

การศึกษามรรณะหลักของพยาบาล ในโรงพยาบาลมหาวิทยาลัยสาธารณสุขสงขลานครินทร์วิทยาเขตปัตตานี

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บทคัดย่อ

สมรรถนะหลักของพยาบาลมีความสำคัญต่อการให้การพยาบาล การวิจัยเชิงบรรยายในครั้งนี้มีวัตถุประสงค์เพื่อสำรวจสมรรถนะหลักของพยาบาลในโรงพยาบาลระดับตติยภูมิในประเทศเวียดนามพยาบาลจำนวน 110 คน ถูกสุ่มเลือกจากพยาบาล 153 คน ในการศึกษาแบบสำรวจที่ผู้วิจัยดัดแปลงจาก Vietnamese Nursing Core Competency Standards และ Sande ได้ความเที่ยงของเครื่องมือโดยการทดสอบด้วย Cronbach's alpha ได้ค่าอยู่ที่ 0.85 - 0.94 รวบรวมข้อมูลตั้งแต่วันที่ 15-30 ตุลาคม 2562 ผลการศึกษาพบว่าค่าคะแนนเฉลี่ยของสมรรถนะหลักของพยาบาลอยู่ในระดับสูง และมีความแตกต่างกันตามกลุ่มอายุ สถานภาพสมรส เพศ อายุ การทำงาน และใบประกอบวิชาชีพ การพยาบาล ผลการศึกษานี้ช่วยเป็นแนวทางให้พยาบาลมีการประเมินตนเอง พัฒนาสมรรถนะ และแสดงออกถึงความสามารถของตน อันจะส่งผลให้คงไว้ซึ่งมาตรฐานในการปฏิบัติการพยาบาล

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A study of core competency among staff nurses at a university hospital in the Socialist Republic of Vietnam

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Abstract

This descriptive study aimed to survey core competency of nurses at a university hospital in the Socialist Republic of Vietnam. A survey method was employed for data collection, with a sample of 110 randomly selected from total of an eligible 153 nurses. The survey instrument was modified from the Vietnamese Nursing Core Competency Standards and Sande. The reliability of the survey instrument was tested using Cronbach's alpha, producing a range from 0.85 to 0.94. The data were collected from 15th to 30th October, 2019. The results showed that the mean nursing core competency among staff nurses was high and displayed significant differences with age group, gender, marital status, length of work and nursing certificate, but not education and working place. Our findings will allow nurses to self-monitor, increase nurse's competencies, and demonstrate their abilities to maintain a high standard of nursing practice.

keywords: nursing core competency; university hospital; staff nurse; the Socialist Republic of Vietnam

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Introduction

Competency is the most important measurement that can be made to insure the delivery of safe and effective healthcare. Given the critical role played by the nursing profession in the health care delivery system, the competency of nurses is one of the important factors influencing patient safety and quality of care.¹ Nursing competency is the holistic trends and a behavioral statement reflecting skills, knowledge, attitudes, and judgments necessary for effective practice.² Nurses with high competency can apply critical thinking and knowledge on practice, contributing to a good patient outcome.³

Incompetent nurses may be considered those that lack skills and/or knowledge, have poor judgment, have difficulty working as part of a team and have difficulty in communicating with colleagues, patients or clients.^{1,4-8} A lack of competency by nurses can lead to highly consequential problems. For example, it has been found that a lack of competency in nursing can result in malpractice and medical errors.^{8,9} In Vietnam, a survey conducted by the Vietnamese Nurses Association (VNA) in 2010 found that 58.4% of medication errors which occurred in hospitalized patients were related to nurses.¹⁰ Moreover, lack of competency is one of the reported causes of high stress among practicing nurses.¹¹ In general, junior nurses lack competency in basic nursing skills and encounter many difficulties in coping with the hospital environment.^{11,12} However, personal and professional development, as well as exposure to nursing procedure and research activities during a career may contribute to improvement in core competency among nurses. Therefore, competency assessment is an invaluable tool that helps nurses to identify their weakness,

areas of educational that might foster professional growth and opportunities for career development.^{11,13}

The effort to develop a framework of generalist nurse competency was first carried out by the International Council of Nurses (ICN) in 2003.¹⁴ The framework grouped competencies into three headings: Professional, Ethical and Legal Practice; Care Provision and Management; and Professional, Personal and Quality Development. Closely following the ICN framework, the Vietnamese Nursing Core Competency Standards are structured into three domains: Patient Care, Nursing Management and Professional Development, and Legal and Ethics.¹⁵ Since it was developed, the Vietnamese Nursing Core Competency Standards have been used as a foundation for establishing nursing programs at all levels (bachelor's, 3 year college level and 2 year diploma), for student evaluation, and for recruitment and evaluation staff nurses in hospital. While nurse competency has been better studied elsewhere, only three studies specific to Vietnam were identified.

