



Revista da Escola de Enfermagem da USP

ISSN: 0080-6234

reeusp@usp.br

Universidade de São Paulo

Brasil

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Revista da Escola de Enfermagem da USP, vol. 46, núm. 1, outubro, 2012, pp. 130-137

Universidade de São Paulo

São Paulo, Brasil

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# Attitudes of nursing staff related to the nursing process\*

ATITUDES DOS PROFISSIONAIS DE ENFERMAGEM RELACIONADAS AO PROCESSO DE ENFERMAGEM

LAS ACTITUDES DEL PERSONAL DE ENFERMEIRA EN RELACIÓN COM EL PROCESO DE ENFERMERÍA

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## ABSTRACT

The aims of the study were to describe nurses' positions on nursing process and their perception of power; and to analyse associations between positions on nursing process, power perception and selected variables. One thousand six hundred and five nurses (86.9% female, mean age=44.12 years, SD=9.55) participated in the study. Mean score on the Positions on Nursing Process (PNP) tool was 112.37 (SD=22.28); and on the Power as Knowing Participation in Change Tool – Brazilian Version (PKPCT) was 281.12 (SD=38.72). Baccalaureate nurses had statistically higher scores on PNP and PKPCT than auxiliary nurses. There was positive and moderate correlation between PNP and PKPCT scores. Auxiliary nurses' scores on PNP were associated with sex and post-graduation; auxiliary nurses' scores on PKPCT were associated with sex. For baccalaureate nurses there was association between PKPCT and administrative position. More studies should be developed in order to identify variables potentially associated with the use of nursing process in clinical practice.

## DESCRIPTORS

Nursing process  
Nursing care  
Attitude of health personnel  
Nurse's role

## RESUMO

Os objetivos do estudo foram descrever a disposição sobre o Processo de Enfermagem (PE) e a percepção de poder clínico dos profissionais de enfermagem; analisar associações entre atitudes relacionadas ao PE e variáveis selecionadas. Participaram 1.605 auxiliares de enfermagem e enfermeiros (86,9% mulheres, idade média 44,12 anos; DP=9,55). O escore médio no instrumento Posições sobre o Processo de Enfermagem (PPE) foi 112,37 (DP=22,28) e no Power as Knowing Participation in Change Tool - versão brasileira (PKPCT) foi 281,12 (DP= 38,72). Os escores nos instrumentos foram mais altos para enfermeiros quando comparados aos auxiliares. Houve correlação positiva moderada entre escores do PPE e PKPCT. Para os auxiliares houve associação entre os escores no PPE, sexo e pós-graduação; e entre percepção de poder e sexo. Para os enfermeiros houve associação entre PKPCT e cargo de chefia. Mais estudos devem ser desenvolvidos com vistas a identificar variáveis potencialmente associadas ao uso do Processo de Enfermagem na prática clínica.

## DESCRIPTORES

Processos de enfermagem  
Cuidados de enfermagem  
Atitude do pessoal de saúde  
Papel do profissional de enfermagem

## RESUMEN

Los objetivos del estudio fueron describir la disposición sobre el Proceso de Enfermería (PE) y la potencia clínica percibida del personal de enfermeira, y analizar las asociaciones entre las actitudes hacia el PE y variables seleccionadas. Participaron del estudio 1605 auxiliares de enfermería y enfermeros (86,9% mujeres, edad media 44.12 años, DP = 9,55). La puntuación en el instrumento de la disposición sobre el Proceso de Enfermería (DPE) fue 112,37 (DP = 22,28) y en el Power as Knowing Participation in Change Tool-version Brasileña (PKPCT) fue 281,12 (DP = 38,72). Las puntuaciones en los instrumentos fueron más altas para los enfermeros en comparación con los auxiliares de enfermería. Hubo correlación positiva moderada entre las puntuaciones del DPE y PKPCT. Para los auxiliares de enfermería se encontró asociaciones entre las puntuaciones en el DPE y sexo, y postgrado, y entre el poder percibido y sexo. Para los enfermeros se encontró asociación entre PKPCT y cargo de gestión. Más estudios se desarrolló con el fin de identificar las variables potencialmente asociadas con el uso de proceso de enfermería en la práctica clínica.

