

The Moral Construct of Caring in Nursing as Communicative Action

The Theory and Practice of a Caring Science

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This article presents an instrument and data testing a theory of the Moral Construct of Caring in Nursing as Communicative Action. Pilot testing involved 185 items administered to 82 nurses in 3 countries. The instrument includes 7 subscales addressing the nurse's personal and professional selves, the patient's personal and illness selves, the bidirectional interaction, the moral maturity of both, and the current state of nursing practice. Results suggest that the theory provides predictive control of the phenomena, drawing attention to the founding of evidence-based practice on practical, workable theory. Research continues, focusing on refining construct definitions and improving reliabilities. **Key words:** *caring in nursing, evidence-based practice, instrumentation, Rasch methodology, theory*

NURSING PRACTICE is predicated on understanding the lived or subjective experience of the patient and the application of the appropriate knowledge and skills to alleviate suffering. It is important to understand the what, why, and how of the ways this is accomplished. Nursing knowledge and understanding of the patient experience and alleviation of suffering include elements of the medical sciences related to disease and its diagnosis and treatment as well understanding of the human condition and the management of the various problems and issues that arise in the process of care.

Theory underpins the expansion of a specialized discipline that is more than practice and provides a “well defined and well organized body of specialized knowledge.”^{1(p4)} But in nursing practice, a theory, if it is to be utilized, has to be workable, commonsensical, and practical or doable. Many philosophies characterized as “Grand Theory” do not fit these criteria because they are highly conceptual and abstract, worthy of scholarly debate, but little else, for the nurse at the bedside. Nevertheless, the scholarly nursing literature reveals depth in the theoretic and philosophic bases of professional nursing. From this solid foundation, effective and efficient evidence-based practice is derived.

Evidence-based practice can be readily applied to tasks and skills, but there has been more difficulty in articulating evidence-based practice when examining what makes nursing caring or caring in nursing. Most nurses believe that caring remains a critical basis for what we do as nurses. *Care* is a word loosely bandied about in nursing: the word is a noun, an adjective, a verb, and an adverb. It has become an almost meaningless word

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yet it is used whenever the practice of nursing is discussed. Thus, caring in nursing remains, in its imprecision, a conundrum for nurses as to what it actually is. Morse² claimed that the concept remains “murky,” and Paley³ was scathing in his condemnation of nursing scholars, who, he claimed, have not brought substantial new insights to bear on caring. Paley believed that descriptive studies continue in a meaningless proliferation without introducing anything really new that moves the ontology and epistemology of caring in nursing forward.

Watson⁴ confirms this when she acknowledges that the concept of caring is central to nursing, and many believe it ubiquitous, while still finding it nonsubstantive and non-generalizable. Watson’s argument for empirical measurement as a means of furthering the ontology and epistemology of caring in nursing presents a persuasive and potentially powerful perspective. An understanding of caring in nursing in real terms is crucially important for the advancement of evidence-based practice. Thus, an understanding of the concept of caring and its application is essential in a healthcare world demanding evidence-based practice.

This article presents a theory of the moral construct of caring in nursing as communicative action⁵⁻⁷ and the development of an instrument intended to embody and implement that theory. Pilot testing has been completed. The results reveal a new understanding of caring in nursing that can be usefully applied in practice and the implications of a workable theory for practice.

CARING IN NURSING

There are 2 players involved in the local act of caring in nursing, the patient and the nurse. Nurses are just as human as other humans, although this obvious fact is often ignored, even by nurses themselves. The identities of patients and nurses are defined in part by the roles they play, and these roles are delimited by the particular lifeworld of the healthcare

delivery system. Nurse and patient function in a unique social world to which each brings his or her lifelong experiences, values and beliefs, and expectations of the other. Emotion and reason are inextricably entwined for both, and both of these characteristics influence how the other interacts with the other. Each is a complete human being with some specific needs and wants. What this means is that in this social world, the communication between nurse and patient flows in both directions, and in the ideal each can meet the needs of the other while his/her own needs are met. Any definition of caring in nursing should incorporate the needs of the nurse as much as the needs of the patient. When the nurse’s needs are acknowledged as an active component, the communication between the 2 becomes 2-way as opposed to 1-way, directed toward the patient only.

Habermas’ *Theory of Communicative Action and Moral Consciousness*⁸ was the definitive work for Sumner, changing her thinking in ways hitherto unrealized. Habermas draws on both Kohlberg’s⁹ theory of moral development and Selman’s¹⁰ theory of perspective taking in socio-cognitive development for his theory. He discusses but does not accept Gilligan’s¹¹ hypotheses because he claims that justice as fairness is derived from moral reasoning and is not gender dependent. This work is also built on his earlier work related to the 3 knowledges: empirical-analytic science, which facilitates technical; objective knowledge, which Habermas now posits within the normative claim to truth; historical-hermeneutical science, which is practical intersubjective knowledge with moral practical insight and is posited within the normative claim to rightness; and emancipatory science, which concerns the reflective intrasubjective self and aesthetic judgment and is posited within the normative claim to truthfulness. The claims to normative validity emerge and are derived from social interaction. Socialization occurs through historically contingent language of a shared social world, and an individual’s inner core is formed through socialization. It is the way

the individuals participate in communication that offers the moral dimension because norms emerge only through communication. Communication exposes all humans to potential misunderstanding. This renders them vulnerable; therefore, everyone requires “considerateness” as a fundamental, moral aspect of communication.

