

## FACTORS INFLUENCING NURSING STAFF MEMBERS' PARTICIPATION IN CONTINUING EDUCATION

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Peña Flores Y, Alonso Castillo M. Factors influencing nursing staff members' participation in continuing education. Rev Latino-am Enfermagem 2006 maio-junho; 14(3):309-15.

*The purpose was to determine the effect of personal and professional factors, as well as motivational orientations, on the participation of nursing staff in continuing education at two health institutions, one public and another private. Descriptive, comparative, correlational design. Probabilistic sampling, random estimation, error limit 0.05, confidence level 95%. Participants were 105 subjects from the private institution and 200 subjects from the public institution. Two instruments were applied: Scale of Reasons for Participation (SRP) and instrument of Participation in Continuing Education (PCE). The internal consistency of the instruments was acceptable. Among personal factors, the income demonstrated effect on the participation ( $p=.007$ ) in continuing education. Academic level ( $p=.004$ ) and staff position ( $p=.005$ ) are professional factors that predict participation in continuing education, as well as the development factor and professional enhancement among motivational orientations ( $p=.005$ ). The labor institution, whether private or public, did not show any significant effect.*

DESCRIPTORS: education, nursing, continuing; nursing

## FACTORES QUE INFLUYEN EN LA PARTICIPACIÓN DEL PERSONAL DE ENFERMERÍA EN LA EDUCACIÓN CONTINUA

*El propósito fue determinar el efecto de los factores personales, profesionales y orientaciones motivacionales sobre la participación del personal de enfermería en educación continua en dos instituciones de salud, pública y privada. Diseño descriptivo, comparativo y correlacional. Muestreo probabilístico, aleatorio, límite de error de estimación 0.05, nivel de confianza 95%. Participaron 105 sujetos de la institución privada y 200 sujetos de la pública. Se aplicaron dos instrumentos: Escala de Razones de Participación (ERP) e instrumento de Participación en Educación Continua (PEC). La consistencia interna de los instrumentos fue aceptable. De los factores personales se encontró que el ingreso económico tiene efecto sobre la participación ( $p=.007$ ). El nivel académico ( $p=.004$ ) y puesto que ocupa ( $p=.005$ ) son factores profesionales predictores. De las orientaciones motivacionales el factor de desarrollo y mejora profesional mostró efecto significativo ( $p=.05$ ) en la participación en educación continua. La institución laboral sea pública o privada no mostró efecto significativo.*

DESCRIPTORES: educación continua en enfermería; enfermería

## FATORES QUE INFLUENCIAM A PARTICIPAÇÃO DO PESSOAL DE ENFERMAGEM NA EDUCAÇÃO CONTÍNUA

*O propósito do estudo foi determinar o efeito dos fatores pessoais, profissionais e as orientações motivacionais na participação do pessoal de enfermagem na educação continuada em duas instituições de saúde, uma pública e outra privada. O desenho foi descritivo, comparativo e correlacional. Amostragem probabilística, aleatória, limite de erro de estimação 0.05, nível de confiança 95%. Participaram 105 sujeitos da instituição privada e 200 sujeitos da pública. Aplicaram-se dois instrumentos: Escala de Razões de Participação (ERP) e instrumento de Participação na Educação Continuada (PEC). A consistência interna dos instrumentos foi aceitável. Dos fatores pessoais, encontrou-se que a renda econômica tem efeito na participação ( $p=.007$ ). O nível acadêmico ( $p=.004$ ) e a posição laboral ( $p=.005$ ) são fatores profissionais prognósticos da participação na educação continuada. Das orientações motivacionais, o fator de desenvolvimento e melhora profissional mostrou efeito significativo ( $p=.05$ ) na participação. A instituição laboral, seja pública ou privada, não teve efeito significativo.*

DECRITORES: educação continuada em enfermagem; enfermagem

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## INTRODUCTION

In the health care area, scientific and technological advances lead to the obsolescence of knowledge and professional skills in a remarkably short period of time. Thus, a comprehensive basic professional preparation is no longer sufficient for a whole life of practice. Moreover, given the emphasis on evidence-based practice, nursing staff members constantly need to update their knowledge and professional abilities. Therefore, continuing education has increasingly become essential to guarantee high-quality nursing practice<sup>(1-3)</sup>.

One definition of continuing nursing education that is frequently quoted is the one by the American Nursing Association. This Association defines continuing nursing education as education activities planned to construct the educational and experience base for professional nurses and to strengthen practice, education, administration, research or theoretical development, with a view to improving users' health<sup>(4)</sup>.