## DESCRIPTORES

Procesos de enfermería  
Atención de enfermería  
Actitud del personal de salud  
Rol de la enfermera

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## INTRODUCTION

The nursing process (NP) has been the target of discussion and research as a nursing care instrument to be taught, used (in clinical practice and nursing management) and assessed<sup>(1-3)</sup>. Nevertheless, little is known about the variables that are potentially associated with the use of the NP in health services. Advancing in knowledge on this process involves the exploration and analysis of variables related not only to the usage characteristics of the NP at institutions, but also to the characteristics of the institutional and nursing professionals' environment.

This paper reports on a study about the positions of baccalaureate and auxiliary nurses towards the NP, which is part of a broader study at outpatient clinics and hospitals in São Paulo State, Brazil. In the broader study, three subprojects are articulated: one of them is to describe how the NP is used at outpatient clinics and hospital; the other to analyze the characteristics of the NP associated with service variables; and the third to study the characteristics of the NP associated with the variables of the baccalaureate and auxiliary nurses at the services.

Positions play an important role in the application of concepts, as they contribute to motivate the accomplishment of related behaviors<sup>(4)</sup>. For professionals with more favorable positions towards the NP, it will probably be easier to get involved in the changes required for its implantation and implementation, while those with more negative positions will probably experience more difficulties. In this study, perceived power was assumed as a position in the sense that it refers to the person's willingness towards a role – the clinical role – which is presumed in his/her function.

Nursing Care Systemization (NCS) and the Nursing Process (NP) were treated as synonyms, and the definition adopted is that the NP is an instrument that provides systemized guidance to develop a style of thinking that directs the clinical judgments needed for nursing care<sup>(5)</sup>. The NP establishes that care be based on the patient's assessment, which provides the data to identify the diagnoses, which direct the definition of outcomes to be reached. Together, diagnoses and outcomes represent the bases to select the most appropriate interventions for the patient's specific situation. After performing the interventions, the achievement of the outcomes should be assessed, returning to the previous phases if the outcomes have not been reached or if new diagnoses have been identified.

In the adopted perspective, the NP is an instrument to guide nurses' clinical decisions and, as such, refers to the intellectual and cognitive processes of nursing practice. In Brazil, however, by law<sup>(6)</sup>, nursing documents at health

services should be structured according to the nursing process. In that context, one can admit that the NP concept also involves its documentation.

Thus, the study objectives were: to describe baccalaureate and auxiliary nurses' positions on the nursing process (determination about the NP and perceived clinical power); and to analyze the associations between positions on the NP and the selected variables.

## METHOD

This descriptive and exploratory study with a cross-sectional design was developed at the hospitals and outpatient clinics under the direct administration of the São Paulo State Health Secretary (SES/SP) Health Service Coordination Department (CSS), Brazil. Out of 43 eligible and invited clinics and hospitals, eight institutions did not take part: two large hospitals received all contacts and did not respond about their participation, which characterized refusal, according to the adopted criteria; at three institutions, negotiations to schedule data collection extended

beyond the feasible deadline to conclude the study and were thus excluded; the same was true for three other institutions that served as pilot test areas, resulting in important modifications in the collection instruments and procedures. Thus, 35 institutions were part of the research.

The study received approval from the Ethics Committee at the University of São Paulo School of Nursing under protocol 856/2009 and all participants signed the Informed Consent Term.

### Data collection

One of the authors (ESG) collected the data between January and October 2011, with the help of research assistants, who were baccalaureate nurses trained especially for this task.

Based on the experience obtained during the pilot test, the researchers decided to apply the questionnaires at the workplace, so as to be able to provide clarifications about the instruments and guarantee their completeness.

### Participants

The subject participated in the study by convenience. All baccalaureate and auxiliary nurses formally employed at the SES/SP, active at the 35 institutions and working at sectors involving patients (as the study focuses on positions related to the NP, this means that, where there are no patients, there is no recommendation to apply the NP).

The sample size was calculated based on the data surveyed in the pilot test. To estimate the mean positions on

For professionals with more favorable positions towards the NP, it will probably be easier to get involved in the changes required for its implantation and implementation...

the nursing process score (instrument described further ahead) at each hospital with a one-unit error, standard deviation of 1.3, 5% significance and 95% power, a sample of 24 subjects per institution would be necessary. To prevent possible losses, a sample size of 30 baccalaureate nurses and 30 auxiliary nurses was defined per institution. In those cases when the total nursing staff was smaller, all baccalaureate and auxiliary nurses were invited to participate in the study.