In one such study, Tran Thi Xuan Tam found that the total mean level of core competency as self-reported by staff nurses in a Provincial General Hospital was at a high level.¹⁶ With a sample consisting of 217 nurses randomly drawn from 475 staff nurses, this descriptive study assessed nurses using an instrument based on the framework of nursing core competency found in the Competency Inventory for Registered Nurses (CIRN). With regards to factors that might impact competency, significant differences were found in nursing core competency of staff nurses by education and working experience. However, there were no significant difference by gender and working area.

Dau Vu Van also assessed core competency of trauma nurses on staff at vietnamese general hospitals and reported a high level of nursing core competency.¹⁷ For this study, a cross-sectional survey design was employed to study trauma nursing core competency in Vietnam. The sample consisted of staff nurses who were employed full-time and had worked for at least one year in any one of the 63 provincial general hospitals in one of the following departments: emergency, ICU, operative, trauma patient or rehabilitation. A total of 399 participants were drawn and asked to respond to the author developed Trauma Nursing Core Competency (TNCC) questionnaire. The overall TNCC of staff nurses was found to be at a high mean level. Significant differences were found among working experience groups, especially between groups from one to 3 years and groups with over 10 years' experience. However, no significant differences were found between male and female trauma nurses, nor were significant differences found among education backgrounds.

Finally, through content analysis, Do Thi Ha identified five essential themes of nursing competencies among nurses: knowledge, skills, attitude and value-based nursing practice, legal and ethical competencies, and transcultural competencies.¹⁸ This was a qualitative study that used ethnographic methods with staff, patients and family associated with the Cho Ray Hospital in Vietnam. A purposive sampling technique was used to form multidisciplinary groups of nurses, managers/administrators, nurse teachers, medical doctors, other health care providers, patients and family members.

Only two of the studies specific to Vietnam outlined above actually measured competency with

an instrument, both of which found a high mean level. Notably, none of the prior studies made use of the current established Vietnamese Nursing Core Competency Standards nor broader regional standards developed by members of the Association of Southeast Asian Nations (ASEAN). Instead, Tam Thi Xuan (2015) made use of the Competency Inventory for Registered Nurses, which was developed for the context of healthcare in China, while Vu (2015) used an instrument created for the Vietnam healthcare environment, which was tightly focused on trauma nurses only. Thus, to date, no study has thoroughly adapted existing Vietnam specific and regional nursing competency standards to assess the core competencies of all staff nurses and identify factors that might lead to differences in competency at hospitals in Vietnam.

Objectives of study

The objectives of the study were to measure core competency levels according to regional standards and identify differences in competency levels between characteristics of selected factors among staff nurses at a university hospital in Vietnam.

Research questions:

1. What is the level of core competency of staff nurses at a university hospital in Vietnam?
2. Are there any differences in core competency between characteristics of selected factors among nurses at a university hospital in Vietnam?

Materials and Methods

Study design and population: This descriptive cross-sectional design study was

conducted at the teaching hospital of Hue University of Medicine and Pharmacy Hospital in Vietnam. As a public tertiary care hospital with a 700 bed capacity, it provides health service to over 250,000 patients each year, with 257 doctors, 192 nurses, 46 midwives and other health workers. All together staff nurses from eleven clinic departments were included in this present study: General Internal Medicine and Endocrinology, Cardio Vascular Internal Medicine, Digestive Surgery, Urology–Neurosurgery, Trauma Orthopedics and Thoracic Surgery, Oncology, Ophthalmology Otolaryngology, Pediatrics, Anesthesia and Surgical Intensive Care, Emergency, Intensive Care Unit (ICU).