Discursive interactions range from coercive or strategic to negotiated. In the latter, each party has the opportunity to agree or disagree with the course of action and to accept or reject the consequences. When mutual understanding is negotiated, “considerateness” occurs. Consideration for others and oneself does not emerge all at once, fully formed, and moral discourse has been shown to vary along a continuum ranging from

- preconventional maturity, which is ego-centric and obedient to authority, not identifying others except in reference to the self, to
- conventional maturity, which includes an awareness of others that is less circumscribed by a relation to the self and which also asserts an initial, thinking objectivity that precludes mindless obedience to authority, and to
- postconventional maturity, which is formed when a participant is able to participate abstractly or detachedly in an interaction to evaluate one’s own behaviors and hear the other fairly and justly.

The quantitative existence and consistent measurability of these and other distinct ranges in a hierarchy of stages of moral development have been substantiated in recent research that establishes a common framework for comparing maturation across theories and scoring systems.¹²

Habermas⁸ suggests that postconventional moral maturity is difficult for most, if not impossible. We hypothesize that few patients will reach the state of postconventional moral maturity, but the expert nurse who has confidence in herself or himself and is competent, has the potential to reach this stage. This research focuses on caring as the means by

which nurses and patients interact to attend to the illness or disease state of the patient. The long-term aim of the research is to open the door to a new paradigm of research. The theory of moral development, as it is embodied in practical instrumentation, could potentially be productively applied to a broad range of problems that the profession of nursing currently confronts, such as issues of recruitment, retention, burnout, quality of life, and outcomes research.

THE MORAL CONSTRUCT OF CARING IN NURSING AS COMMUNICATIVE ACTION

Sumner^{5,6} framed Habermas’ theory for the nurse-patient interaction as follows. Each has 2 perspectives, the personal self, which is intrasubjective and includes every aspect of the individual, including emotion and reason, and also physical, spiritual, and social elements as well. All of these have implications and impacts on present experience. The fore-structures of understanding are the tacit filters through which attention is focused and projected into the world. The facts we choose to focus on are influenced by one’s past as well as by one’s hopes and expectations for the future. All individuals’ identities are shaped through interactions with others. Individuals have feelings about everything, including themselves, and these feelings structure perceptions of the world and influence interests. Thus, Heidegger¹³ came to hold that human being is fundamentally characterized by care. In short, all human needs are met through the primordial condition of human caring.

Survival instinctively creates an inherent obligation toward oneself to meet these needs. Only when these are met can an individual recognize and meet the needs of others. Mayeroff^{14(p23)} identifies caring as growth, one experiences what one cares for as an “extension of me that I respect in its own right.” This suggests both concern and caring for self and for other. Individuals have personality traits, physical characteristics, and

different social roles that constitute the being, and these influence emotional and cognitive perspectives used to interpret self and the human experience.

Meeting the needs of each individual results in communication that is both verbal and nonverbal. No human lives outside a social, communicative world, and maturing within this means exposing a fundamental, existential vulnerability. It is with acknowledgment of this that the norms of any particular society are established. When consensus, based on “considerateness” for innate human vulnerability, is reached through discourse, it means that agreement has established norms and is, therefore, moral.⁸

In the moral construct of caring in nursing as communicative action, the personal self of nurse and patient is not dissimilar because both are participants in communication or discourse, which leaves them open and exposed and in need of “considerateness.” This vulnerability is real for both, but it is perhaps more exquisite for the patient who has entered into this particular lifeworld with some specific health/illness need. Emotion and cognition are parts of the personal self, the former influences the latter, and both have an impact in the interaction. The personal self is both intrasubjective self and intersubjective self when the personal self is exposed in the interaction. As such, the personal self falls within Habermas’ normative claim to truthfulness and the normative claim of rightness.

The professional self of the nurse includes factual or theoretic, practical, and experiential knowledge, and the illness self of the patient includes the diagnosis, coping mechanisms, and family supports. While the professional self of the nurse and the illness self of the patient are influenced by reason, emotion stamps its own imprimatur on the responses of each within self and toward the other. Thinking or reason lies within Habermas’ normative claim to truth that he describes as fact. Fact for the nurse lies in the scientific knowledge that underpins nursing, that is, understanding disease, the body’s response, and the treatment. Or, in the case of the patient, fact lies in understanding the need to seek nurs-

ing service, and the conscious ceding control of the health/illness needs to the nurse. The claim to rightness refers to the interaction or discourse, which occurs between the two of them. Sumner’s premise is that because the nurse-patient interaction is communicative, both are inherently exposed and, therefore, vulnerable, requiring “considerateness.”

As an ideal, caring in nursing is communicative action framed by the unconditional universal thought of respect for all human life, encompassing the spectrum of human experience and is manifest in the verbal and nonverbal discourse between 2 equal and vulnerable human beings. They have assumed the roles of nurse and patient, yet each retains ultimate self-efficacy and a sense of control. The interaction is an interactive, collaborative, covenantal, social contract, related to providing solace for the human condition, and which requires reciprocal accountability and answerability. As a social contract, caring in nursing has an embedded considerateness for the human vulnerability of both nurse and patient. The norms of the interaction are agreed on and are accepted by both. As a communicative intervention, the moral construct of caring in nursing as communicative action validates both individuals as human and arises out of the fundamental dimensions of human experience within a distinct social world.

Sumner suggests that this is the first time that there is a complete theory of caring in nursing that is bidirectional, multidimensional, and one of moral communication. However, one can never be sure that without testing whether a theory can be useful in practice, which is the crux of nursing, or not. It is imperative that specialized knowledge is relevant and grounded in practice otherwise it is of little value. Fawcett¹⁵ indicated that theories need to be evaluated for their merit; therefore, they need to be tested for their theoretical significance and the extent to which they fill a gap in knowledge. They also need to be evaluated for their social significance, which means that a problem or issue of interest to a group is addressed by the new theory.