Out of 1,711 eligible professionals, the following were not included in the study: 31 baccalaureate and 68 auxiliary nurses because they refused; and 7 due to the lack of functional identification at the State Health Secretary. Thus, the data of 1,605 participants were analyzed: 973 auxiliary nurses (60.6%) and 632 baccalaureate nurses (39.4%). The participants were affiliated with 15 general hospitals, 10 psychiatric hospitals, 5 outpatient clinics, 2 maternity hospitals, 2 specialized hospitals and 1 pediatric hospital. Some subjects did not answer all questionnaire items. The researchers decided not to use statistical techniques to complete missing answers so that, in the results section, the total sample changes with the variable.

### Instruments

The following instruments and procedures were used:

- Positions on Nursing Diagnosis – questionnaire originally developed to assess nurses' positions towards the nursing diagnosis concept<sup>(7)</sup>, was adapted to measure positions on the NP. The adaptation made for the sake of this study was to replace the nursing diagnosis by the nursing process concept, changing the questionnaire's name to Positions on the Nursing Process (PNP). In this instrument, which uses the semantic differential to measure positions, the respondent was asked to indicate how (s)he felt towards the NP concept, using the same 20 pairs of adjectives used in the original instrument. A 7-point scale was used to separate each pair of adjectives. To estimate the validity of the adaptation, a general assertion was included about the extent to which the respondent's position on the nursing process concept was favorable. This modified instrument was used in a Brazilian project that involved nursing managers at public health institutions<sup>(8)</sup>. In this study, the adapted scale maintained the factor structure of the scale for nursing diagnoses, with a reliability level close to what was observed in the original scale<sup>(7,9)</sup> and reported in the study by Leite<sup>(8)</sup>. Considering the total sample, Cronbach's alpha coefficient for the 20-item instrument equaled 0.954, against 0.957 in the auxiliary and 0.950 in the baccalaureate nurse sample, indicating good internal consistency.
- Power as Knowing Participation in Change Tool – Brazilian version (PKPCT) – to measure the perceived clinical power. Power is defined as intentional participation in the change<sup>(10)</sup>. In this 52-item questionnaire, respondents are asked to score how they feel towards their aware-

ness of their clinical role, their choices, their freedom to act intentionally and their involvement in the creation of changes, which are operational power indicators. For each subscale, 13 adjective pairs with opposite meanings are presented. Seven equally distant points separate each pair. The thirteenth adjective pair of each subscale is the inverted repetition of one adjective pair to test the reliability of the answers and is not included in the total score<sup>(10)</sup>. Confirmatory factor analysis was used to check the instrument's validity, which identified 4 first-level factors and one more general second-level factor. The reliability of the 48 items checked using Cronbach's alpha was 0.964 for the total sample, for the auxiliary nurses and for the baccalaureate nurses.

- Knowledge on Nursing Care Systemization (NCS) – participants chose between 'none', 'little', 'moderate' or 'a lot' to indicate how much they knew about the 'NCS in general' and each of its phases. Knowledge on the NP was assessed using 5 items with good reliability in the sample ( $n=1,526$ ; Cronbach's alpha = 0.883). This variable was analyzed by adding up the scores on the 5 items and, the higher the score, the greater the knowledge on the NP.

- Level of contact with Nursing Care Systemization (NCS) – to estimate the participants' level of contact with the NCS in the last 3 years, reading on the topic, participating in classes or courses on the theme and in specific events, use in clinical practice and research activities were considered. For each of the 5 items, the response scale was 'nothing', 'little', 'moderate' and 'a lot'. The level of contact with the NP was assessed through 5 items with good reliability in the sample ( $n=1,543$ ; Cronbach's alpha = 0.822). This variable was analyzed by adding up the scores on the 5 items and, the higher the score, the more intense was the contact with the NP.

### Data analysis

Each subject's answers were registered in an electronic database. Sphinx®, Mplus 6.12® and PASW Statistics 18® were used. Descriptive and inferential statistics were used to analyze the data. Non-parametric tests were applied to analyze the association between the positions, perceived power and selected variables, considering that the PNP and PKPCT scores are ordinal scales. For all tests, significance was set at 0.05.