Participation in continuing education programs has revealed to be directly related with a better nursing practice. Furthermore, properly training professionals have demonstrated high productivity, less occupational accidents or errors, a better organizational climate, work satisfaction and better patient results<sup>(5-8)</sup>.

Given the importance of continuing education to improve nursing practice, research has been done to study the phenomenon of nursing staff members' participation and to try and explain the reasons that motivate individuals to take part in continuing education activities. Results have found that motivational orientations of nursing staff are the main force to start participatory behavior, which can also be positively and/or negative influenced by demographic variables, life situation and the structure of the education opportunity<sup>(9-10)</sup>.

In some countries, nurses' participation in continuing education has been made obligatory, based on the premise that professionals lack motivation to voluntarily update their knowledge and skills without external pressure. However, studies carried out in places where participation is obligatory have concluded that these groups demonstrate the same pattern of motivational orientations as professionals who voluntarily take part in continuing education, that is, they are motivated by cognitive interests and by a desire for professional advancement<sup>(3,9-10)</sup>.

Nurses participate in continuing education to a varied extent, related to complex reasons, such as nurses' professional characteristics, attitudes, values, beliefs, expectations and motivation for continuing education; professional factors and institutional policies. Hence, getting to know these factors is extremely important to adequate planning, promoting and teaching strategies to the participants' needs<sup>(9)</sup>.

If, as shown by current research, continuing education contributes to the quality of nursing care, the reasons that influence professionals' participation become more significant for the nursing profession<sup>(11-12)</sup>. These are some of the elements that constituted the base for this study. We aim to study the effect of personal and professional factors, as well as motivational orientations, on the participation of nursing staff at two health institutions, one public and another private.

## THEORETICAL FRAMEWORK

Most people cannot express the reasons for getting involved in an activity as complex as continuing education. Initial studies found that individuals participating in continuing education stood out by their type of motivation to participate and were classified in three groups: the first was classified as "goal-oriented", that is, people using education as a way of achieving clear objectives.

The second group of "activity-oriented" professionals participate for reasons unrelated to the objectives or contents of the activities they enroll in. They take courses to join groups, looking for social contact. Their relation to the activity is essentially based on the quantity and type of human relations they can obtain. The third group is "learning-oriented" and seeks knowledge for its own value. Although the author observed that this is not a rigid classification and that the types of motivation are probably represented best by three superposed circles, distinction is clearly the main emphasis<sup>(13)</sup>.

Later, based on the above classification, the reasons were identified why individuals participate in continuing education. These have been described as motivational orientations, that is, the dimensions underlying the reasons for participating in continuing education programs, which reflect the individual's current level of needs, beliefs, values, attitudes and perceptions related to continuing education<sup>(9)</sup>.

These reasons have been grouped in five categories or factors: the professional development and improvement factor is clearly related to reasons for participating associated with the performance of nursing practice, such as: knowledge and abilities, productivity, maintenance of skills, competence and quality. Professional service includes phrases related to the implementation of a patient service-focused professional practice and includes reasons related to complying with patients' expectations, increasing patient-related abilities and service to the public.

Learning and interaction with colleagues includes phrases related to exchanging thoughts with colleagues and that other nurses' thinking stimulates their own. Personal benefits and occupational safety refer to reasons involving personal revenues, professional advancement, safety and benefits for family and friends. Finally, professional commitment and reflection are related to the interest in membership/identity/commitment to a larger professional group, broadening the image of nursing and reflecting on the value on nursing responsibilities<sup>(9)</sup>.

Other personal and professional factors have also demonstrated their influence on nursing staff members' participation in continuing education. According to researchers, the nursing profession is ruled by the following hierarchy: nursing graduate, clinical specialist, supervisor, nursing head, administrator and teacher. Each of these positions has its own particular requirements and responsibilities. Moreover, organizations' policies and institutional mission also determine nursing professionals' type and degree of participation in continuing education<sup>(3-4,9-10)</sup>.

In this study, we adopted the following research hypotheses:

H<sub>1</sub> At least one personal factor exerts an effect on nursing staff members' participation in continuing education.

H<sub>2</sub> At least one professional factor exerts an effect on nursing staff members' participation in continuing education.

H<sub>3</sub> At least one motivational orientation factor exerts an effect on nursing staff members' participation in continuing education.

## METHODOLOGY

The research design was descriptive, comparative and correlational<sup>(14)</sup>. Participants were

nursing professionals active at two health care institutions, one public and the other private, in the metropolitan area of the state of Nuevo León, Mexico. We used simple random probabilistic sampling, with an error limit of 0.05 and a confidence level of 95%. The sample consisted of 305 subjects, 200 from the public and 105 from the private institution.