Theory testing takes the concepts out of the realm of the abstract and reduces them

to hypotheses and measurable, operational definitions. Such reductions are improperly reductionistic only when they are unjustified. All spoken and written communications are of finite length and so reduce potentially infinite variation to concrete expressions. The goal of scientific research, properly conceived, is to justify reductions by showing the limits within which they are invariantly interchangeable. We aim to do this via the implementation of Rasch's unidimensional models of measurement, which both test for invariantly meaningful quantity and, by means of their capacity to take missing data into account, open the door to inclusive ongoing dialogues within and between various theoretical perspectives and research investigations employing different instrumentation.

The authors began to work together to develop Sumner's theory, through the development, testing and refinement of an instrument. Pilot testing in New Zealand, the United Kingdom, and the United States has been completed.

RASCH METROLOGY: FOUNDATIONS OF A CARING SCIENCE

Operationalizing, testing, and measuring theoretical concepts to establish validity and reliability, and the usefulness or appropriateness of a nursing theory for practice, are crucial. As Mishel indicated, instrumentation is required to "index the concept with precision, accuracy and sensitivity." She indicated that, as most nursing instruments measure "personality, attitudinal, affective and cognitive purposes,"^{16(p239)} they are "norm-referenced . . . for the purpose of discriminating between subjects."^{16(p239)} While Mishel's observations are true, unless the instrument itself converts raw scores into interval or ratio measures, then the validity of the instrument may be impaired.

Rasch models

Psychometric analysis utilizing Rasch models provides the means to create interval-level, unidimensional, Guttman-like scales from rat-

ing scale responses to survey questions.¹⁷⁻¹⁹ The precision with which an instrument has been calibrated is represented by the standard error of measurement. Conversely, the precision of each individual respondent's estimated scale location is specified by the standard error of measurement of that person.

Rasch models have been found to achieve mathematical transparency to the extent that the order and positions of the items on the quantitative continuum remain invariant across the persons, as do the person order and positions across the items.²⁰ Equal interval measures are demonstrably obtained, which assist in norm and criterion referencing. The key advantage of the Rasch model is that human interpretation is factored in, as items are ordered by the data on a linear scale of greatest importance to least. Linearity is obtained via a natural logarithm that converts raw scores into measures and effectively eliminates the inconstancy of middle scores versus those at the extremes of the scale.¹⁸ This is how we construct "useful approximations of measures that help us understand the processes underlying the reason why people and items behave in a certain way."^{18(p8)}

Mathematical transparency means achieving the same practical, interpretable data consistency as occurs in the measurement of physical constructs such as temperature. The issue is that quantitative variables are "always and everywhere structured by the repetition of a single unit along a measurement continuum."^{20(p1)} But most instruments used in the social sciences are scales that measure responses to survey questions in ordinal terms. Although efforts are made to establish validity and reliability, it is rare to find tests of the hypotheses that the order and positions of the items on the quantitative measurement continuum remain invariant across the persons measured.²⁰

The importance of Rasch models stems from the fact that counts of correct responses or sums of ratings are minimally sufficient statistics (ie, they are both necessary and sufficient). Measurement requires "objective abstractions of equal units."^{18(p2)} Obtaining such abstractions is difficult because of the

fallibility of human understanding and perception of any performance. Because of this fallibility, we are in special need of agreement on the “reproducibility” of the units of measurement and their location on the scale. What this means in practical terms is that we need measurement models from which “inferences can be made about constructs rather than mere descriptions of raw data.”^{18(p3)} These inferences should hold true for different samples from the same population. When multiple tests demonstrate the strength of a variable, and its ability to stand alone on its own, then a theory becomes a persistently useful tool in predicting the future behavior of a class of phenomena. Though the innovations and rigor Rasch models bring to bear on nursing construct that have been previously described in the nursing literature,²¹⁻²⁶ previous applications of Rasch models in nursing research have neither addressed the construct of caring nor have they situated measurement theory relative to developmental theory.

METHOD

Item bank

A bank of 184 items was developed, 130 of which were related to either the nurse or the patient. Because Sumner’s theory is based on expert nurses’ interpretations of an ideal communicative framework and the patient within that, the items related to the patient were developed from the theory as opposed to interviewing patients to gain their perspectives. Fifty-four items focused on the nurse-patient interaction.

Demographic items were also included to capture not only personal data but also how long a nurse had been in practice, in what specialty, and with what educational preparation. Of these, some were specific to the personal self or the professional self of the nurse and some were specific to the personal self of the patient or to the patient’s illness self.

An effort was made to identify whether reason or emotion was a contributing factor in all the items. An example of the nurse’s personal

self with emotion is “I have always wanted to be a nurse.” A cognitive personal self question is “When I am tending to patients, I think about how I am perceived by them.” A combination of both emotion and cognition influencing the personal self is “I know I am human,” and “I feel vulnerable sometimes in nursing practice.” For the professional self, an example of the cognitive item is “I recognize that my values have influence on my nursing practice.” A combination of emotion and cognition on the professional self is “To me, patients are more than illness problems.”

Items were identified as combining emotion and cognition with a combination of the personal and professional self of the nurse; for example, “I use all of who I am to help my patients” and “My own feelings give me insights into my patients.” For the patient, personal self as an example of emotion-influenced item is “A patient’s sense of self is important to him or her.” A combination of emotion and cognition influencing the personal self of the patient is “A patient is concerned about him or herself.” Concern for the illness self and cognition is expressed in the item “The patient knows he or she has illness needs, which are not human needs.”

Items were developed combining the personal self and the illness self with emotion and cognition; for example, “The patient is apprehensive coming into the healthcare system.” The nurse-patient interaction has items that addressed the immature initial stage (eg, “Initially neither wants to reveal much of the personal self”); the maturing middle stage (“Each realizes that ‘little things’ matter to both of them”); and the late mature stage (“Each become trusting of the other”). A partnership item is “When each thinks the other has heard them, they feel satisfied in the partnership.” An example of a contract item is “With openness, trust and honesty, they collaborate and meet the humans needs of each other.”