## RESULTS

Among the baccalaureate and auxiliary nurses: 86.9% were female, with a mean age of 44.12 years ( $SD= 9.55$ ); 52.3% worked at general hospitals, about 44 hours per week, and had been working at the study institutions for an average ten years. Out of all baccalaureate nurses: 9.2% indicated they had never taken a specialization degree; 12 held an M.Sc. and 2 a Ph.D. in nursing; 43 were

taking a specialization degree, 15 a Master's and 4 a Ph.D. program; 33% informed they had concluded the auxiliary nurse program, 13.1% the nursing technician program.

Based on this result, it is supposed that at least 33% of the baccalaureate nurses may have occupied other functions in nursing (Table 1).

**Table 1** – Sample characteristics - São Paulo, 2011

Characteristics	Auxiliary (n=973)		Did not answer		Nurses (n=632)		Did not answer	
	n	%	n	%	n	%	n	%
<b>Gender</b>								
Female	818	84.1	22	2.3	553	87.5	5	0.8
Male	133	13.7			74	11.7		
<b>Age</b>								
Variation	21-68		40	4.1	24-69		19	3.0
Mean (DP)	45.0 (9.4)				42.8 (9.7)			
<b>Work shift</b>								
Day (12 hours)	520	53.4	16	1.6	161	25.5	1	0.2
Morning (6 hours)	202	20.8			218	34.5		
Afternoon (6 hours)	150	15.4			152	24.1		
Night (12 hours)	73	7.5			89	14.1		
Any	12	1.2			11	1.7		
<b>Satisfaction with unit</b>								
Complete or moderately satisfied	736	75.6	7	0.7	491	77.7	4	0.6
Complete or hardly dissatisfied	230	23.6			137	21.6		
<b>Time of work at the institution (months)</b>								
Variation	1-413		32	3.3	1-420		22	3.5
Mean (SD)	124.6 (80.2)				105.0 (87.6)			
<b>Leading function</b>								
No	968	99.5	5	0.5	495	78.3	6	1.0
Yes	-	-	-	-	131	20.7		
<b>Main activity</b>								
Direct patient care	914	93.9	2	0.2	278	44.0	4	0.6
Patient care planning	18	1.9			198	31.3		
Administrative activities	17	1.8			134	21.2		
Others	22	2.3			18	2.9		
<b>Number of jobs</b>								
One	611	62.8	3	0.3	320	50.6	2	0.3
Two or more	359	36.9			310	49.1		
<b>Work hours/week</b>								
Variation	6-126		28	2.9	6-100		17	2.7
Mean (SD)	43.2 (17.6)				46.4 (17.0)			
<b>Satisfaction with career</b>								
Variation	1-7		39	4.0	1-7		22	3.5
Mean (SD)	6.0 (1.40)				5.7 (1.5)			
<b>Auxiliary nurse course</b>								
Never	17	1.8	25	2.6	241	38.1	181	28.6
Concluded	931	95.7			210	33.2		
<b>Nursing technician course</b>								
Never	208	21.4	126	13.0	323	51.1	226	35.8
Ongoing	34	3.5			-	-		
Concluded	605	62.2			83	13.1		
<b>Nursing Baccalaureate course</b>								
Never	468	48.1	334	34.3	-	-	7	1.1
Ongoing	68	7.0			-	-		
Concluded	103	10.6			625	98.9		

SD = standard deviation.

The mean score on the 5 questions about knowledge on the NP equaled 2.8 (SD=0.66) for the auxiliary nurse sample and 3.2 (SD=0.47) for the baccalaureate nurse sample; for the 5 questions about contact with NCS, this score corresponded to 2.1 (SD=0.72) for the auxiliary nurses and 2.6 (SD=0.57) for the nurses. This score ranged from 1 to 4, with higher scores indicating greater contact.

The baccalaureate and auxiliary nurses' positions on the NP were assessed with the help of the PNP. Instrument scores could range from 20 to 140 and, the higher the score, the more favorable the position towards the NP. The total PNP score ranged between the scale minimum and maximum. For the total sample (n=1,489), the mean score was 112.4; for the auxiliary nurses (n=889) 111.0 and for the baccalaureate nurses (n=600) 114.3. The item with a mean score  $\leq 4.5$  used the adjectives routine/creative. This result was observed in the total sample, in the auxiliary nurse and in the baccalaureate nurse group. The following pairs showed mean scores  $\geq 5.5$ : meaningless/meaningful, no worthless/valuable, negative/positive, dumb/intelligent, hindering/helpful, invalid/valid, insignificant/significant, irrelevant/relevant, unrewarding/rewarding, inconvenient/convenient, unacceptable/acceptable, bad/good and unimportant/important. These results were observed in the three groups of respondents.