Data were collected through two self-applicable instruments. The Scale of Reasons for Participation (SRP) consists of 30 phrases, grouped in 5 factors, which indicate the possible reasons or motivational orientations for participating in continuing education: factor 1, Professional Development and Improvement, consists of nine questions; factor 2, Professional Service, contains five questions; factor 3, Learning and Interaction with Colleagues, includes four questions. Factor 4, Personal Benefits and Occupational Safety and factor 5, Professional Commitment and Reflection, each contain six questions. The instrument's reliability has been measured through internal consistency, with Cronbach's alpha ranging between 0.78 and 0.92<sup>(9)</sup>.

We added seven questions to the Scale of Reasons for Participation to assess the following personal factors: age, gender, civil state, monthly income, years in current position (labor category), years of practice at the institution and number of children or economic dependents; and four professional factors: academic nursing level, staff position (labor category), work shift and type of contract.

In accordance with the American Nursing Association's definition of continuing education, in this study, we considered continuing education as the number of courses and hours of continuing education taken in the year before the study, programmed to promote the development of knowledge, skills and attitudes, with a view to improving nursing practice and patient care.

The second instrument used was called the instrument of Participation in Continuing Education (PCE). We developed the PCE with eight questions about the number of courses and hours of continuing education taken in the year before the study and six questions about the utility of these courses according to participants, including the following: Are the continuing education courses you have taken useful for my current work? Do they contribute to improve the quality of care I offer to my patients? Have they

improved my revenues? Before applying the instruments, we carried out a pilot test with 30 subjects to determine whether questions were clear and the time needed to fill out the questionnaire. Cronbach's alpha was applied to calculate the instruments' internal consistency.

To identify research participants, we asked both institutions for nursing staff lists and identified participants through simple random sampling. They were contacted at work, received explanations about the study, were asked to voluntarily participate by signing an informed consent term and, after they had signed, they received the instruments. After they had finished, we verified whether they had answered all questions and coded the instruments.

Data were processed electronically and analyzed using SPSS (Statistical Package for the Social Sciences). Cronbach's alpha was applied to calculate internal consistency for the SRP instrument and for the six questions of the PCE instrument about the utility of these courses according to the participants. Descriptive statistics were obtained as frequencies and proportions, as well as the instruments' descriptive measures and Kolmogorov-Smirnov's normality test. Pearson's and Spearman's correlation tests were used as inferential statistics, as well as Kruskal-Wallis' non-parametrical test.

Logistic regression was applied to assess the effect of personal and professional factors and motivational orientations on the participation of nursing staff in continuing education. The score of the six PCE questions about the utility of these courses according to participants was used as the independent variable. The dependent variable was the participation in continuing education as measured by the questions: number of courses and hours of continuing education taken during the year before the study and logistic regression was applied. Moreover, multiple linear regression was used to assess the effect of independent variables (personal factors, professional factors and motivational orientations) on the utility of the continuing education courses participants had taken.

This study was approved by the Ethics Commission at the Faculty of Nursing of the Universidad Autónoma de Nuevo León, as well as by the administrative areas of the research institutions, in line with the ethical guidelines established by the Mexican General Health Research Law.

## RESULTS/DISCUSSION

Cronbach's alpha was applied to discover the instrument's internal consistency. Table 1 shows results for each of the factors/reasons and for the total Scale of Reasons for Participation, which was considered highly reliable<sup>(14)</sup>.

Table 1 - Internal consistency of the SRP instrument

Factors/Reasons	Number of variables	Cronbach's alpha
Professional development and improvement	9	.89
Professional service	5	.88
Learning and interaction with colleagues	4	.82
Personal benefits and occupational safety	6	.82
Professional commitment and reflection	6	.90
<b>Total scale</b>	<b>30</b>	<b>.95</b>

n=305

We also calculated internal consistency for the Instrument of Participation in Continuing Education (PCE), which was found acceptable (Table 2), as this was the first time the instrument was used<sup>(14)</sup>.

Table 2 - Internal consistency of the PCE instrument

Subscales	Number of variables	Cronbach's alpha
Continuing education (number and hours)	2	.61
Utility of courses	6	.87
<b>Total scale</b>	<b>8</b>	<b>.70</b>

n=305

Participants at the private institution can be characterized as women, between 20 and 29 years old 69.52%, without a partner 53.33%, who had been working at the institution for one up to five years and most of whom did not have children or economic dependents.