The theory of bidirectional communication informed both the writing of the items and the orientation toward the construct itself. The individuated caring self is reflectively constituted through the interactions with

patients and with the caring process. Similarly, individual nurses' caring measures and individual caring items' calibrations are hypothesized to converge and separate along a coherently defined continuum of less and more. Items were written so as to provoke consistent use of the entire range of response options, with the intention of producing data that would warrant quantitative inferences.

Pilot calibration study design

Having developed the bank of items it was decided to test the instrument by having 3 different groups of nurses complete the questionnaire. Some nurses, designated groups A and B, would receive all the items, while group A and group B would share one third of the items and each would have a further third that the other did not receive. Items were assigned to the A and B groups proportionately from each subscale.

Two purposes were served by this design. First, fewer nurses would have to respond to all 184 items. Second, the design facilitates tests of the hypotheses that the items will scale in the same orders and relative positions across groups of nurses, and that the nurses will similarly be consistently measured across item groups. That is, for each separate construct measured,

- Do the items unique to group A and groups A and B produce nurse measures that are commensurate with the measures produced by the items shared by all 3 groups (ie, do the pairs of measures correlate highly and plot linearly)?
- Do the items unique to group B and groups A and B produce nurse measures that are commensurate with the measures produced by the items shared by all 3 groups?
- Do the nurses unique to group A produce item calibrations that are commensurate with the calibrations produced by the group B nurses and with those produced by the group A and B nurses?

The point of posing these questions is to test the strength of the construct vis-a-vis its

capacity for supporting the broadest inferences and generalizations. Positive answers to these questions are not expected for data that do not live up to the requirements of additive conjoint measurement, so they either do not fit the measurement model or they do so in association with low-reliability coefficients.

When one of these questions is answered negatively, that is, when plots are nonlinear and correlations fall below 0.85, this is neither a sign of defeat nor an invitation to accept less stringent data quality standards. Our goal is not to describe mere facts but to marshal evidence in support of the practical consequences of a meaningful theory. The disclosure of weaknesses in the quantitative structure of the variable measured is interpreted positively as opening opportunities for instrument improvement. Negative results often point the way toward off-construct items, mixed populations in the sample, data entry clerical errors, and administrative inconsistencies. None of these extraneous sources of error is a desirable data component. Identifying and removing them is an important, but usually omitted, step in the process of instrument assessment and validation.

The rating scale

The nurse and the patient items were associated with a 6-category rating scale extending from Very Strongly Agree to Very Strongly Disagree. Responses were scored so that more agreement corresponded with a higher sum score and a higher measure for the nurses, with Very Strongly Agree scored 6 and Very Strongly Disagree scored 1. Items were generally phrased positively so that more agreement consistently expressed a more positive assessment of the construct measured and a higher measure. This condition was reversed for the State of Nursing Practice Scale on which all items were written with a negative phrasing. In this case, then, a higher measure indicates more agreement with worsening expressions of the state of nursing practice. The reason for having a series of negatively phrased items is

because there is a stronger and more decisive response of agreement or the reverse from respondents, and this strengthens the overall reliability and validity of the total instrument. The nurse-patient interaction items were on a 5-category rating scale extending from Very Early (scored 5), Early, Later, Much Later, and Not At All (scored 1). Nurses who rated interactions of various kinds as generally occurring earlier in the relationship had higher sum scores and measures than nurses rating these interactions as occurring later. Conversely, items accruing higher ratings

were calibrated near the bottom of the scale and those with lower ratings near the top. Higher measures are then associated with progressively earlier experience with all interactions and lower measures with later.

Sample

The sample's demographic frequencies are shown in Table 1. Some data were missing, but there were a total of 82 utilizable responses.

Table 1. Sample demographics

Categories	Frequency	Percent	Valid percent
Sex			
Female	70	85.4	7.9
Male	6	7.3	92.1
Valid total	76	92.7	100.0
Missing	6	7.3	
Grand total	82	100.0	
Age groups			
20-30	9	11.0	11.5
31-40	22	26.8	28.2
41-50	27	32.9	34.6
51-60	19	23.2	24.4
61-70	1	1.2	1.3
Valid total	78	95.1	100.0
Missing	4	4.9	
Grand total	82	100.0	
Ethnicity			
White	62	75.6	79.5
Hispanic	2	2.4	2.6
African American	4	4.9	5.1
Asian	2	2.4	2.6
Other	8	9.8	10.3
Valid total	78	95.1	100.0
Missing	4	4.9	
Grand total	82	100.0	
Country of residence			
New Zealand	30	36.6	37.5
England	12	14.6	15.0
USA (Louisiana)	32	39.0	40.0
Other	6	7.3	7.5
Valid total	80	97.6	100.0
Missing	2	2.4	
Grand total	82	100.0	

RESULTS

Data were evaluated for their capacity to meet the requirements of objective, meaningful, quantitative inference, using the Winsteps²⁷ software. Twenty-three percent or 19 nurses had been in practice for 11 to 20 years, 13 (15.9%) had been in practice for 21 to 25 years, and 18 (22%) had been in practice for 1 to 5 years. Most worked as staff nurses in medical/surgical units (47, 57.3%), with both the intensive care unit and outpatient center having 10 (12.2%) respondents each. Almost 60% were aged between 31 and 50 years and most had either an associate degree (22, 26.9%) or a baccalaureate degree (26, 31.7%) or the equivalent.