The participants were drawn from 153 staff nurses working in the study setting. For inclusion, nurses must be working in one of the clinical departments of the hospital at the time of study, providing direct care to patients and willing to participate in the study. Excluded were those working in an administrative position. The sample size (n= 110) was determined by Yamane formula with confidence level of 95 percent.¹⁹ As all 153 nurses in the population agreed to participate, a simple random sampling method was used to select a total of 110 staff nurses for enrollment, with proportional representation for each clinical department in the hospital. This study was approved by the Ethical Committee of Human Research at Khon Kaen University (KKU), Thailand (HE622197) and Hue University of Medicine and Pharmacy, Vietnam (H2019/390). During the survey, participants were only recognized by codes. Furthermore, participants had the right to withdraw from the study at any time before data analysis without negative consequences. All information regarding participants was kept

confidential under the supervision of the principal investigator and used for research purpose only.

Research instruments: The instrument (Nursing Core Competency Scale²⁰) that was used in this present study is a self–reported form developed by the author that consists of two parts.

Demographic information

The first part gathered personal information related to staff nurses such as age, gender, marital status, educational level, working experience, working area and nursing practice license.

Evaluation of nursing competency

The second part consisted of an instrument for the evaluation of nursing competency that consists of 56 items within 9 domains. Answers to all items were recorded on a 5–point Likert scale, ranging from 1 (very low), 2 (low), 3 (average), 4 (high) to 5 (very high). An overall score was derived from the mean across all questions and defined as follows: very low (1.00–1.79), low (1.80–2.59), average (2.60–3.39), high (3.40–4.19) and very high (4.20–5.00).

The evaluation component of the instrument was formed in two phases. The first phase established the 9 domains by examining five existing instruments used for prior studies in the People’s Republic of China and the Republic of the Philippines.^{21,20–24} Across the five existing instruments, the author found a total of 22 domains. For the Nursing Core Competency Scale used in this present study, the author selected only those domains which were present in two or more of the existing instruments. Nine domains met this criterion and were thus included.

Once the domains were established, a second phase was carried out in which the author determined the specific items within each of the

domains. To ensure that the items chosen were relevant to both the Vietnamese context as well the broader regional context, the author drew the items from two sources: The Vietnamese Core Competency Standards¹⁵ and an instrument developed by Sande²² for use in the Republic of the Philippines. As both sources were constructed with the desire to be able to compare measurements across countries throughout the region, both closely followed the framework of The Asian Pacific Region and ASEAN. Because of this, there is considerable overlap between the two sources.

With an intent to keep the Nursing Core Competency Scale used in this present study as compact as possible, the author adapted items as used in Sande for two domains (Safe and Quality Nursing Care [11 items] and Management of Environment and Resources [4 items]). For these two domains, the number of items used in Sande were considerably less than the number of items used in the analogous domains within the Vietnamese Core Competency Standards. As the differences in the other domains were minimal, the items for the remaining seven domains (Legal Responsibility [5 items], Ethico-moral Responsibility [3 items], Personal and Professional Development [8 items], Research [6 items], Communication [7 items], Collaboration and Teamwork [6 items] and Health Education [6 items]) were derived from those present in Vietnamese Core Competency Standards.¹⁵

Quality of the instrument:

Translation

The items within the Nursing Core Competency Scale that derived from Sande were originally developed in English. To incorporate these items into the new instrument, the original English

questions were translated into the Vietnamese language. Both translation and back-translation were performed with the recommended methods.²⁵ A bilingual panel of three educators and one head of nursing department reviewed the questions and reached a final agreement on the translation.

Validity

The Nursing Core Competency Scale was evaluated by four experts: three nursing educators at Hue University of Medicine and Pharmacy and one Head of the Nursing Department at the Hue University of Medicine and Pharmacy Hospital. The content validity index of the Nursing Core Competency Scale was 0.96.

Reliability

Next, the reliability of the full Vietnamese Language survey instrument was tested by 30 clinical staff nurses at Hue Central Hospital, chosen with similar inclusion criteria used in the main study (these specific nurses were excluded from participating the main study). The reliability of the instrument used for the survey was tested using Cronbach's alpha, for which the scores of the nine individual domains ranged from 0.85 to 0.94.

