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Original Article

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Abstract

Objectives. Previous studies have shown that nurses' spiritual care competence is related to characteristics of personal spirituality, training adequacy, and comfort, confidence, and frequency of provision of spiritual care. However, these studies assumed that all participants understood spiritual care in the same way, and used self-ratings of spiritual care competence, which are problematic. Our previous study found that spiritual care was understood in 4 qualitatively different ways that can be arranged in order of competence. This study aimed to re-examine the relationships between nurse characteristics and spiritual care competence, using spiritual care understanding as a proxy for competence.

Methods. Data was collected from a convenience sample of nurses who completed an anonymous, online survey. The survey provided qualitative data about what spiritual care means for them. The survey also provided quantitative data regarding nurse characteristics. This study created sub-groups of nurses based on their understanding of spiritual care, and used the quantitative data to construct a profile of nurse characteristics for each sub-group. Kruskal–Wallis statistical tests determined whether nurse characteristics differed across the 4 sub-groups.

Results. Spiritual care competence was not related to confidence or comfort in providing spiritual care. Relationships with spirituality, training adequacy, and frequency of provision of spiritual care were not linear; i.e., higher competence did not always correspond with higher scores of these characteristics.

Significance of results. The results raise concerns about the construct validity of using comfort and confidence as estimates of spiritual care competence. That the relationships between competence and spirituality, training adequacy, and frequency of spiritual care provision was not as linear as portrayed in extant literature, suggests that outcomes of training may depend on the type of spiritual care understanding subscribed to by training participants. The findings offer insights about how nurses could achieve high levels of spiritual care performance.

Introduction

As nurses can play a significant role in providing spiritual care to patients at end-of-life (Selman et al. 2018), their competence in providing this care impacts patient well-being. Consequently, much research has focused on nurse characteristics that can be used as predictors of spiritual care competence. Five particular characteristics have attracted considerable attention: comfort, confidence and frequency of spiritual care provision, adequacy of training in spiritual care, and personal spirituality, as summarized below. (Competence herein refers to the ability of the nurse to assess and care for a patient's spiritual needs (Green et al. 2019); the terms “competence” and “ability” will hereon be used interchangeably.)

Comfort and *confidence* in providing spiritual care are often used as proxies of ability in spiritual care, mirroring the practice in other healthcare disciplines (e.g., physicians (Lafrance Robinson et al. 2013); surgeons (Antonacci et al., 2021)). These 2 constructs are very closely associated with spiritual care ability such that they are sometimes used interchangeably with ability (though this paper will not treat comfort and confidence as interchangeable between themselves). For example, one study measures the ability to perform a spiritual assessment using items such as “I feel *uncomfortable* [emphasis added] asking questions related to spirituality” and “I am more *confident* [emphasis added] assessing clients' nutritional status than their spiritual status” (Hoffert et al. 2007). This close association is not unwarranted, though, as many quantitative studies found that spiritual care ability is highly correlated with comfort (e.g., Lundmark 2006; Taylor et al. 1999) and confidence (Jones et al. 2021).

Frequency of provision of spiritual care is another factor thought to be related to ability to provide spiritual care. Frequent provision of spiritual care allows the nurse to build up experience in spiritual care, which is necessary to move from one level of expertise to another (Benner and Wrubel 1982). Several quantitative studies report a positive

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association between ability and frequency, whether assessed by a global measure (e.g., Taylor et al. 1999) or several itemized spiritual care interventions (e.g., Chen et al. 2020; Green et al. 2019; Vogel and Schep-Akkerman 2018). Frequency of spiritual care is implicitly recognized as an indicator of ability by spiritual care competency standards that describe levels of competence (e.g., the Marie Curie Cancer Care competence standards (2014) associates higher levels of competence with *deeper* patient contact and *greater* responsibility for spiritual care, which are loosely associated with frequency of spiritual care).

