

ORIGINAL RESEARCH

Clinical learning in nursing education as a factor to enhance organizational socialization in newcomer nurses

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Abstract

Background: Clinical learning in nursing education has a pivotal role in enhancing clinical competences of nursing students. Moreover it provides an anticipatory knowledge of the organizational contexts in which nursing care is delivered. The aim of this study was to demonstrate the role of clinical learning in nursing education to enhance post-graduation organizational entry.

Method: A retrospective cross-sectional design was used. A sample of 250 newcomer nurses was enrolled in hospital settings. The mean age was 32.1 years (SD 7.95) and 79.2% participants were female. An adaptation of 3 items of Clinical Learning Environment and Supervision Scale, Organizational Socialization Inventory and validated items to assess turnover intention and therapy errors rate were used. Structural Equation Modelling was performed.

Results: Clinical learning experienced in undergraduate education positively correlated with newcomers' organizational socialization ($\beta = 0.41, p < .001$), organizational socialization contributed to reducing turnover intention ($\beta = -0.67, p < .001$) and therapy errors rate ($\beta = -0.24, p = .003$). The model's fit was good (RMSEA = 0.050, CFI = 0.971, TLI = 0.963, SRMR = 0.045).

Conclusion: Undergraduate nursing education is an important phase to enhance an effective organizational socialization. Nursing education institutions and health care settings need to conjointly work to provide effective clinical settings for nursing education, in order to enhance both clinical learning and organizational outcomes.

Key words

Organizational socialization, Nursing education, Clinical learning, Turnover, Patient safety

1 Introduction

Organizational socialization is the process in which a newcomer develops knowledge, attitudes and behaviours to effectively integrate within an organizational context and to successfully complete the transition from an outsider to an effective insider in the workplace^[1]. Most of the studies set the beginning of the organizational socialization process in the organizational entry of the newcomer within the workplace, so they focus mainly on the period after the newcomer was hired^[2-4]. However, a newcomer could have developed both expectations and organizational experiences before he or she

was hired, for example through stages, undergraduate trainings, clinical placements, contacts with the organization's insiders or information by the media ^[5-7]. These elements contribute to building a pre-knowledge of the organizational context in the newcomer and they contribute as well to the organizational socialization process, stating the need to study an anticipatory socialization phase ^[8]. This is particularly true in nursing profession ^[9]: in the undergraduate nursing education, hours spent in clinical learning within health care institutions range from 30% to 55% across European countries ^[10,11]. In this vein, clinical placements provide to both nursing students' clinical learning and their preliminary knowledge of organizational life, in its written and unwritten norms ^[12]. A recent literature review highlighted the relevance of clinical learning experiences before graduation in enhancing newcomers' adaptation within the workplace, together with organizational socialization process after the newcomer was hired ^[13]. However, empirical research on this issue needs to be further developed.

Type of nursing curriculum has been widely stated as an antecedent of turnover intention in new-graduate nurses: nursing bachelor new-graduates are exposed to higher turnover intention than the diploma new-graduate nurses ^[6, 14-16]. The total amount of hour spent in clinical settings is the main difference in Bachelor and Diploma curricula ^[17], however in many countries nursing education does not follow two separate channels and it is not possible to deepen anticipatory socialization considered as the type of curriculum.

In detail, nursing education in Italy is set at University level and the total amount of hours spent in clinical practice are almost homogenous among Bachelors ^[18]. In this vein, it is useful to focus on the quality of nursing students' clinical learning experiences ^[19], in spite of the quantity of hours spent. This to better understand anticipatory socialization in newcomer nurses and its impact on the organizational socialization process and its outcomes.

With the purpose to evaluate organizational socialization effectiveness, it is also necessary to consider turnover intention and the rate of therapy management errors as sensitive outcomes. A positive on-boarding experience reduces turnover intention of 54% in newcomer nurses ^[20] and, in detail, co-workers' support is the main determinant of a successful organizational socialization ^[21]. Moreover, an effective organizational socialization enhances competences acquisition and task mastery: standardized on-boarding programs have significantly reduced therapy errors rates in newcomer nurses ^[22] and, such programs, have improved nursing care quality as well ^[23].

This study focuses on organizational socialization rather than on-boarding programs, in order to deepen these phenomena in a wider perspective. In fact on-boarding programs are a specific strategy of the organizational socialization process ^[8]. Organizational socialization involves more contents and processes (such as workgroup integration, formal and informal understanding of the context's rules, professional growth expectations and task mastery), while on-boarding programs are focused on a specific training in order to mastering role's competencies expected ^[1, 6, 8].