Following pilot testing, 7 distinct measurable constructs have been provisionally identified. The scale quality statistics for each subscale are shown in Tables 2 and 3. The ranges for the statistics rated in Table 2 are shown in Table 3. Because error is typically underestimated in traditional reliability coefficients,¹⁹ the Cronbach α estimates of reliability are generally higher for all scales than the conservative measurement reliabilities reported here. Model fit, as indicated by the information-weighted and outlier-sensitive mean square statistics, is satisfactory on all scales. The subscales, items, coding, with most agreement, least agreement, and limited agreement/problematic items are shown in Table 4.

Of the 102 caring items, 9 provoked responses of uniquely differing consistencies, such that the items would not maintain invariant locations on any of the calibrated scales. The remaining 93 items' rating scales optimized to 4 categories, for all 3 constructs (caring identity, patient focus, and professionalism), with all of the disagree categories combined to form a single category capturing about 7% of the responses. For the 5-category Very Early to Not At All rating scale, Early was combined with Later and Much Later was combined with Not At All, resulting in a 3-category scoring for the 3 interaction scales.

The Caring Identity scale's measurement reliability was 0.91. For the patient focus scale, it was 0.89 and for the professionalism scale, it was 0.56. The nurse-patient interaction items fall into 3 dimensions. The Trusting Partnership scale has 29 items with 0.85 measurement reliability. The Communicative Mutuality scale has 10 items with 0.71 measurement reliability. The Responsibilities of Care scale has 15 items with 0.90 measurement reliability.

Finally, for the negatively phrased Nursing Practice scale, the original 6-category rating scale optimized to the mirror image of the positively phrased items' optimization, with all of the agree categories combined into a single category capturing 10% of the responses. This scale's 28 items measure with a reliability of 0.90.

DISCUSSION

As would be expected from the category frequencies shown in Table 1, cell sample sizes are often too small to determine whether meaningful failures of invariance or meaningful differences in measures exist across groups. However, combining age groups 20 to 30 with 31 to 40 and 51 to 60 with 61 to 70 resulted in cells with a minimum count of 18. The oldest age group had an average mean square outfit statistic of 1.3 associated with its Professionalism measures, with a standard deviation of 1.1, where the expected values are 1.0 and about 0.50. This significant departure from expectation was driven largely by 4 nurses in particular, though they seemed to have little in common. They varied categorically across all of the demographic, educational, and practice characteristics, with the exceptions of all 4 being Caucasian females more than 50 years of age who practice in the same countries they trained in. Three of them said that they work primarily in medical/surgical areas, with 1 in outpatients department.

Three of these cases provide the least consistent responses of all 75 nurses measured on the Professionalism scale. The other provides

Table 2. Caring in nursing quality ratings

Criterion	Caring identity	Patient focus	Professionalism	Partnership	Communicative mutuality	Responsibilities of care	Nursing practice
No. of items (categories)	44 (4)	38 (4)	11 (4)	29 (3)	10 (3)	15 (3)	28 (4)
Actual No. of items, mean (SD)	34.5 (7.1)	29.1 (5.7)	8.3 (2.0)	22.8 (4.4)	7.3 (2.2)	11.9 (2.2)	21.3 (4.4)
Targeting	Fair	Fair	Fair	Fair	Very good	Good	Good
Item model fit range	Good	Good	Good	Fair	Good	Good	Fair
Measurement reliability	Very good	Very good	Poor	Fair	Fair	Poor	Good
Measurement strata separated	Very good	Very good	Fair	Fair	Fair	Poor	Good
Ceiling effect ^a	Excellent	Excellent	Fair	Excellent	Good	Excellent	Excellent
Floor effect ^b	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Good
Variance explained by measures	Good	Fair	Good	Poor	Poor	Poor	Fair
Unexplained variance in contrasts 1-5	Fair	Poor	Poor	Poor	Poor	Poor	Very good
PCA eigenvalues >1.4	Poor	Poor	Poor	Poor	Good	Fair	Very good

^a Ceiling effect means the highest response total score.

^b Floor effect means the lowest response total score.

Table 3. Rating scale instrument quality criteria

Criterion	Poor	Fair	Good	Very good	Excellent
Targeting	>2 errors	1-2 errors	<1 error	<0.5 errors	<0.25 errors
Item model fit range	<0.33->3.0	0.34-2.9	0.5-2.0	0.71-1.4	0.77-1.3
Measurement reliability	<0.67	0.67-0.80	0.81-0.90	0.91-0.94	>0.94
Strata separated	≤2	2-3	3-4	4-5	>5
Ceiling effect ^a	>5%	2%-5%	1%-2%	0.5%-1%	<0.5%
Floor effect ^b	>5%	2%-5%	1%-2%	0.5%-1%	<0.5%
PCA variance explained by measures	<50%	50%-60%	60%-70%	70%-80%	>80%
Unexplained variance in PCA contrasts 1-5	>15%	10%-15%	5%-10%	3%-5%	<3%
PCA eigenvalues >1.4	>3	3	2	1	0

^a Ceiling effect means the highest response total score.

^b Floor effect means the lowest response total score.

the sixth least consistent. Nurse 42, with the mean square outfit, furthest from 1.0, at 4.3, contradicted expectations in a manner particularly illustrative of the need to evaluate data quality before comparing measures. She has a measure of 824, which is quite high on the scale (the maximum obtained is 947, with the lowest at 389). This measure was produced by responding in the category of highest agreement to every item but 1, and that 1 item on which this nurse responded in the next lower category was the most agreeable item on the scale, "A patient's comfort is important to me." Given the overall pattern of responses as well as the overarching mission of caring in nursing, a lower rating on this item is unlikely. Because the nurse is so far up the scale above this item (with a measure of 824, she is 451 units above the item, which is calibrated at 373), the single category difference between what was expected and what was observed led to a standardized residual of about -5.4, the largest absolute value in the analysis.