At the public institution, participants' profile was: mostly women, between 30 and 49 years old 74%, with a partner 69.50%, time of work at the institution more than 10 years and between one and three children or economic dependents.

We identified the participants' professional factors at both institutions. As to academic level, most participants were General Nurses at the private (60.95%) and at the public institution (63.50%). When asked about their labor category, 36.19% at the private and 51.50% at the public institution indicated their position as General Nurse.

What participation in continuing education is concerned, we found that 38.09% of nursing staff at

the private institution had attended between 2 and 4 courses in the year before the study, against 37% at the public institution. In terms of hours, 41.90% of participants at the private and 38% at the public institution had taken less than 20 hours of continuing education in the year before the study.

We applied Spearman's correlation test to personal factors and participation in continuing education and found a significant correlation at the private institution between years in current position and hours of continuing education ( $p < .05$ ) and between years of practice at the institution and hours of continuing education ( $p < .05$ ). At the public institution, we found a significant correlation between age and date of the last course taken ( $p < .05$ ).

The results of Kruskal-Wallis' test for personal factors and participation in continuing education revealed a significant effect of monthly revenues on hours of continuing education at the private ( $F=19.746$ ,  $p < .01$ ) and public institution ( $F=6.751$ ,  $p < .05$ ). These findings are consistent with other authors, who identified that personal factors, particularly the economic factor, are related with participation in continuing education<sup>(9-10)</sup>.

When analyzing professional factors and participation in continuing education through Kruskal-Wallis' test, at the private institution, we found that work shift and course utility level had a significant effect ( $F=5.25$ ,  $p < .05$ ), with staff members who worked fixed shifts obtaining a higher mean utility rate. At the public institution, we found a significant relation between work shift and number of courses taken ( $F=8.58$ ,  $p < .05$ ) and between work shift and hours of continuing education ( $F=7.24$ ,  $p < .05$ ). The mean and median values reveal that staff members working rotating shifts at the public institution did not take continuing education courses. These professional variables affect participation in continuing education<sup>(3,9,11)</sup>.

The academic level presented a significant effect on participation variables at the private institution, specifically with the number of courses taken ( $F=12.67$ ,  $p < 0.01$ ), hours of continuous education ( $F=17.50$ ,  $p < .01$ ) and with the course utility rate ( $F=9.153$ ,  $p = .01$ ). At the public institution, significant effects were found for hours of continuing education ( $F=6.996$ ,  $p < .05$ ). This is in line with other studies, which have shown that, in nursing, education level is a statistically significant reason for participation in continuing education<sup>(9)</sup>.

Participants' position also presented a significant effect on participation in continuing education at both institutions. At the private institution, significant relations were found with the number of courses taken ( $F=11.22$ ,  $p = .01$ ), with hours of continuing education ( $F=15.55$ ,  $p = .001$ ) and with the course utility rate ( $F=9.18$ ,  $p < .05$ ). At the public institution, participants' position affected the number of courses taken ( $F=15.32$ ,  $p < .05$ ), hours of continuing education ( $F=17.56$ ,  $p = .001$ ) and the course utility rate ( $F=11.95$ ,  $p < .01$ ).

These findings are also in accordance with other studies, which found significant differences between nursing staff members in clinical ( $F=34.55$ ,  $p = .01$ ) and in administrative positions ( $F=3.72$ ,  $p = .05$ ) in terms of their participation in continuing education.

What the third variable, i.e., motivational orientations, is concerned, we found significant correlations between the scores of the five motivational orientation factors and the course utility rate at both institutions ( $p < 0.05$ ).

For hypothesis testing, we applied logistic regression to personal factors and continuing education. As a result, we identified that revenues affect participation in continuing education ( $\chi^2=14.54$ ,  $p < .01$ ). The adjusted value of the probability to participate in continuing education in function of revenues revealed that, the higher the revenues, the higher professionals' participation levels (Table 3).

Table 3 - Adjusted value of probability to participate in continuing education as a function of monthly revenues

Revenues	n	Mean
\$2,500 - \$4,000	194	.32
\$4,001 - \$6,000	93	.47
> \$6,000	18	.77

n=305

Hence, the hypothesis that at least one personal factor exerts an effect on nursing staff members' participation in continuing education was accepted, as monthly revenues revealed to be significant. Revenue has been identified as a determinant factor of participation in continuing education, which alone explains 6% of variance in participation levels<sup>(10)</sup>.