The baccalaureate and auxiliary nurses' perceived clinical power was verified with the help of the PKPCT. The item scores can be added up for each subscale (possible range from 12 to 84 points) and for the total scale (possible range from 48 to 336 points)<sup>(10)</sup>. The higher the score, the greater

the perceived power. Total PKPCT scores ranged from 105 to 336 for the total sample and for the baccalaureate nurses. For the auxiliary nurses, the total score ranged from 155 to 336. The total mean scores equaled 285.1 for the baccalaureate nurses (n=550), 278.3 for the auxiliary nurses (n=782), and 281.1 for the total sample (n=1,332). Neither the total sample nor the baccalaureate nurses showed any item with mean scores below 4.5. For the auxiliary nurses, the item person following/leading showed mean scores below 4.5 on all subscales. In the auxiliary nurses' responses, mean scores for most items were higher than 5.5, except for 10 items. In the baccalaureate nurses' responses, mean scores were lower than 4.5 for only 2 items.

Initially, the relations between positions on NP and perceived power on the one hand and professional category on the other were tested using the Mann-Whitney test. The baccalaureate nurses' positions were significantly more favorable than those of the auxiliary nurses ( $p=0.024$ ). The baccalaureate nurses' perceived clinical power was statistically higher when compared with the auxiliary nurses ( $p=0.004$ ). In view of these results, the remaining association analyses were developed separately for baccalaureate nurses and auxiliary nurses. A moderate positive correlation was found, according to Spearman's correlation coefficient, between PNP and PKPCT scores, for auxiliary nurses ( $r=0.480$ ;  $p<0.001$ ) as well as for baccalaureate nurses ( $r=0.460$ ;  $p<0.001$ ).

Table 2 summarizes the main results of the association tests between PNP and PKPCT scores and the selected variables.

**Table 2** – Main results of association tests between PNP and PKPCT scores and selected variables - São Paulo, 2011

Variables	Auxiliary		Nurse	
	PNP (20 items)	PKPCT (48 items)	PNP (20 items)	PKPCT (48 items)
Sex	F>M $p=0.018$	F>M $p=0.020$	F=M $p=0.660$	F=M $p=0.570$
Age	$r=0.100$ $p=0.003$	$r=0.109$ $p=0.003$	$r=0.060$ $p=0.146$	$r=0.115$ $p=0.008$
Time since graduation	$r=0.087$ $p=0.016$	$r=0.067$ $p=0.084$	$r=-0.051$ $p=0.227$	$r=0.038$ $p=0.380$
Degree	Yes>No $p=0.011$	Yes = No $p=0.231$	Yes = No $p=0.420$	Yes = No $p=0.375$
Leading function	-	-	Yes = No $p=0.290$	Yes > No $p=0.010$
Main activity	Care = planning = administrative $p=0.305$	Care = planning = administrative $p=0.079$	Care = planning = administrative $p=0.125$	Care = planning = administrative $p=0.294$
Satisfaction with workplace	$r=0.242$ $p=0.000$	$r=0.129$ $p=0.000$	$r=0.239$ $p=0.000$	$r=0.247$ $p=0.000$
Satisfaction with career	$r=-0.247$ $p=0.000$	$r=-0.246$ $p=0.000$	$r=-0.236$ $p=0.000$	$r=-0.280$ $p=0.000$
Knowledge on NCS	$r=0.202$ $p=0.000$	$r=0.173$ $p=0.000$	$r=0.156$ $p=0.000$	$r=0.120$ $p=0.005$
Contact with NCS	$r=0.197$ $p=0.000$	$r=0.109$ $p=0.003$	$r=0.290$ $p=0.000$	$r=0.191$ $p=0.000$

## DISCUSSION

The baccalaureate nurses ( $n=632$ ) and auxiliary nurses' ( $n=973$ ) responses to the PNP and PKPCT questionnaires provided data to characterize hospital and outpatient nursing staff's positions on the NP and nursing's perceived clinical power. The mean position scores on the NP in this study seem to be higher than the results of another study that used the PNP<sup>(8)</sup> and the mean position scores towards the nursing diagnosis<sup>(8-9,11)</sup>, one phase of the PNP.