The next highest mean square outfit was obtained by nurse 52, at 3.3. In contrast with nurse 42, who had a relatively well-behaved infit statistic, at 1.3, nurse 52 has both statistics over 3.0. This indicates that in addition to a lower than expected rating on a very agreeable item (or vice versa), we should also expect a departure from the pattern on an

item or items with calibrations very near the nurse's measure. Nurse 52 has a measure of 565 and has provided unexpected responses to 3 items. Reproducing the former pattern of nurse 42, but with less force, one of these items is the same patient comfort item and another is the next most agreeable item on the scale, "Time management is important in nursing practice," item 64, calibrating at 379. The effect on the infit statistic comes through on the third item, "I am confident of my technical skills," item 70, which calibrates at 584, 19 units above nurse 52's measure. Where nurse 52's responses of Agree were obtained on the first 2 items when responses of Very Strongly Agree were expected, on item 70 a response of Very Strongly Agree was obtained when Agree was expected.

A comparison of the 3 groups responding to different groups of questions showed that out of 21 opportunities for different data consistencies (3 groups by 7 scales), group A twice obtained average mean square outfit statistics that differed significantly ($P < .05$) from the other 2 groups. These 2 instances involved the Professionalism and Partnership scales. As it has just been shown, nurses 42 and 52 have provided markedly different data consistencies than the other nurses measured on the Professionalism scale and both are also in group A. It would then seem that the

Table 4. Coded subscales (numbered items within subscales: most agreed with, least agreed with, and limited agreement or problematic)

Subscales	Code	Most agreement item	Code	Least agreement item	Code	Limited agreement/ problematic item
Caring identity	NQC	No. 9. Regardless of how I feel about a patient I know I must always treat him/her the best I can	NQD	No. 26. I want to share myself with the patient	NQD	No. 25. I do think about myself when I am tending to patients No. 26. Sometimes I feel hurt when I involve all of whom I am in my practice
Patient focus	PHD	No. 102. The patient feels safe when the nurse's practice is competent	PHD	No. 55. The patient recognizes the nurse as a human being just like he/she is	PPE	No. 60. When I am tending to patients I think about who I am No. 43. The patient does not like ceding control
Professionalism	NPE	No. 22. A patient's comfort is important to me	NQD	No. 41. I need to feel that I can trust my patient	PIC	No. 90. The patient knows that he has an obligation to help himself
Nurse/patient interaction scales						
Trusting partnership	MM	No. 179. Partnership requires trusting each other	IM	No. 174. Because it is the nurse's responsibility, the patient does not expect to participate in treatment		
Communicative mutuality	LM	No. 147. Nurse and patient can listen attentively to each other	CT	No. 151. Both nurse and patient have insights into each other No. 163. Each is aware that roles constrain communication	PS	No. 171. Each understands that communication may be nonverbal
Responsibilities of care	II	No. 137. Nurse and patient anticipate respect for each other	CT	No. 185. The healthcare delivery system prevents the nurse from being able to establish a contract of partners		
Nursing practice (negatively worded)	HD	No. 131. The patient wants more of the nurse's time than is available	QR	No. 105. I resent patients, who I feel, treat me like a servant		
	HD	No. 129. Family influences patient's coping	QR	No. 103. Nursing is just a job		
	HD	No. 128. Patient's reaction to nurse is not always the same regardless of diagnosis				
	HD	No. 123. Patient is not a passive recipient of nursing care				

Abbreviations: Nurse—N, nurse; P, personal self; E, emotion; C, cognition; Q, nurse professional self; R, combined personal and professional self; D, combined emotion and cognition. Patient—P, patient; P, personal self; E, emotion; C, cognition; I, patient illness self; H, patient personal and illness self; D, combined emotion and cognition. Interaction—II, immature initial stage; MM, middle maturing stage; LM, late maturing stage; PS, partnership; CT, contract.

substantive significance of the statistical departure from expectation can be reduced to the 4 responses to 3 items just described.

In these analyses, it did not turn out to be the case that most or many of the worst-fitting responses were associated with the same items or the same respondents. But it can turn out to be the case that respondents with similar demographic, educational, or practice characteristics share particular patterns in the way they respond to survey questions, resulting in what is referred to as uniform differential item functioning. No other instance of significantly different fit statistics was found for any subgroups with sample sizes greater than 10.

Results are limited most obviously by the small sample size but also by problems in construct definition. Respondents apparently experienced difficulties in interpreting the 3 interaction scales' Very Early to Not At All rating categories. Data quality as well as the definition and interpretation of the constructs would appear to be enhanced if the rating categories were changed to the same Very Strongly Disagree to Very Strongly Agree categories employed with the other items. Research in progress is addressing both the data volume and the rating category issues. More details on the measured constructs and their various statistics, including the item hierarchies' definitions of the 7 constructs and correlations and plots testing for the invariance of (1) the items over subsamples of respondents and (2) the respondents over subsamples of items, will be provided in subsequent reports.

In addition to the results from the individual nurses, we gathered data on the items within each subscale. On each subscale there were some items that nurses most clearly agreed with and some they most clearly disagreed with, but there are numbers that seem to be more problematic. The most agreement on the caring identity subscale was No. 9, "Regardless of how I feel about a patient I know I must always treat him/her the best I can," indicating that the sample nurses understand the moral obligation to the patient,

from a thinking perspective, not merely from an emotional response. On the patient focus subscale, most agreed with No. 102, "The patient feels safe with the nurse who is competent," which we take to mean that these nurses have a perception of the patient as a "whole." On the professionalism subscale most agreed with No. 22, "A patient's comfort is important to me," which suggests that the nurse identifying emotionally with a patient and his needs have an impact on her.

