0.040
Hours of attended seminars in school nursing	0.001	0.000 to 0.001	0.041

*Reference category

Discussion

This study investigated the SN role from the perspective of SNs, teachers and health and social care professionals working in schools and demonstrated that their points of view concerning the SN roles did not differ significantly. This finding suggests that other professionals have an equal understanding of the SN role, as similarly stated by Green & Reffel (2009) and may be explained by the continually evolving SN role whose scope and content tends to be equally recognized between professionals.

Almost all non-SN participants considered the SN presence and collaboration with them very/extremely important, and highly evaluated almost all the SN roles. This may reflect the positive experience of other professionals' collaborating with them. It seems that professionals collaborating with SNs have increased awareness of the SN's multidimensional role. This is mainly observed in special education where school staff work closely with SNs as part of the special education team (Yonkaitis & Shannon, 2017; Shannon & Yonkaitis, 2017). The necessity of SNs collaborating with other health professionals was pointed out by SNs themselves (Hoekstra et al., 2016; Morse et al., 2022), while SNs perceived that educators who worked with them came to better understand the SN's roles (Maughan & Adams, 2011). Independently from professional category, additional organizational factors for school health services have been described such as staffing, resources, funding, continuing education, interprofessional collaboration and others; these possibly affect the professionals' views concerning the SN role constituting either barriers or facilitators (Uhm, Choi & Lee, 2020). It could be supported that a way to

anticipate lack of school team members' awareness concerning SN's roles is to increase school community awareness of the SN roles generally (Green & Reffel, 2009); this could be succeeded through the increase of SN participation in the school team (Morse et al., 2022).

A very interesting finding of this study was that SNs who had high number of hours of continuing education in school nursing had high ratings in almost all the SN roles. SNs' training and continuing learning increased their knowledge and confidence to accomplish their duties or roles in their daily work (Greenshields, 2018) and changed their perceptions concerning their roles in the provision of public health and leadership (Maughan, 2009). A framework of continuing education for SNs has also been proposed (Shin & Roh, 2020) as well as their imperative need for continuing education has also been documented (Morse et al., 2022).

On the other hand, teachers, based on their own experience and necessity, suggested SN participation in ongoing professional development and learning opportunities because these are critical in the understanding of their roles (McCluskey, Kendall & Burns, 2019). The school-nursing-specific continuing education programs, in addition to enriching knowledge, highlight new roles and practices, enhance and enable skills, competencies and modify attitudes that respond to the new roles (Bullock et al. 2002; Vought-O'Sullivan et al, 2006). It seems that the more one knows about one's profession, the better one understands one's roles and their scope. Lack of training for continuous professional education is a common problem for SNs in many countries (Baltag, Pachyna & Hall, 2015) and their need to be educated for "anything" had also been noted (Morse et al., 2022). In Greece, where the

responsibility of continuing education is left to the individual, SNs pursue it according to their needs; there is no compulsory training during the school nurses' professional life, neither are there any policies enforcing SN continuing education.

Our finding indicates the need for organizing programs of continuing education for SNs. To conclude, SNs' professional development could be achieved and strengthened through continuing education in order to keep up to date with best practices and to undertake leadership roles (Lambert, 2006), to provide high quality care (Vought-O'Sullivan et al., 2006), as well as to improve SNs' interprofessional collaboration (Dale et al. 2021).

SNs working in special education had higher scores in the "promotion of public/community health" role and total score of the SN role than those working in general education. A previous study indicated the deficient legislative framework as well as the lack of strategic planning of school services as factors influencing SN's health promotion activities in a special school in Greece (Alexandropoulou, Sourtzi & Kalokerinou, 2010).