Adequate training in spiritual care is another factor thought to be related to ability to provide spiritual care. These training programs aim to increase levels of competence in spiritual care delivery, by influencing intrapersonal and interpersonal spirituality, and/or improving spiritual care assessment and intervention (Jones et al. 2021). Quantitative studies have shown that adequacy of training is highly correlated with spiritual care ability (Green et al. 2019; Seid and Abdo 2022; Taylor et al. 1999).

Personal spirituality. Several reviews have noted the important role played by nurses' spirituality in their ability to provide spiritual care (Cockell and McSherry 2012; Paal et al. 2015) and holistic nursing care more generally (Tiew and Creedy 2010). An individual's understanding and awareness of their own spirituality supports empathetic development (Chism and Magnan 2009), understanding of other people's spiritual needs (Jones et al. 2017) and the planning and implementation of spiritual care interventions (Biag and Angeles 2021; Chung 2007; Epstein-Peterson 2015), and reduces the risk of the nurse's own fears impinging on patient care (Arman 2007). Qualitative (e.g., Kociszewski, 2004) and quantitative studies (e.g., Heidari et al. 2022; Hsieh et al. 2020; Ross et al. 2018; Taylor et al. 1999; Wang et al. 2022) report close associations between spiritual care competence and degree of nurse spirituality or spiritual health. For this reason, spiritual care competency standards include awareness of one's own spirituality, and meaningful reflection upon one's own values and beliefs as contributors to competence (Attard et al. 2019; Marie Curie Cancer Care 2014; McSherry et al. 2020; Rogers and Wattis 2015; van Leeuwen et al. 2009).

By now it might seem self-evident that these 5 characteristics increase progressively with spiritual care ability. A progressive increase with ability would justify the use of confidence and comfort as proxies for ability, and would justify training programs focusing on enhancing personal spirituality, and frequency of provision of spiritual care. However, it is difficult to state outright that the characteristics *do* increase progressively with ability because the quantitative studies cited above, relating characteristics to ability, rely on self-ratings of spiritual care ability. These self-ratings are problematic as will be discussed next.

Self-ratings of spiritual care ability

Self-ratings of spiritual care ability are common in spiritual care studies, probably due to the ease of data collection and the personal nature of spiritual care provision eluding external observation. These self-ratings are either single-item global measures (e.g., "My ability to provide spiritual care is (1) weak, limited [to] (5) strong, comprehensive" (Taylor et al. 1999, p. 32); "How high do you consider your ability to provide spiritual care is? Very Low ... very high" (Lundmark 2006, p. 867)) or multi-item measures that assess several aspects of spiritual care competence (e.g., "I can evaluate the spiritual care that I have provided" and "I can record ... a patient's spiritual care in the nursing plan" are 2 items in van Leeuwen et al.'s (2009, p. 2867) scale; other scales are the EPICC Spiritual Care Competency Self-Assessment Tool (Giske et al. 2023) and

the Student Survey of Spiritual Care (Meyer 2003)). These types of self-rating measures of ability are used not just in studies of spiritual care competence but also in studies of nurse wellbeing (e.g., Manookian et al. 2023; Wang et al. 2022) and training evaluation (e.g., Kang et al. 2023; Petersen et al. 2017).

However, psychological research has shown that personal assessments of one's own level of ability are generally flawed (e.g., Kruger and Dunning 1999), with most studies reporting low correlations between estimated and actual ability (Mabe and West 1982). The problematic nature of self-ratings are recognized in nursing (e.g., Kajander-Unkuri et al. 2015; Liang et al. 2021), and in other healthcare disciplines (e.g., physicians (Davis et al. 2006), psychiatry (Sowden et al. 2017; pharmacy (Gabbard and Romanelli 2021)). One type of flaw in self-assessment is that "the skills that engender competence in a particular domain are often the very same skills necessary to evaluate competence in that domain – one's own or anyone else's" (Kruger and Dunning 1999, p. 1121), thus rendering the information individuals use to form the assessment incomplete in some way (Dunning et al. 2004).