1.1 Conceptual framework of the study

This study refers to interactionist perspective, in which organizational socialization is deeply linked to individual characteristics and experiences, in spite of a process acted by the organization in order to integrate newcomers. Within the interactionist approach the newcomer is an active agent in the organizational socialization process and actively intervenes in the process coherently with his or her expectations and previous experiences ^[24].

According to Louis (1980) ^[25], in the organizational entry, newcomer actively starts a sense-making process in order to understand the context and to understand acceptable behaviours and forecasts behavioural reactions by the insiders. This is coherent with the Uncertainty Reduction Theory in which people adopt behaviours to effectively predict the environment and reduce unexpected outcomes ^[26].

Within this perspective, research on the role of the individual factors in the organizational socialization effectiveness was deeply developed. Some factors are, for example, self-efficacy ^[27], strategies to enhance interpersonal relationship within the context ^[28], information gathering strategies by newcomers ^[29] and proactive behaviours ^[30]. While these factors

intervene in the organizational entry phase, little is known regarding the role of previous organizational experiences, which could have formed meanings, expectations and behaviours in newcomer's organizational entry.

1.2 Aims of the study and research questions

This study aimed to understand the role of clinical learning experiences in undergraduate education on the organizational socialization process and its outcomes in newcomer nurses. In detail, the following research questions were stated:

RQ1: Does anticipatory socialization, as the clinical learning experiences in undergraduate education, enhance organizational socialization?

RQ2: Does organizational socialization reduce turnover intention (RQ2a) and therapy errors rate (RQ2b)?

2 Method

2.1 Study design and participants

A cross-sectional study was designed, recruiting, with a convenience criterion, all nurses hired in hospital settings from 1 month to 5 years before data collection.

The research sample consisted of 250 nurses. The mean age was 32.1 years (SD 7.95) and 79.2% (198/250) participants were female. Nurses entered in nursing profession by a mean of 6.3 years (SD 7.30), while, within the ward, nurses were recruited 1.9 years before (SD 1.74).

2.2 Ethical considerations

The study was approved by the Internal Review Boards of hospitals and Boards of Nursing involved. Purpose and study aims were described on the cover letter of the survey in both paper and web-survey version. The restitution of the filled questionnaire was assumed as participants' consent to data collection and presentation of findings. Anonymity and confidentiality in data collection and analysis were assured.

2.3 Data collection

Data were collected through a paper- and web- survey according to the mixed methods surveys management criteria^[31]. Participants received a personal invitation to the study and a paper questionnaire with an envelope to return the filled questionnaire anonymously.

After the paper-version phase, the opportunity to join the study with the electronic version of the questionnaire was given. The web survey was protected by a Captcha system^[31].

The questionnaire was promoted in 3 hospitals and in 5 Nurses Boards in Italy. Overall, 93/250 (37.2%) questionnaires were returned in the paper version and the remaining 157/250 (62.8%) via the web-survey. The web-survey was promoted via a public link in the Nurses Boards website and it was not possible to estimate the response rate, while in the paper version the response rate was 68.4% (93/136). Data were collected from February 2012 to December 2012.

2.4 Instruments

Anticipatory socialization was assessed through the adaptation of 3 items selected by the "pedagogical atmosphere" factor of the "Clinical Learning Environment and Supervision plus Nurse Teacher" scale (CLES+T)^[19, 32]. These items were selected after the psychometric evaluation of the "pedagogical atmosphere" factor, in which they emerged as the most representative of the undergraduate clinical learning experiences. Each item was rated on a 5 point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Participants were asked to answer according to their clinical learning experiences

during undergraduate education. In this study, Cronbach's alpha value of this scale was 0.90, and it confirmed literature review reliability scores, which for CLES+T scale were 0.95 in the overall scale and ranging from 0.80 and 0.96 among factors [32].

Organizational socialization was assessed with an Italian adaptation of the Organizational Socialization Inventory (OSI) [33]. Confirmatory Factor Analysis in this study highlighted adequate fit indexes for a 5 factors and 19 items model (RMSEA = 0.080 with IC90% = 0.070-0.090, SRMR = 0.044, CFI = 0.938, TLI = 0.926) [34]. The "training" factor was defined as the process by which the newcomer acquires any type of functional skill to perform the required role. The "co-workers' support" factor evaluated the emotional, instrumental or moral support provided by other employees to the newcomer. The "future prospect" factor assessed the extent to which the newcomer perceive the possibility of a rewarding career within the workplace, while the "informal understanding" and the "formal understanding" factors referred to the extent to which the newly hired employee understands and applies unwritten and written norms within the organization [33]. Cronbach's alpha of the overall scale was 0.90 and ranged between 0.83 and 0.94 among factors (see Table 1). These scores are coherent with the original version of the scale in which alpha value was 0.90 and it ranged from 0.76 and 0.86 among factors [33]. Each item of the scale was rated on a 7 point Likert scale from 1 (strongly disagree) to 7 (strongly agree).