Years later, under the new legislation concerning SN roles, our study revealed that working in special education seems to engage more SNs in health promotion activities. Uniquely in special education, the schools are staffed with SNs who are responsible for the design and implementation of health promotion programs, and the close collaboration with all school professionals in order to fulfill their goals with special needs students; while very often, SNs need to probe into the family dynamics so as to identify relationships, problems, needs that concern the family as a unit, and its individual members. SNs working in special education seem to have greater knowledge and higher awareness of their role. Their participation in each stage of the educational process, interdisciplinary team collaboration and the various roles they take on (Yonkaitis & Shannon, 2017; Shannon & Yonkaitis, 2017) in order to ensure that all students with special needs are "healthy, safe, and ready to learn"

(NASN, 2016) seem to contribute to a comprehensive understanding of their roles.

Similarly, teachers working in special education had a higher rating of the "promotion of public/community health" SN role compared to teachers working in general education. In the Greek educational system, in special education SNs are responsible for organizing and implementing interventions for the health promotion of all students. In contrast, SNs working in general education undertake individualized care of only one specific student with a chronic health issue. Consequently, teachers in special education have had the opportunity to observe and understand the specific SN role for the whole school community. Thus, it seems that teachers understand the SN roles when observing them first hand (Boutsoli, Palantza & Adamakidou, 2021).

Moreover, teachers working in the metropolitan area of Attica and those working in private schools had higher ratings in the total score of the SN role. A previous Greek study found that only 6 out of 144 teachers in a specific province were aware of the existence of SNs in special education schools (Mastrogiannis et al., 2013).

Additionally, differences in the views of teachers working in private or state schools have already been mentioned (Alexandropoulou, Sourtzi & Kalokerinou, 2010). It seems that teachers collaborating with SN have a better understanding of a SN's role.

Another finding is that SNs with more years of service as SNs had greater rating of the "implementation of health policies and programs" role and "liaison with family, community and healthcare providers" role. The implementation of health policies and programs is an extended leadership role (NASN, 2020) in which, probably, an inexperienced SN is not involved due to deficiencies in knowledge and competency. Additionally, the liaison SN role seems to be better fulfilled by a SN with greater experience in the field who is better acquainted with her community and its resources.

Study limitations should also be mentioned. One limitation concerns the sample of health

and social care professionals, which was significantly smaller than the other two groups. The use of a convenience sample constitutes a significant limitation versus the benefits of random sampling. Also, data collection via an electronically disseminated questionnaire posted in a professional website forum should be taken into consideration for the generalizability/transferability of the study results. Also, this study used a cross-sectional design which can describe correlations between variables but not causality. Despite the above limitations, the strength of our study was that participants from all over the country had the opportunity to express their views about SNs' roles.

In future studies, it would be interesting to further investigate the impact of continuing education and interdisciplinary education on the knowledge and perceptions of the participants as well as to investigate the cause of the differences in the roles of SNs in special and general education. In addition, the development of SN role specific questionnaires with high validity and reliability is also important because review of the literature revealed limited choices.

Conclusions: This study showed that perceptions of the SN role did not present significant differences between professional categories (SNs, teachers, health and social care professionals), and identified as well, factors that affect the perceptions of SNs, teachers and health and social care professionals working in education concerning the SN role.

Particularly, our key findings suggest that other professionals' collaboration with SNs seems to be a sufficient condition for the recognition of their multidimensional role. Additionally, SN continuing education also contributes to them recognizing their role range, in addition to benefits in knowledge and skills enhancement.

These two key findings are simultaneously addressed in interdisciplinary education. Importantly, the need for integrated and comprehensive interdisciplinary continuing education programs emerges, which will give the opportunity for various professionals to interact, recognize their personal role and the role of their colleagues, and create a

collaborative practice-ready workforce, but above all, to realize that the professional role of each group is completed only through the function of an interdisciplinary team.

These findings may serve to alert and challenge academics, the school nursing community as well as educational program designers for the need to apply new practices and in particular interdisciplinary training in basic and continuing education, in order to properly prepare professionals for real-work conditions that require this kind of interprofessional collaboration (WHO, 2010).

In particular, SNs should become more aware that the achievement of balance between students' health, behavior and learning is through interprofessional collaboration and active involvement in the full role range development.

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