Logistic regression was also applied to professional factors. Two factors were identified which affect participation in continuing education: academic nursing level ( $\chi^2=10.98$ ,  $p < .01$ ) and staff position

( $\chi^2=12.67$ ,  $p<.01$ ). Table 4 shows that, when measuring the effect of academic level, nursing licentiates presented the highest mean participation level.

Table 4 - Adjusted value of probability to participate in continuing education as a function of academic nursing level

Academic nursing level	n	Mean
Nursing auxiliary and/or technician	66	0.2121
General nurse	191	0.4136
Licentiate in nursing	48	0.6041

n=305

With respect to staff position, Table 5 shows the highest mean participation levels in continuing education for nursing heads or supervisors.

Table 5 - Adjusted value of probability to participate in continuing education as a function of staff position

Staff position	N	Mean
Head and supervisor	35	0.7428
Specialist nurse	46	0.3695
General nurse	141	0.3900
Nursing auxiliary and/or technician	83	0.2891

n=305

Thus, the second research hypothesis, that is, that at least one professional factor exerts an effect on nursing staff members' participation in continuing education, was also accepted. This is in line with other studies, which found that the academic nursing level is a statistically significant reason to participate in continuing education and that nursing professionals with a licentiate degree attribute greater importance to participating in continuing education. The same is true for professionals in administrative and supervisory positions<sup>(9)</sup>.

What the effect of motivational orientations on participation in continuing education is concerned, we found that professional development and improvement exerts a significant effect ( $\chi^2=3.55$ ,  $p=.05$ ). Thus, we accepted the third research hypothesis, that is, that at least one motivational orientation factor affects nursing staff members' participation in continuing education. This means that nursing professionals are motivated to participate in continuing education because they want to learn more, because of the contents related to the knowledge and skills that could be used in their work, and also because they want to keep themselves updated about new advances in health care.

In this sense, higher scores have been found for the professional development and improvement factor. This indicates that nurses participate in continuing education to exceed themselves professionally and to obtain skills they can use in their present or future work, while lower scores were found for factors related to social contact and interaction with other persons<sup>(3,9)</sup>.

Logistic regression revealed a significant effect when considering the course utility rate as the independent variable and participation in continuing education as the dependent one, ( $X^2=11.47$ ,  $p<.05$ ), which indicates that participation is strongly influenced when nursing staff members perceive that courses are useful to their work.

Finally, a multiple linear regression model was applied to assess the effect of independent variables (personal and professional factors and motivational orientations) on the course utility rate. Professional factors ( $F_c=2.09$ ,  $p<.01$ ) and motivational orientations ( $F_c=21.28$ ,  $p<.001$ ) showed a significant effect. This again demonstrates that the perception that courses are useful to their work exerts a strong influence on participation.

These results coincide with other studies that reveal that adults can identify what they want to learn and take actions in this respect, and that they are motivated to learn when they perceive a possible application of the knowledge, skills and attitudes<sup>(4)</sup>.

When applying the logistic and linear regression models, we did not find a significant effect of the work institution, whether public or private, on participation in continuing education. This goes against expectations about nursing staff at the private institution participating more than at the public one, due to the fact that this is a quality indicator of health institutions in Mexico.

## CONCLUSIONS

The results of our study are in line with other studies about participation in continuing education, which indicate a significant correlation between personal and professional factors and motivational orientations on the one hand and participation in continuing education on the other<sup>(3-10)</sup>.

Personal factors affect this participation. In our study, we identified revenue as a significant variable, that is, the higher the revenues, the higher

the participation level. Moreover, professional factors also influence participation in continuing education, with academic nursing level and staff position playing a significant role, i.e. nursing professionals with a licentiate degree who occupy administrative positions as heads or nursing supervisors present higher mean participation levels.

Among motivational orientations, those related to the professional development and improvement factor displayed a significant effect on participation in continuing education, which shows that nursing professionals are interested in participating, due to reasons related to obtaining knowledge and skills they can use in their current or future work.

Furthermore, participation in continuing education is also affected by the extent to which

nursing staff members perceive these courses as useful. Participants are capable of identifying what they want to learn and are more motivated to participate when they perceive some application for this knowledge, skills and/or attitudes. We did not find any significant effect of the work institution, whether public or private.

In this study, the Scale of Reasons for Participation (SRP)<sup>(9)</sup> was used for the first time with Mexican nursing professionals and produced a Cronbach's alpha of 0.95 for the total scale, which was considered an acceptable score. The instrument of participation in continuing education (PCE), which we elaborated, obtained a Cronbach's alpha of 0.70 and was also considered acceptable.

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