In this study, social desirability may have interfered in participants' responses to the PNP. Data collection took place almost 9 years after the Project Weaving the NCS, developed in partnership between the CSS and other SES/SP entities<sup>(12)</sup>. This project was an initiative to mobilize nurses in the São Paulo State hospital network on the use of the NP and the documentation of its phases<sup>(12)</sup>. The Central NCS Commission of the CSS/SES/SP invested in meetings to plan and supervise the establishment and implementation of the NP<sup>(12)</sup>. In addition, the NP is mentioned in nursing legislation as something that enhances care quality<sup>(6)</sup>. Based on these facts, it can be affirmed that, in the context, more favorable attitudes towards the NP were valued, so that a possible social desirability bias can reasonably be considered in the PNP results. The authors of another study<sup>(13)</sup> questioned whether the nurses' favorable opinion towards the implantation of the nursing diagnoses resulted from reflections on and assessments of the work process, or whether they were merely reproducing something they learned as correct and desirable. Therefore, further research is needed to further knowledge on the weight of social desirability in positions on the NP.

The results showed that baccalaureate nurses' position scores were significantly higher than those of auxiliary nurses. Although this result was expected, it would be desirable if the entire nursing staff's position towards the NP were similar.

The mean score on the PNP items was lower for the item routine/creative in the total sample (3.98), among auxiliary nurses (3.96) and among baccalaureate nurses (4.01). The same item also scored the lowest (4.33) in the phase after the implementation of the nursing diagnoses<sup>(9)</sup>. In a study among nurses, the authors identified that baccalaureate and auxiliary nurses hardly value the nurses' orders and consider it as part of routine<sup>(12)</sup>. This fact may be due to the view of the NP as a daily task, seen as a part of the work routine, but which should not be mixed up with a product of mechanical work, without any reflection.

In most studies<sup>(8-9,11)</sup>, the item easy/difficult in the PNP as well as in the instrument that assesses positions on the nursing diagnosis tended towards lower scores in comparison with the scores for the other items. Perhaps the understanding of the NP or one of its phases as difficult is due to the gap in nursing education about this theme. One study

showed that nursing technicians were unfamiliar with the phases of the NP, associated the NP with the nurses' orders only, without mentioning the other phases<sup>(14)</sup>. In a study that involved auxiliary nurses and nursing technicians ( $n=77$ ), 93.5% of the subjects recognized the use of the NCS, but approximately 60% of the auxiliary nurses and nursing technicians believed the Nursing Council did not allow them to monitor the different NCS phases<sup>(3)</sup>. The participation of auxiliary nurses and nursing technicians in the NP remains unclear<sup>(3)</sup>. In their educational programs, auxiliary nurses and nursing technicians need further contact with the NP and clarifications on each nursing team members' tasks and responsibilities<sup>(3)</sup>. Baccalaureate nurses need to acknowledge the interdependence of patient care activities; and know that, although they are responsible for decision making on the most adequate care, the nursing team should be involved in care planning<sup>(3)</sup>.

Another important aspect that can interfere in positions on the NP is that, frequently, it is treated as an end in itself or as the means to achieve high-quality nursing care. The NP cannot be understood as an end in itself or as a synonym that its mere application will enhance care quality. Otherwise it will be destined to continue as a form of control and a practice nursing itself discredits<sup>(1)</sup>.

As for the perceived clinical power; the total mean PKPCT score of the baccalaureate nurses in this study (285.06;  $SD=36.62$ ) was higher than that in a Brazilian sample of Brazilian clinical nurses (273.6;  $SD=33.0$ )<sup>(15)</sup> and closer to the scores of nurse managers in samples from the United States (USA)<sup>(16-17)</sup>. What may have contributed to the higher scores among nurses in this study is the fact that the sample included a considerable part of nurses in leading functions (20.7%), as the perceived power was positively associated with leading functions ( $p=0.010$ ).

The total mean PKPCT scores of the auxiliary nurses in this study (278.35;  $SD=39.93$ ) were also higher than those of Brazilian clinical nurses<sup>(15)</sup>. Like for the positions on the NP, the association test showed that the baccalaureate nurses' perceived clinical power was significantly higher ( $p=0.004$ ) than that of the auxiliaries.