Data collection: The author made an appointment with staff nurses through the head nurse within each department and explained the purpose of the study including benefits, the right to participate and the right to refuse/withdrawal. Nurses who agreed to participate signed a consent form, after which the survey form was distributed. Next, participants completed the questionnaire, taking approximately 15 minutes and dropping it into a collection box upon completion. The response rate was 100%. Data was collected during 15th to 30th October, 2019.

Data analysis: Data analysis was done using Statistics Package for Social Sciences 20 (SPSS 20). The demographics variables were analyzed by using descriptive statistics which include frequency, percentage, range, mean, and standard deviation (S.D.). The Shapiro–Wilk test was applied to check normality while analyzing links between nursing core competency and personal factors, but a non-normal distribution was observed. Therefore, the Mann–Whitney U Test (for factors with two groups) and the Kruskal–Wallis Test (for factors with more than two groups) were used.

Results

Demographic data: As shown in the Table 1, the average age of the participants was 29.43 (S.D.= 5.15). Among the participants 83.6% were female nurse; and 59.1% were married. Regarding qualifications, college nurse accounted for the highest proportion (52.7%). The largest fraction of subjects worked in the Department of Anesthesia and Surgical Intensive Care (20.0%). The participants with working experience of 4 to 9 years represented the highest proportion (43.6%) in the study. Regarding nursing practice certificates, 80% of the subjects had a practicing license.

Table 1 Characteristics of study subjects (N =110)

Factors	Characteristics	Frequency	Percentage
Age	25 years	25	22.7
	26–30 years	49	44.5
	31–35 years	24	21.8
	36–40 years	8	7.3
	>41 years	4	3.6
Gender	Male	18	16.4
	Female	92	83.6
Marital status	Single	41	37.3
	Married	65	59.1
	Divorced	4	3.6
Education	Diploma	20	18.2
	College	58	52.7
	Baccalaureate	32	29.1
Working area	General Internal Medicine and Endocrinology	9	8.2
	Cardio Vascular Internal Medicine	9	8.2
	Digestive Surgery	9	8.2
	Urology Neurosurgery	6	5.5
	Trauma Orthopedics and Thoracic Surgery	12	10.9
	Oncology	10	9.1
	Ophthalmology Otolaryngology	9	8.2
	Pediatrics	5	4.5
	Anesthesia and Surgical Intensive Care	22	20
	Emergency	13	11.8
Intensive Care Unit	6	5.5	

Table 1 Characteristics of study subjects (N =110) (cont.)

Factors	Characteristics	Frequency	Percentage
Working experience	Less than 1 year	6	5.5
	From 1 to 3 years	27	24.5
	From 4 to 9 years	48	43.6
	From 10 to 15 years	23	20.9
	More than 15 years	6	5.5
Nursing practice license	Yes	88	80
	No	22	20

Core competency: The overall mean score of nursing core competency among staff nurses was at a high level (\bar{x} = 3.58, S.D.=0.47). As shown in Table 2, for specific domains of competency, nurses scored highest for Legal Responsibility (\bar{x} = 3.94, S.D.= 0.55), while the lowest aggregate score was

for Research (\bar{x} = 2.9, S.D.= 0.94). High levels were also recorded for Collaboration and Teamwork (\bar{x} = 3.77, S.D.=0.54), Ethico-moral Responsibility (\bar{x} = 3.74, S.D.= 0.63) and Communication (\bar{x} = 3.67, S.D.= 0.54).

Table 2 Mean, standard deviation and level of nursing core competency among staff nurses in total and all domains (N=110)

Nursing core competency	Mean	S.D.	Level
Legal Responsibility	3.94	0.55	High
Collaboration and Teamwork	3.77	0.54	High
Ethico-moral Responsibility	3.74	0.63	High
Communication	3.67	0.55	High
Personal and Professional Development	3.66	0.52	High
Safe and Quality Care	3.61	0.53	High
Management of Environment and Resources	3.47	0.66	High
Health Education	3.46	0.59	High
Research	2.90	0.94	Average
Total	3.58	0.47	High