The Nurse-Patient Interaction scales define a timeline as a continuum for the development of the relationship. Items at the bottom of the scales indicate which aspects of the relationship are present from its beginning; items at the top of the scales represent events or processes that happen late in the relationship, or not at all. In trusting partnership, there was most agreement with No. 179, "Partnership requires trusting each other," which seems logical; in Communicative Mutuality, most agreed with No. 147, "Nurse and patient listen attentively to each other," occurring at a late stage, which suggests that the relationship has to move to another stage before they listen attentively; and in Responsibilities of Care No. 137, "Nurse and patient anticipate respect for each other," occurring in the early immature stage had most agreement, which suggests willingness to accept that this will occur.

Suggestive of a bidirectional communicative relationship was agreement with item No. 175, "the obligations are the same for patient and nurse." There is logic in this, particularly if one is concerned about the patient having to be responsible on discharge. It is interesting that these nurses could identify that the patient did have some obligation within the relationship, particularly when trust is involved. Sumner's theory suggests that there is some obligation on the part of the patient to be truthful with the nurse. These authors are puzzled why the scores range widely from early to late, which suggests that these nurses were unwilling to commit themselves or their experiences with patients range so widely that it is impossible to be more precise.

In the negatively worded Nursing Practice scale No. 131, "The patient wants more of the nurse's time than is available" had the most agreement, making clear that it is an issue for nurses. It is uncertain on a busy unit whether this causes frustration for the nurse because he or she is unable to give as much time as he or she would like. It is possible that the nurse does not want to give more time with some patients who continue to demand regardless of how much time and effort have been expended on them. There may not have been much reflection on this item, the data are not clear.

Least agreement occurred with Caring Identity No. 25, "I do think about myself when I am tending to patient," and No. 26, "I want to share myself with the patient," and this suggests that these nurses do not understand the whole use of self or do not want to. These responses are suggestive of protective behaviors that may or may not be nonthinking. The literature makes clear that the nurse is utilizing all of herself/himself for "professional attunement"²⁸ in the interaction. This requires "sharing" self, even if these nurses revealed a lack of insight into this. If the nurse is uncomfortable sharing self with the patient, this could be because of a realization of core vulnerability and a need to protect it. Or, perhaps there is failure to realize that in any interaction between one human and another there is a revealing or sharing of self. They do not appear to take into account as to how they may feel when they have to cope with the workload, on a particular day with a particular patient in a particular unit. *Professional attunement* means conscious use of self in the interaction, which means thinking about self, even if this is unacknowledged.

There was limited agreement on items No. 60, "When I am tending to patients I think about how I am perceived by them," and No. 12, "Sometimes I feel hurt when I involve all of who I am in my practice." This limited agreement on these items could either suggest some insight into self or a lack of same, and how the 2 aspects of personal and professional self are part of the persona of the nurse

are not well understood and accepted. There is a sense of disconnect with the nurse's own human needs and awareness of how he or she is perceived by another. Or, there is the possibility that this is unconscious self-protective, nonreflective behavior. There is, however, another possibility which is that more experienced nurses had a greater tendency to agree more readily to items that might expose them to feeling vulnerable and less experienced nurses were in less agreement with the items that made them feel vulnerable.

Least agreement on the patient focus subscale No. 55, "The patient recognizes that the nurse is a human just like he/she is," raises the question about whether the nurse does not identify herself or himself as human and, therefore, that the patient identifies him or her as a faceless robot limited to a specific role. Two of the problematic items for this sample were No. 43, "The patient doesn't like ceding control," and No. 90, "The patient knows he has obligation to help himself." There appears to be a failure to acknowledge that by entering the healthcare delivery system the patient is consciously ceding control, at least for the illness needs. Without a need to cede this the patient would not be entering the system. If Sumner's theory is correct then the patient is consciously or rationally ceding the illness control to the nurse, whether or not the total personal self is ceded to the nurse. If Heidegger's¹⁵ assertion about caring for self is true then the lack of agreement with the patient's obligation to help himself is odd because the argument can be made that caring for self is part of survival and, therefore, part of that is an obligation to help himself. It may be that the wording of the item creates a philosophic nonthinking gulf of misunderstanding. With these nurses there appears to be a failure to understand this interactive relationship from the patient's perspective or "get into the patient's skin."

On the professionalism subscale the least agreement was in item No. 41, "I need to feel I can trust my patient." In some ways, this suggests a preconventional or low conventional level of moral maturity

because the communication becomes more unidirectional, less communicative, and more strategic and potentially coercive. The nurse is delivering service to the patient whether or not she identifies the communication as one between equals. This is of concern in relation to professionalism. Trust has been identified in the literature as part of the relationship, yet these nurses did not appear to think that trust was bidirectional.

In Trusting Partnership, least agreed with No. 174, "Since it is the nurse's responsibility, the patient does not expect to participate in treatment," and behaviors might be anticipated to be coercive. The responses suggest that the nurse does expect some patient involvement in the treatment, but there may be some asymmetry in the relationship. The perception is that it is a unidirectional relationship focused on the patient.

In Communicative Mutuality, there was least agreement on item No. 151, "Both nurse and patient have insights into the behavior of the other," and little agreement on No. 163. Each is aware that the roles constrain communication, which suggests that the professional self and illness self roles dominate and the nurses were unaware of this. Problematic items related to "little things" (item No. 157 and item No. 158). These nurses agreed that this was more important for the patient rather than the nurse. What is surprising is not that this is more important for the patient but is less valued by the nurse who is supposed to understand the lived or subjective experience of the patient and apply skill and knowledge to alleviate suffering. As a human being with needs and wants, one could assume that the nurse would value "little things" for herself/himself and project this toward the patient. "Little things" convey caring to patients in ways that the technical aspects of professional nursing do not and cannot. These data are not supported in the literature, which makes the response odd.