In this research, the auxiliary nurses showed the lowest mean scores ( $<4.5$ ) for the item person following/leading on all subscales. In the history of nursing, the hierarchy plays a central role and takes the form of a strict position among baccalaureate nurses, nursing technicians and auxiliary nurses, who at the same time are subordinated to other health team members<sup>(2)</sup>. In this context, it seems that auxiliary nurses do not conceive the role of leaders. One study's proposal<sup>(10)</sup> represents a change from the social and hierarchical view of power to a dynamic approach to the interaction between environmental and human factors, which can enhance the development of power in different situations. This new perspective includes the subject as an agent of change, instead of someone who is merely affected by external events<sup>(10)</sup>.

The lack of a cut-off point for PKPCT scores makes it difficult to determine whether the study participants' scores were high, moderate or low. In another study<sup>(15)</sup>, the total mean PKPCT score before putting in practice the nursing diagnosis classification by NANDA-International<sup>(18)</sup> in clinical practice was 80% of the maximum score (269/336), against 81.3% after the implementation. The baccalaureate nurses' score in this study represents 84.8% of the maximum (285.0/336) and the auxiliary nurses' score 82.8% (278.3/336). The trend towards high PKPCT scores arouses reflections on the instrument's discriminative ability. Social desirability when answering the instrument could justify these findings<sup>(10)</sup>.

The moderate and significant positive correlation between the PNP and PKPCT scores for the auxiliary nurses ( $r=0.480$ ;  $p<0.001$ ) and for the baccalaureate nurses ( $r=0.460$ ;  $p<0.001$ ) arouses new questions to enhance knowledge on the NP. Although the present study results support the hypothesis that people with high perceived clinical power have a more favorable position to the NP needs to be investigated in further depth in other studies. Although the social desirability effects on the measuring of both variables (PNP and PKPCT) are studied as well, studies are needed to explore the interaction of other variables in the relation between PNP and PKPCT.

Among the associations between the other variables and the PNP and PKPCT, statistically significant associations should be highlighted, or at least moderate correlations<sup>(19)</sup>. For the auxiliary nurses, a positive relation was found between attitudes towards the NP and female sex and holding a graduate degree. The association between a graduate degree and PNP scores may be due to the fact that auxiliary nurses are in closer contact with the NP and its phases in the courses they take after their initial graduation.

The nurse managers who participated in this study showed statistically higher PKPCT scores when compared with the auxiliary nurses' scores, as previously observed in another study involving a sample of 182 nurse managers in the USA<sup>(17)</sup>. The negative correlation between PNP and

PKPCT scores and satisfaction with the career, although insignificant, was an intriguing result as, in a review on the PKPCT<sup>(20)</sup>, a positive association was reported between perceived power and satisfaction with the career.

The main limitation in this research was the convenience sample. Another limitation was that not all questionnaires were fully answered. Individuals who did not answer some items differed in some aspects from individuals who did: this group included more auxiliary nurses, less people with a graduate degree, with a higher mean age and greater satisfaction with their career. Positions on the NP and perceived clinical power may have been alerted because of the missing responses.

## CONCLUSION

The study results reported here permit affirming that the positions of the baccalaureate nurses and auxiliary nurses active in hospitals and outpatient clinics are favorable to the NP and that the baccalaureate nurses' positions are significantly more favorable than the auxiliary nurses' positions. Position on the NP and perceived clinical power were significantly associated in the group of baccalaureate nurses and in the auxiliary nurses' group.

The perceived clinical power in the study sample was similar to other studies and the baccalaureate nurses' perceived clinical power was higher among baccalaureate nurses than among auxiliary nurses.

In the auxiliary group, women displayed more favorable positions on the NP and perceived power of the clinical role when compared to men. Auxiliary nurses with higher degrees showed higher PNP scores than other auxiliary nurses. In the baccalaureate nurses' group, professionals in leading functions revealed a higher perceived power of the clinical role than professionals who reported no leading function.

The intensity of the correlations between positions on the NP, perceived clinical power and other variables was insignificant and association were not significant at 5%.

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Developed with funding from the São Paulo Research Foundation (FAPESP) and the Brazilian Scientific and Technological Development Council (CNPq)