Comparison of mean competency level by various factors: The comparison of nursing core competency of staff nurses by various factors is shown in Table 3. Kruskal-Wallis test analysis showed that there was a significant difference in nursing core competency among the various age groups (p = 0.013). The results of Mann-Whitney test showed that there was significant difference in

nursing core competency between the sex (p = 0.025). Similarly, the Kruskal-Wallis test showed that there was statistical difference in nursing core competency when considering marital status (p < 0.001). However, there was no significant difference in nursing core competency among nurses based on education levels (p = 0.109) and working areas (p = 0.094). A significant difference

was observed in nursing core competency when considering working experience ($p= 0.001$). Of importance, there was a statistical difference in nursing core competency among participants based

on nursing practice licensure, as subjects with a nursing practice certificate received higher core competency scores ($p=0.004$).

Table 3 Comparison of nursing core competency of staff nurses with various factors (N=110)

Factors	Characteristics	Mean	S.D.	P Value
Age	>41 years	4.07	0.48	
	31–35 years	3.78	0.30	
	36–40 years	3.71	0.37	
	26–30 years	3.53	0.50	
	<25 years	3.35	0.46	
	Mean	3.58	0.47	0.013
Gender	Male	3.80	0.36	
	Female	3.53	0.48	
	Mean	3.58	0.40	0.025
Marital status	Divorced	3.88	0.23	
	Married	3.72	0.39	
	Single	3.33	0.51	
	Mean	3.58	0.47	<0.001
Education	Diploma	3.80	0.37	
	Bachelor's	3.62	0.48	
	College	3.49	0.48	
	Mean	3.58	0.47	0.109
Working area	Anesthesia and Surgical Intensive Care	3.79	0.49	
	Trauma Orthopedics and thoracic surgery	3.77	0.47	
	Emergency	3.73	0.29	
	Oncology	3.64	0.41	
	Intensive Care Unit	3.60	0.38	
	Pediatrics	3.57	0.18	
	Ophthalmology–otolaryngology	3.55	0.41	
	Cardio–vascular internal medicine	3.34	0.32	
	Urology–Neurosurgery	3.32	0.82	
	General internal medicine and endocrinology	3.28	0.49	
Digestive surgery	3.25	0.47		
	Mean	3.58	0.47	0.094
Working experience	More than 15 years	4.09	0.42	
	10 to 15 years	3.79	0.32	
	4 to 9 years	3.56	0.47	
	1 to 3 years	3.40	0.44	
	Less than 1 year	3.17	0.57	
	Mean	3.58	0.47	0.001
Nursing practice license	Yes	3.64	0.46	
	No	3.32	0.44	
	Mean	3.58	0.47	0.004

Discussion

One objective of this present study was to measure core competency levels in accordance with regional standards. Findings in this regard showed that the overall mean score of the sample was at a high level (\bar{x} = 3.58), which concurred with previous studies also reporting a high mean level in Vietnam.^{16,17} Demonstrating that considerable room remains for improvement, some foreign studies have reported a very high level of nursing competency.^{26,27}

Examining the three highest scoring domains in more detail, the nursing core competency in this present study with the highest measured mean level was Legal Responsibility (\bar{x} = 3.94). This could be due to recent extra attention given this area from the director board and nursing administration. This finding was in line with previous studies.^{16,17,28} The Collaboration and Teamwork Core Competency was recorded at a high level (\bar{x} = 3.77), which is consistent with results from study by Lazarte (2016) found that Collaboration and Teamwork measured at a very high mean level among nurses working at a tertiary private hospital in the Republic of the Philippines.²⁹ The Ethico-moral Responsibility core competency was measured at a high level (\bar{x} = 3.74), which can perhaps be explained by the efforts of the Vietnamese Nurses Association to maintain high ethical standards in the nursing profession.³⁰

The sole nursing core competency that measured below a mean level was Nursing Research, which was measured at a mean average level. In Vietnam, only nurses with a bachelor's degree are trained and efficient in research activities. The fact that the majority of the participants in this present study were diploma nurses and college nurses might

explain the lower scores. Each year about 2 researchers are appointed under the Head of Nursing Department in Hue University of Medicine and Pharmacy Hospital, which seems insufficient to boost research activities.