Table 1. Reliability indexes and descriptive statistics of the scales.

| Anticipatory socialization ($\alpha=0.90$) | M | SD | median | min-max | skewness | kurtosis |
|--|----------|-----------|---------------|----------------|-----------------|-----------------|
| The staff learned to know students by their personal names | 3.9 | 1.1 | 4.0 | 1-5 | -0.98 | 0.23 |
| Learning situations were multidimensional in terms of content | 3.6 | 1.1 | 4.0 | 1-5 | -0.62 | -0.24 |
| Overall wards I attended as undergraduate student were good clinical learning environments | 3.9 | 1.1 | 4.0 | 1-5 | -0.76 | 0.05 |
| Organizational socialization – Factors ($\alpha=0.90$) | | | | | | |
| Training (6 item) ($\alpha=0.94$) | 4.5 | 1.5 | 4.6 | 1-7 | -0.40 | -0.78 |
| Co-workers' support (3 item) ($\alpha=0.91$) | 5.5 | 1.4 | 5.8 | 1-7 | -0.86 | 0.14 |
| Future Prospects (5 item) ($\alpha=0.91$) | 3.1 | 1.4 | 3.0 | 1-7 | 0.53 | -0.34 |
| Informal Understanding (3 item) ($\alpha=0.91$) | 5.7 | 1.2 | 6.0 | 1-7 | -0.50 | -0.20 |
| Formal Understanding (2 item) ($\alpha=0.83$) | 4.9 | 1.5 | 5.5 | 1-7 | -0.47 | -0.40 |
| Turnover intention ($\alpha=0.88$) | | | | | | |
| I'm thinking about leaving this hospital | 2.1 | 1.4 | 1.0 | 1-5 | 0.94 | -0.52 |
| I'm planning to look for a new job | 1.8 | 1.3 | 1.0 | 1-5 | 1.51 | 1.01 |
| I intend to ask people about new job opportunities | 2.6 | 1.5 | 3.0 | 1-5 | 0.34 | -1.28 |
| I don't plan to be in this hospital much longer | 2.3 | 1.4 | 2.0 | 1-5 | 0.79 | -0.68 |
| Therapy errors ($\alpha=0.70$) | | | | | | |
| In the last year, how often ... | | | | | | |
| have you made therapy errors? | 1.8 | 0.6 | 2.0 | 1-4 | 0.55 | 0.28 |
| have you been near to make therapy errors? | 2.3 | 0.8 | 2.0 | 1-5 | 0.67 | 0.38 |

Turnover intention from the organization was assessed with 4 items by Kelloway *et al.* (1999) [35]. The scale was widely used to assess turnover intention in nursing and the original version showed reliability score of 0.92 [36, 37]. In this study the scale showed a Cronbach's alpha of 0.88, each item was rated on a 5 point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

Therapy errors and near-miss rate were assessed by 2 items, ranging from 1 (never) to 5 (everyday) in a Likert type scale, adapted by previous studies in nursing [38, 39]. Cronbach's alpha was 0.70 in this study, while the original version showed a score of 0.75 [38].

Table 1 describes in detail characteristics of the scales, as adapted in this study. Psychometric characteristics are coherent with validity and reliability indexes of the scales from the original versions.

2.5 Analysis

Preliminary data analyses were performed in order to assess multivariate normality and scales' reliability. Multivariate normality was assessed using Mahalanobis distances and Mardia's kurtosis coefficient: if the critical value " $v(v+2)$ " (v = number of variables) was higher than the mean of the square of Mahalanobis distances (Mardia's coefficient), multivariate normality was verified^[40]. In this study, Mardia's kurtosis coefficient was 831.48 and it was under the critical value of 840 calculated for this data distribution. Scales' reliability was measured with Cronbach's alpha^[41]. Data missing were managed with a listwise deletion if the percentage was higher than 5%^[42]. Little's MCAR test has been performed to assess if missing data were Missing Completely At Random (MCAR)^[42]. In this study there were no cases with missing data above 5%, so no cases were deleted listwise. Little's MCAR test confirmed that missing data were MCAR ($\chi^2 = 56.14$, $df = 54$, $p = .39$).