Another flaw in self-assessment of spiritual care ability in particular is that the term "spiritual care" does not have a widely accepted definition (Mascio et al. 2023) – if different nurses have different understandings of the term "spiritual care," they are not all answering the same question. These issues have prompted Ross et al. (2018) to call for measures of actual rather than self-perceived spiritual care competence.

An alternative measure of spiritual care competence

Fortuitously, an approach to work competence has emerged recently that exploits differences in understandings of work among workers, which can be used as a measure of actual competence (Sandberg 2000). This approach is based on the premise that work is understood in a limited number of qualitatively different ways. These different understandings are manifested in different ways of working, and can be ordered in terms of complexity or completeness, with more complete or broader understandings being associated with better job performance. An individual's level of competence can therefore be gauged by the level of their understanding of work. Studies of competence based on this approach have been conducted in many work domains, such as engine optimization (Sandberg 2000), project management (Chen and Partington 2006), veterinary practice (Matthew et al. 2011), program management (Partington et al. 2005), acupuncture (Ryan 2005), anesthesia (Larsson et al. 2004), telenursing (Kaminsky et al. 2009), and diabetes care (Holmström et al. 2000).

The first part of our study, reported in Mascio et al. (2023), applied the same approach to nurses' understanding of spiritual care. Four models, representing meanings of spiritual care work by nurses, were found:

- Model A – active management of the patient's experience, in which the nurse decides and performs actions that nurses unilaterally believe, will bring patients comfort;
- Model B – responsive facilitation of patient's wishes, in which the nurse elicits from patients the emotional/spiritual needs/desires that have value/meaning for them, and ensuring these needs are met to the best of their ability;
- Model C – accompaniment on the patient's dying journey by having patients share their thoughts/feelings about the situation; and
- Model D – empowering co-action with the patient, in which the nurse collaborates/partners with the patient to move them along their unique, dying journey.

By drawing on spiritual care, work pedagogy, and expertise development evidence, Mascio et al. (2023) demonstrated that these models could be arranged in order of increasing competence from A to D. These models can thus be used as an alternative to self-rating of spiritual care competence, by determining the spiritual care models subscribed to by nurses.

The aim of the current exploratory study is to re-examine the relationship between nurse characteristics and spiritual care competence, using spiritual care models as a proxy for competence.

Method

Overview

This work is part 2 of a 2-part study of nurses' spiritual care behavior. Data was collected from a convenience sample of 66 American nurses who completed an anonymous, online survey. The survey provided qualitative data about what spiritual care means for them and what they generally do to provide spiritual care. The first part of our study analyzed this qualitative data, finding 4 different ways of understanding spiritual care, which are reported in Mascio et al. (2023) and Supplementary Material. The survey also provided quantitative data: demographic data (sex, age, nursing experience, education levels); how frequently they provided spiritual care; and their levels of agreement, using Likert scales, with statements relating to confidence and comfort providing spiritual care, spirituality and adequacy of training in spiritual care. This study presents an analysis of this quantitative data.

Analysis

The sample was divided into groups based on the spiritual care model ascribed to participants, according to the 4 categories described in Mascio et al. (2023).

The variables of age, education, and nursing experience were treated as ordinal variables and each participant's response was assigned a numerical code, shown in Table 1. Kolmogorov–Smirnov tests and Q–Q plots showed that the Likert variables were not normally distributed.

The median of each variable for each spiritual care model group was calculated. Kruskal–Wallis statistical tests were used to compare variables across model groups. Where significant differences were identified, post hoc comparisons assessed which groups differed from one another. Responses to the variable of sex were assigned a numerical code, shown in Table 1, and were compared across model groups using the χ^2 -test.

Results

Table 1 shows the sample characteristics. Of the 149 nurses who responded to the invitation to participate, 66 completed the survey. Of these, 89% were female, and ranged in age (18–60+ years), nursing experience (up to 20+ years), education levels (from vocational/practical to Masters), and health settings (e.g., general hospital, ICU, community).