The results of this present study confirm that significant differences exist in the level of nursing core competency between several personal and organizational factors. Because of its outsized impacts on the quality of care in developing countries, concerned stakeholders should analyze the situation regularly to formulate plans for improving core competency. Importantly, just such a program is now being carried out in Vietnam, with a committee under the Ministry of Health appointed annually to assess areas of nursing care with the highest priority for improvement.

The current study found significant differences in nursing core competency between genders. While some argue that males and females get the same education program and play a similar role in the hospital, others point out that some skills that require additional strength (such as transfer of patients or application of immobilization) do show differences.^{1,16,17} Likewise, our study revealed a significant difference between nursing core competency according to working experience. Benner (1984) has pointed out that nurses with greater experience display a greater core competency.³¹ In general, the older staff nurses had a significantly higher nursing core competency level than young nurses because the young nurses take time to adapt with their new job and develop skills. This mirrors the results found in this present study, likely due to similar reasoning. It is to mention that most of the

male nurses (72.2%) in the study had more than four years of work experience, which could also have contributed to higher nursing core competency. Xuan Tam (2015) observed a significant association between nursing competency score and five year working experience.¹⁶ However, no such relationship was noticed between the core competency score and less than 1 year of nursing work experience. In the same way, Istomina et al., (2011) has asserted that nurses with longer working experience display higher competency than younger nurses with less experience.³² It has been reasoned that experienced nurses better adapt themselves to different situations with high internal sense of competency and develop more empowerment, consequently manifesting as a measurable difference in competency level. Interestingly, married participants showed a significantly higher level of nursing competency than single participants, serving as a proxy of sorts for age and experience.

We also found a statistical difference between nursing core competency and holding a nursing practice certificate. In Vietnam, nurses can obtain a license after at least 9 months of work experience in the hospitals. In our study, most nurses who did not have a license to practice were new nurses who did not yet meet this requirement. Therefore, it is perhaps understandable that their nursing core competency level did not measure as high.

On the other hand, we found no statistical difference between nursing core competency and higher qualifications. Most of the nurses holding a bachelor's degree were recently graduated and quite young so they lacked extensive experience, which

could possibly explain this finding. Gillespie et al. (2011) reported that the nurses obtaining postgraduate specialty education had a high level of competency.³³ It has been found that nurses with higher levels of education (especially those who have completed additional educational courses based on professional development) had a good assessment of general nursing competencies and some specialized competencies.³⁴ Interestingly, some nurses with professional development courses had shown a regression in the level of nursing competency.³² At present in Vietnam, improvement of nursing competency is extremely prioritized. As such, the Ministry of Health has issued a circular to stop hiring mid-level nurses starting from 2021.³⁵ Therefore, to be hired going forward, nurses who have only a diploma degree must now obtain a college degree.

Similarly, no significant difference in competency was found with regards to working area. This contrasts with previous studies which did find a significant difference in competency related to the working area (the highest competency was found in the nurses working in Hemodialysis and the lowest in nurses working in infant care unit/ pediatrics).²⁶ It has been mentioned that nurses who get more management responsibility and nursing procedures to perform measure as more competent than others. For example, nurses working in a general ward were found to be more competent than those working in the ICU.¹ However, the findings of some other studies indicated that nurses' level of competency was in general on a good or very good level regardless of their working areas.³⁶ At Hue University of Medicine and Pharmacy Hospital, there was no division of work based on level of education. This is likely why

no difference was found between working area and competency among nurses.

Conclusions

The overall nursing core competency among staff nurses was measured at a high level in this present study. Significant differences were found in nursing core competency level according to age group, gender, marital status, length of work and nursing certificate. However, no significant differences were found for education and working place. Our findings, along with the newly developed instrument, can be valuable for further studies among staff nurses in Vietnam and perhaps other countries in the ASEAN region with a similarly structured healthcare system.

Implications

Nurse managers can apply the findings of this study to build new programs that assist nurses with improving core competency. For example, those with more Working Experience were found to have higher levels of core competency. With this knowledge, nurse managers may encourage more experienced senior nurses to help newly appointed nurses to quickly adapt to their work through targeted education and training. Nursing practice based on evidence by conducting workshops and scientific seminars could be done to improve competency in research. Our findings could be equally vital to individual nurses to develop themselves and meet requirements in the job. Moreover, nurse educators may find it valuable in modifying curriculum for graduate nurses to meet the current practical needs.

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