Parameters estimation in the structural equation model has been performed with the Full Information Maximum Likelihood (FIML)^[42]. Model's fit has been evaluated taking into account the Root Mean Square Error of Approximation (RMSEA) index and its 90% Confidence Interval, the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI) and the Standardized Root Mean Square Residual (SRMR) index. Adequate fit is confirmed by RMSEA and SRMR < 0.08 , CFI and TLI > 0.95 ^[43]. Preliminary data analyses was performed with SPSS v20, while Structural Equation Model was tested with Stata v12.

3 Results

The structural equation model in figure 1 was built to verify research questions. The parameter estimated in the relationship between anticipatory socialization and organizational socialization highlighted a positive and significant correlation ($\beta = 0.41$, $p < .001$) and it confirmed the first research question. Parameters found in the correlations between organizational socialization and its outcomes verified the role of organizational socialization in reducing both turnover intention ($\beta = -0.67$, $p < .001$) and therapy errors rate ($\beta = -0.24$, $p = .003$). All parameters were statistically significant and they confirmed research questions.

Overall the model was empirically confirmed by adequate fit indexes and, in detail, RMSEA was 0.050 (IC90% = 0.033-0.066), CFI was 0.971, TLI was 0.963 and SRMR was 0.045. All fit indexes have satisfied cut-off criteria and they confirm model's fit.

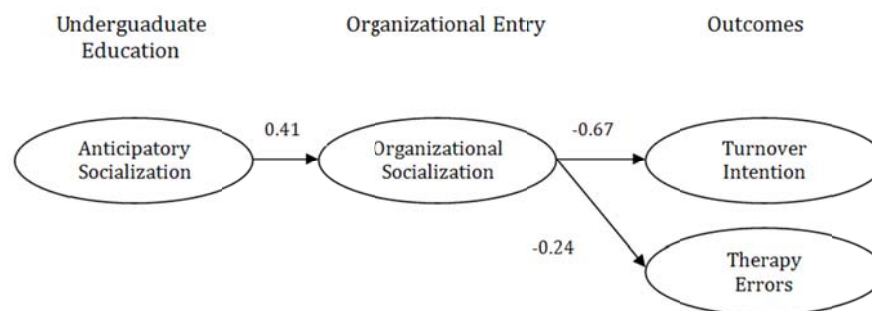


Figure 1. Structural equation model

4 Discussion

This study highlighted the role of clinical learning experiences in undergraduate education to enhancing organizational socialization of newcomer nurses. This finding contributed to previous research about anticipatory socialization, however it has led to a new perspective. Most of the studies compared the effect of the type of undergraduate nursing education (Bachelor vs Diploma) on organizational socialization process [6] and turnover intention [9, 44]. Another study recently demonstrated that ward involved in tutoring nursing students were also more effective in driving newcomers' on-boarding [7]. Anyway there was no evidence on how the quality of clinical learning experienced in the undergraduate education could enhance organizational socialization of newcomer nurses. Under the interactionist perspective, these findings confirmed that individual experiences before organizational entry are significant in building meanings, which are useful to newcomer's integration within the workplace [24]. Moreover, anticipatory socialization contribute to an effective organizational socialization through the reduction of uncertainty experienced while integrating in a new environment [26]. Taking into account a human resources management perspective, this study suggested that health care institutions begin to build a stable workforce, starting to provide good clinical learning experiences for undergraduate nursing students. Moreover, this strategy enhances on-boarding process, organizational outcomes (e.g. turnover intention) and patient safety outcomes (e.g. therapy errors rate). In this vein, results underlined how useful is to strengthen the link between educational and organizational systems in order to build effective clinical learning environments. While educational system enhances effectiveness about undergraduate students' clinical competences, hospitals gain effectiveness in organizational outcomes. Anyway, it could be necessary to further complete this study demonstrating that, providing good clinical placements for students, is attractive to recruit newcomers.

Limitations

This study was designed as retrospective and cross-sectional. In detail, it has assessed newcomer nurses' memory of clinical learning experienced as students. It is possible a recall bias intervened in assessing anticipatory socialization. In this vein, these findings need to be further confirmed by a longitudinal study in which a cohort of undergraduate nursing students are monitored through their clinical placements and then assessed in their organizational socialization experience after graduation.

5 Conclusions

An important extra-organizational phase to enhancing organizational socialization in newcomer nurses is set in undergraduate nursing education. Effective clinical learning experiences by nursing students improve organizational entry post-graduation and they enhance workforce retention and patient safety. In this vein, organizational socialization has a pivotal role to effectively integrate newcomer nurses and to improving their commitment to organization and their task mastery about specific competences linked with patient safety. A synergic link between nursing education institutions and health care settings in providing clinical placements for nursing students is useful to both educational and health care organizations to reach their institutional purposes.

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