Table 2 shows the number of nurses in each spiritual care model group, ascribed to participants according to the 4 categories described in Mascio et al. (2023). The numbers of nurses assigned to Model A, B, C, and D groups were 12, 28, 16, 10 respectively.

Table 2 also shows the median of each variable for each model group. Kruskal–Wallis tests detected that the 4 groups did not differ significantly in comfort and confidence providing spiritual care,

Table 1. Characteristics of participants ($N = 66$)

Characteristic	Code assigned to response during analysis	<i>n</i>	%
Age (years)			
18–29	1	8	12
30–44	2	19	29
45–60	3	20	30
Over 60	4	19	29
Education level			
Vocational/practical certificate	1	4	6
Diploma	2	4	6
Associate	3	20	30
Bachelor	4	31	47
Masters or higher	5	7	11
Nursing experience			
Less than 2 years	1	4	6
2–5 years	2	5	8
6–10 years	3	13	20
11–20 years	4	16	24
More than 20 years	5	28	42
Sex			
Male	1	6	9
Female	2	60	91
Frequency of spiritual care			
Sometimes	1	35	53
Often	2	19	29
Very often	3	12	18
		Mean	SD
Confidence	1–5 ^a	3.30	.79
Comfort	1–5 ^a	3.21	.85
Training adequacy	1–5 ^a	2.52	.69
Personal spirituality	1–5 ^a	2.82	.89

^aCodes for Likert variables ranged from 1 = strongly disagree to 5 = strongly agree.

age, education level, nursing experience, or sex; that is, nurses in all 4 competence levels scored similarly on these variables.

Table 2 shows that the Kruskal–Wallis test detected significant differences ($p < .05$) across spiritual care models in training adequacy(/spirituality). Nurses in Model A and B groups scored lower in training adequacy(/spirituality) than nurses in Model C and D groups. However, there was no difference in scores between Model A and B groups, or between Model C and D groups.

Table 2 shows that the Kruskal–Wallis test detected a significant difference ($p < .05$) across spiritual care models in frequency of provision of spiritual care. Nurses in the Model A group scored lower in frequency than nurses in Model C and D groups, and nurses in the Model B group scored lower in frequency than nurses in the Model D group. However, there was no significant difference

Table 2. Statistical comparison of medians of nurse variables for each spiritual care model^a

	Spiritual care model				Kruskal–Wallis test		
	A (n = 12)	B (n = 28)	C (n = 16)	D (n = 10)	Test statistic	p-value ^b	Post hoc comparison ^{c,d}
<i>Spiritual care-related variables</i>							
Median confidence	3	4	4	3	2.43	.488	–
Median comfort	3	3.5	3	3	2.53	.471	–
Median training adequacy	2	2	3	3	23.84	<.001*	A, B, C, D
Median frequency	1	1	2	2	13.37	.004*	A, B, C, D
<i>Demographic variables</i>							
Median age	1.5	3	3	3	4.79	.188	–
Median education	4	3.5	4	3	2.71	.439	–
Median nursing experience	2.5	4	5	4.5	5.53	.137	–
Median spirituality	2	2	3	4	21.64	<.001*	A, B, C, D
Median sex	–	2	2	2	5.93	.12	–
<i>Proposed characteristics (see Discussion)</i>							
Affiliation	Low	Low	High	High			
Control	High	Low	Low	Medium			

^aSPSS version 28.0 (IBM) software was used for all statistical analyses.

^bSignificant differences ($p < .05$) are denoted with an asterisk.

^cp-values were not adjusted for multiple comparisons as doing so would be overly conservative for this exploratory study, masking important findings that could warrant further investigation (Armstrong 2014).

^dA line joining 2 groups denotes no significant difference between these groups. Groups not joined by lines are significantly different from each other, with values of the characteristics increasing from Model A to Model D.

in frequency scores between nurses in Model A and B groups, between nurses in Model B and C groups, and between nurses in Model C and D groups.