Item No. 165, "The nurse's personal needs are never relevant when tending to the patient," elicited a high level of disagreement, and in the ideal this is probably realistic. On

the other hand, this ignores that the nurse's personal needs are being met when tending a patient because having this need satisfied leads to *physis*. This item may have been misunderstood by these nurses, who did not reflect on the personal self and its needs, and how it is utilized in nursing practice. Item No. 152, "insights into the other's behaviors are not relevant in the communication," had equal agreement and disagreement. One can speculate whether some nurses had the insight into how a patient's negative behaviors do influence the nurse in communication, and whether some nurses realized that their own behaviors, particularly if they are trying to convince a difficult, uncooperative patient to follow the medical regimen, may be perceived negatively. It is hard to know whether these nurses could identify if their own behaviors could be coercive and when in the relationship and understanding of the other's behaviors more likely occurred. It may be that these nurses simply had difficulty understanding the item and did not reflect on it.

Least agreement in Responsibility was No. 185, "The healthcare delivery system prevents the nurse from being able to establish a contract of partners," which the authors understand to mean that the nurse can develop a contract with the patient as partner, although there is uncertainty when this occurs in acute healthcare. This is reassuring in light of recent literature about moral conflict and moral distress in nurses. What is unclear is whether nurses who have a more autonomous practice outside an acute care facility would be more able to develop a partnership contract with a patient. These results do not reveal this.

There was strong disagreement on No. 105, "I resent patients who, I feel, treat me like a servant," on the Nursing Practice. This suggests that these nurses saw themselves as professionals, that they were there to provide a service that was not demeaning, and that they were not at the beck and call of patients. An emotional response is involved. There is some dissonance with the following items, and the nurses revealed rationality and emotion or a mixture of both in how they identify

themselves in nursing practice. They made clear that it was not acceptable for them to ignore their own humanness; there was some acknowledgment that they are vulnerable in nursing practice and yet each identified that he or she was “dispassionate so my inner self is not involved with who I am, as a nurse.” These responses revealed rationality and emotion or a mixture of both in how the nurses identified themselves in nursing practice. It is evident from these data that the personal self is intertwined with the professional self whether or not the nurse is conscious of it. What is not clear is how much protecting of innate vulnerability is going on in practice for these nurses.

Although time management is not generally identified as part of caring in nursing, these nurses acknowledged that this was important. They seemed to take for granted their technical or practical skills and that they were competent in and confident of them. They were unwilling to acknowledge fatigue, which is interesting because another study supports this.²⁹ It is possible that in projecting an ideal these nurses were denying their own humanness. It would appear that they were trying very hard to be an excellent nurse with patient regardless of the toll it takes on the personal self and the professional self. It is not clear whether more experienced nurses would be more willing to acknowledge this. There was least agreement on item No. 103, “Nursing is just a job,” which is reassuring for nurse and patient and the profession. This means there is recognition that nursing is far more merely a job and the nurse is a “whole” person.

CONCLUSION

The sample was small, despite efforts in all 3 countries to encourage practicing nurses to participate, and we recognize this to be a limitation. The total number of items may have been off-putting for busy nurses or some may not have realized the importance of research on caring in nursing. As a result there is a

consequent inability to study the invariance of the scale across demographically different subsamples of respondents that may well vary markedly in their articulation of the construct.

The instrument, however, translates the theory into workable and commonsensical practice. This instrument offers nurses an opportunity for reflection and insight into their practice, how they are impacted by nursing, and how they impact patients for a positive outcome or the opposite. Conceptual Grand Theory has been reduced to Middle Range Theory that demonstrates evidence-based caring in nursing practice. We are confident that the instrument and data support the theory: the Moral Construct of Caring in Nursing as Communicative Action can be applied to practice. Inconsistencies in the data are puzzling and warrant further discussion, particularly the 6 older nurses' responses; however, further testing should clarify these. Because Habermas⁸ theory is predicated on innate human vulnerability and the need for considerateness, which he believes underlie the moral of communication, Sumner believes that it fits well within her theory of caring in nursing. This is because of her interpretation of justice as fairness when the nurse and patient negotiate with honesty and mutuality to establish and accept norms required in ideal communication.

The data make clear what is important for the nurse in the interaction, and when this is recognized one can assume that the nurse's practice will offer validation and fulfillment. This theory then presents the potential for putting to rest many of Paley's³ concerns related to values, beliefs, attitudes, and behaviors being conflated together and not elucidating clearly, caring in nursing. Having delineated the components of the nurse and the patient, that is, the personal self of both the professional nurse self and the patient illness self and what occurs in the interaction in this caring in nursing theory, each of these parts is combined to make a whole. Emotion or feeling and reason are also included, the influences of the past, one's background and life outside the healthcare area, and how one

may influence the other and have an effect in the interaction. What does definitively emerge from the data is that the interaction is bidirectional, nurses recognize that they have needs that must be met in practice for satisfaction and for flourishing, and that they are as vulnerable as humans as patients and need "consideration." This is little acknowledged in the literature or by nurses themselves; however, for their continuing good health and healthy practice it is most important to do so.

Given the historical unidirectional communication with the patient as the focus of the nurse's attention without acknowledgment that the nurse is an equal human being, this theory, with the supportive instru-

ment data, reveals that the communication is bidirectional. This is the first time a theory of caring in nursing has been delineated as moral bidirectional communication that can be measured for effective-based practice. Rasch methodology leads these authors to believe that the instrument's various subscales are measuring what they purport to measure. Although limited by the sample size, comparing 3 groups (groups A and B, group A, and group B) demonstrated consistency in item responses. This methodology means that data are consistent across samples drawn from the larger population of nurses, and the authors are confident that the items are measuring the Moral Construct of Caring in Nursing as Communicative Action.

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