Based on the premise that the 4 groups can be arranged in order of increasing competence from Model A to Model D (Mascio et al. 2023), the overall results show that while the least and most competent groups scored lowest and highest respectively on training adequacy, spirituality, and frequency, relationships between competence and these variables were not linear; i.e., higher competence did not always correspond with higher scores of training adequacy, spirituality, and frequency of provision of spiritual care.

Discussion

This study divided a sample of nurses into sub-groups based on their model of spiritual care, obtained a profile of nurse characteristics for each sub-group, and tested whether characteristics differed across groups. To the extent that the spiritual care models can be arranged in order of increasing competence from A to D, the result have implications for predictors and development of competence.

Enhanced understanding of predictors of spiritual care competence

We found that confidence and comfort in providing spiritual care did not differ significantly across spiritual care models, suggesting that confidence and comfort may not be related to actual performance in spiritual care. This result may initially seem contrary to much of the spiritual care literature in which confidence and comfort are used as measures of competence (e.g., Temby et al. 2020).

However, the result may have arisen because the questions used in those studies – and our study – referred to “spiritual care” without defining spiritual care (e.g., “I am comfortable providing spiritual care”) so respondents would likely have substituted their idiosyncratic definition. Thus, a nurse with a Model D understanding and another nurse with a Model A understanding could experience similar levels of confidence and comfort in providing what they define as spiritual care. This finding has practical relevance for spiritual care researchers, as it raises concerns about the construct validity of using comfort and confidence as estimates of spiritual care ability. Researchers should also consider the implications of using survey items that refer to “spiritual care” generically without providing a definition (i.e., with the implicit assumption that all participants understand the term “spiritual care” in the same way). In our study, a deliberate choice was made *not* to provide a definition of spiritual care, because our method actually relied on differences in understanding of the term “spiritual care” as a proxy for competence.

Our results partly conform to extant findings regarding the positive relationships between competence and nurse spirituality, training, and frequency: higher levels of these characteristics were associated with higher order models (i.e., Model D had higher levels than Models A and B), but higher models were not necessarily associated with higher levels of these characteristics (i.e., there was no significant difference in these characteristics between Models A and B, and between Models C and D). This partial discrepancy is most likely due to extant studies assuming linear relationships between predictor and ability across the whole sample of nurses (allowing correlations and regression to be used as statistical tools), and assuming that all sample participants understood spiritual care in the same way. These studies produce findings, such as “the

higher the self-assessed competence was scored, the higher the frequency of delivering spiritual care” (Vogel and Schep-Akerman 2018, 1317); “[s]piritual ... [i]nvolvement score increasing by one point will likely increase [spiritual care competence] by 0.14 point” (Hsieh et al. 2020, 1611) and “Training in spiritual care increased spiritual care competence by 0.238 times compared to those who didn’t receive any training in spiritual care ...” (Seid and Abdo 2022, 6).

Our study did not make these assumptions: we divided the sample into groups based on understanding of spiritual care (thereby relaxing the assumption that participants understood spiritual care in the same way) and used Kruskal–Wallis tests to assess equality of medians between groups (thereby relaxing the assumption of linearity between predictor and ability across the whole sample). As a result, our findings show that the relationship between the characteristics of frequency, training, and spirituality might not be as linear as portrayed in extant studies; that is, higher levels of these characteristics were not necessarily associated with higher competence. This result has implications for competence development in spiritual care. Let’s take as an example the nonlinear relationship between personal spirituality and competence. A key aim of many spiritual care training programs is to increase competence by enhancing participants’ own spirituality (Jones et al. 2021). If the relationship between spirituality and competence is not linear, then the outcomes achieved by efforts to enhance personal spirituality are not assured, because the outcome depends on the model of spiritual care subscribed to by training participants. For instance, our findings suggest that efforts to enhance the spirituality of nurses who subscribe to Model B might increase competence, but such efforts may not be effective in enhancing the spiritual care competence of a nurse subscribing to Model C.

None of the measured characteristics distinguish between Models A and B, or between Models C and D. This suggests that other characteristics play a role, and begs the question of what those characteristics might be? Our previous study (Mascio et al. 2023) found that Models A and B are similar in that both are related detachedly from the patient, whereas Models C and D both relate intimately with the patient. As well, Models B and C are similar in that the patient is more active and directive than the nurse, whereas in Models A and D the nurse takes a more directive role. These attributes of intimacy and directivity loosely concord with the characteristics of affiliation and control in psychological theory. Affiliation (i.e., to be friendly and caring toward) and control (the degree to which one person attempts to dominate or control another’s behavior) are independent, universal, pervasive dimensions underlying all human interpersonal behavior (Leary 1957). These 2 dimensions have been shown to operate in a range of personal and professional interpersonal contexts (e.g., parent-child (Wilson et al. 2013), between-children (Ojanen et al. 2005), staff-prisoner (Gredecki and Ireland 2012), teacher-student (Roorda et al. 2017), staff-patient (Ma and Dubé 2011), physician-patient (Kiesler and Auerbach 2003)). Therefore, we propose that affiliation and control could be 2 characteristics that distinguish the spiritual care models according to the proposed pattern in Table 2. This should be tested in further research.

An application of Ericsson’s framework for expertise development

Our results can be interpreted within the expert-performance framework of Ericsson (2009) to provide suggestive insights about how nurses achieve high levels of spiritual care competence. This

framework describes expertise acquisition as a sequence of states associated with higher levels of performance, which is facilitated by several components, such as deliberate practice, motivation, and specialized training. We chose this framework because it accounts for variables comparable to those used in our study, and it is commonly used in interventions to develop nursing skills (e.g., triage (Campbell et al. 2022); vaccine recommendation (Rosen et al. 2022); cardiovascular assessments (Jeffries et al. 2011); and transition to practice (Bloomington et al. 2022)). The framework has traditionally been applied to domains where there is an element of competition (e.g., sports, chess, music) and where tasks/problems are relatively well-defined and reproducible. It requires adaptation when tasks are not so easily reproduced. We discuss here how some elements of the framework could be adapted to the “task” of spiritual care, using the patterns of results shown in Table 2 as a springboard.

Ericsson (2009) proposes that each state that accompanies a higher level of performance is associated with more refined mental representations of task requirements. These representations are structures of task-related knowledge. To illustrate, representations that mediate expert music performance include an image of the sound that the musician wants to produce, and a means of translating that image into action (Lehmann et al. 2018). When applied to the “task” of spiritual care, the models of spiritual care could be a type of mental representation of the task, outlining the condition the nurse wants to achieve with the patient, and the actions to be implemented to achieve that condition.

A specific form of task-related knowledge stems from an individual’s spirituality. Emmons, an expert in the psychology of spirituality, states that spirituality is part of a person’s knowledge base (Emmons 2000). Spirituality (i.e., information related to the sacred, however defined) helps a person to process spiritual data, to utilize spiritual resources to resolve situations, and to engage in virtuous behaviors such as being compassionate, humble, and grateful. The role of spirituality could thus explain how and why spirituality is loosely related to competence in our study.

Within Ericsson’s framework, several components facilitate the acquisition of expertise. These components act together and are not independent of each other. One component is the amount of time spent in *deliberate practice*, which is an activity engaged in with the goal of improving performance; merely repeating the same practice activities mindlessly would not lead to significant improvement (Ericsson 2008). We posit that the amount of deliberate practice in spiritual care could loosely be related to the frequency of spiritual care. We have already noted that several studies report positive associations between ability and frequency of spiritual care (e.g., Taylor et al. 1999). Additional support for this posit lies in studies that document improvements in performance with increasing frequency of performing medical procedures of a given type (e.g., colorectal surgery (Huo et al. 2017); bariatric surgery (Zevin et al. 2012); radiology diagnosis (Nodine et al. 1999)).

Another component in Ericsson’s framework that facilitates expertise acquisition is *motivation* (Ericsson 2009). The key attribute of deliberate practice is that individuals *seek* out opportunities to improve; and those who become expert persist in doing and reflecting on activities that are not absolutely necessary and that require focus and effort. Given that many workplaces and nurses prioritize physical care over spiritual care (Selman et al. 2018), one could argue that nurses who provide spiritual care are doing something not absolutely necessary. We posit that spirituality, besides being a form of knowledge, could also act as motivation to improve. This posit arises directly from Pargament (2013), who

offers extensive theoretical and empirical evidence to show that spirituality is a distinctive human motivation in individuals that urges them to build a relationship with something sacred in their lives. Additional support for this posit comes from studies in nursing spiritual care that report a connection between spirituality and motivation to provide good spiritual care (e.g., Gholamreza et al. 2010; Golberg 1998; Taylor et al. 2014). As well, a quantitative study examining nurses' desire for spiritual care training – which could reflect a desire to improve – found that lower spirituality was significantly associated with a *lack* of desire for training (Balboni et al. 2014).

Another component in Ericsson's framework that facilitates expertise acquisition is *specialized training* specific to the task, aiming to enhance the ability to perform the task (Ericsson 2008). Specialized training facilitates the acquisition of mental representations to monitor, control, and refine performance in a specific task, and provides immediate feedback. In a review of research of expertise in nursing and medicine, Ericsson (2004, 2007) found that consistently superior performance in certain, specific tasks were all linked to specialized training in those tasks, and that level of general nurse education had mixed effects on performance. These findings of Ericsson's are loosely reflected in our study in which higher spiritual care models were proximately related to more adequate spiritual care training but not to nurse education level.

One component NOT in Ericsson's framework is length of professional experience, which Ericsson et al. (2007) found bears no relationship to performance. His finding is echoed in our finding that length of nursing experience is unrelated to spiritual care competence. The reason for this lack of relationship is most likely explained by the following: "Experience is necessary for moving from one level of expertise to another, but experience is not the equivalent of longevity Experience means living through actual situations in such a way that it informs the practitioner's perception and understanding of all subsequent situations" (Benner and Wrubel 1982, 13).

Confidence does not figure as a measure of performance in Ericsson's framework, because experts can miscalibrate their capabilities by being overly confident (Chi 2006). Comfort also does not figure in Ericsson's framework because, as most individuals adapt to a domain, their skills become automated enabling them to execute actions smoothly and without apparent effort (i.e., comfortably) (Ericsson 2004), and triggering a tendency to remain at this comfortable level that maintains a sufficiently satisfactory level of performance (Ericsson et al. 2007).

We have suggested a preliminary adaptation of some of Ericsson's framework components – deliberate practice, motivation, specialized training – which can be perceived in our results. Future research could explore the adaptation of these components more fully (e.g., there may be other motivators besides spirituality that operate in expertise acquisition of spiritual care) and of other components not discernible in our study (e.g., immediate feedback).

Limitations and future research

Use of a convenience sample of nurses means that the representativeness of respondents and external validity are unknown. The sample size and data non-normality obliged the use of the Kruskal–Wallis test to detect group differences, but this test is not as powerful as some other statistical tests in detecting differences. The cross-sectional data gathered does not permit conclusions about causality between predictors and competence. Future

research should examine a larger representative sample over time, to increase the power and external validity of findings and to investigate causality.

Conclusion

This study suggests that confidence and comfort in providing spiritual care are not related to actual performance of spiritual care, which raises concerns about the construct validity of using comfort and confidence as estimates of spiritual care competence. The study also shows that the relationship between spirituality, training adequacy, and frequency of spiritual care provision might not be as linear as portrayed in extant literature, which suggests that outcomes of training may depend on the type of spiritual care model subscribed to by training participants. The results can be interpreted within an expert-performance framework to provide insights about how nurses could achieve high levels of spiritual care performance.

Supplementary material. The supplementary material for this article can be found at <https://doi.org/10.1017/S1478951524000750>.

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Competing interests. The authors declare none.

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