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Kathleen B. Gaberson

Kathryn Schroeter

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Wendelny A. Valentine

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The Perceived Value of Certification by Certified Perioperative Nurses

Kathleen B. Gaberson

Department of Nursing Education, Shepherd College, Shepherdstown, WV

Kathryn Schroeter

Surgical Services Education Coordinator, Froedhert Hospital, Milwaukee, WI

Aileen R. Killen

Director of Nursing, Perioperative Services, Memorial Sloan-Kettering Cancer Center, New York, NY

Wendelny A. Valentine

Board Member, Certification Board Perioperative Nursing and QI/QA Nursing Manager, The Everett Clinic Surgery Centers, Everett, WA

Abstract

We conducted this study to determine the perceived value of certification in perioperative nursing. Following development and pilot-testing, we mailed the 18-item Likert-type instrument, the Perceived Value of Certification Tool (PVCT), to a sample of 2750 [perioperative nurses](#) who had earned the CNOR

or CRNFA credential or both. A total of 1398 surveys were returned (50.8% response rate). Factor analysis extracted three factors, accounting for 61% of the variance: personal value, recognition by others, and professional practice. Internal consistency reliability testing (Cronbach's α) identified a standardized α of .924. Over 90% of respondents agreed or strongly agreed with statements about the value of certification related to feelings of personal accomplishment and satisfaction, validating specialized knowledge, indicating professional growth, attainment of a practice standard, personal challenge, and professional commitment, challenge, and credibility. These results are consistent with previously published literature on specialty certification in nursing.

Demand for accountability is increasing in all areas of society. As health care has become more technologically advanced, specialized, and complex, the public has become more concerned about the continuing competence of health care providers, and third-party payers are beginning to require evidence of continued competence.¹Credentialing has taken on new momentum and direction in the United States and abroad.²Professional certification programs have been developed to demonstrate that providers have achieved a level of knowledge and skill in a particular practice area above the minimum requirements for licensure or registration. Participation in certification programs is voluntary and depends on the perceived value of the credential.

Do nurses value certification? Do employers share the same value? How does the public perceive certification of health care providers? These questions served as the stimulus for the Certification Board Perioperative Nursing (CBPN) Research Committee's program of research on certification for professional achievement in perioperative nursing practice (CNOR) and the Certified Registered Nurse First Assistant (CRNFA) credentials. If certification is found to be a valuable asset to nurses and others, the implications for licensure, public policy, education, and employment are many.

This article describes the process of developing an instrument to measure perceived value of CNOR and CRNFA certification. It also reports the results of an investigation of the current perceived value of these credentials to certified perioperative nurses.

Background

The CNOR and the CRNFA credentials indicate a level of professional achievement that affirms that a perioperative nurse demonstrates knowledge of the nursing process and the identified standards of practice related to perioperative nursing. CNOR certification is documented validation of the professional achievement of identified standards of practice by an individual registered nurse providing patient care before, during, and after surgery. CRNFA certification is the documented validation of the professional achievement of identified standards of practice by an individual Registered Nurse First Assistant (RNFA) providing patient care before, during, and after surgery. The RNFA practices an expanded perioperative role as first assistant to the surgeon during the surgical procedure and does not concurrently function as the scrub nurse. CNOR certification is prerequisite to CRNFA certification.

Review of related literature

Certification in nursing

Certification within the nursing profession dates back to 1946 when the American Association of Nurse Anesthetists (AANA) began its program. The American Nurses Association (ANA) originally proposed

certification as a vehicle for acknowledging and encouraging personal achievement and expert performance in nursing. The Council on Certification of Nurse Anesthetists and the American College of Nurse Midwives used certification to denote minimum competency to practice in these specialty areas.³In 1991, the American Board of Nursing Specialties (ABNS), a peer review program for specialty nursing certification, was established for the purposes of advocating for consumer protection, increasing the public's awareness of the meaning and value of specialty nursing certification, and enhancing prestige, self-actualization, and professional advancement of certified nurses.⁴

Certification programs were developed with the primary purposes of protecting the public and providing a standard of current knowledge and skill recognized and respected outside of the practicing field. Licensure and registration, while both means to protect the public, are based on minimum requirements. Certification, however, denotes a recognized higher standard of knowledge and practice.⁵

Certification generally is accepted as evidence of broad-based knowledge and skill in a specialty area of practice. However, with over 50 different nursing certification credentials, various nursing certification programs may have very different standards.^{3, 6}Therefore, it may not be possible to draw valid conclusions about the value of nursing certification in general; a given specialty certification may have different value for its stakeholders as compared to the value of certification in a different specialty.

The value of certification to certified nurses

Various authors have cited benefits of certification to nurses who hold these credentials, including personal achievement and satisfaction,^{7, 8}challenge,⁹validation of knowledge,⁹professional prestige or status,^{10, 11}greater earning potential and eligibility for third-party reimbursement,^{10, 12}professional obligation,⁸job satisfaction,⁷a broader range of job opportunities,¹⁰and evidence of commitment to professionalism.¹⁰In a recent survey of the certified nurse workforce,¹³72% of respondents reported one or more benefits of certification, including a decreased number of errors or adverse events. However, the length of time of certification, total years of nursing experience, and the respondents' educational levels were potential confounding variables that were not controlled through design or statistical analysis. Because certified respondents were asked to compare their present practice with their performance before certification, the reliability of memory about past performance could be questioned.

It also is unclear whether certified nurses in different specialties experience the same benefits of certification. The recent survey of the certified work force¹³used disproportionate sampling to achieve adequate representation of certified nurses from small certifying bodies. Certain reported results did not include nursing specialties with large numbers of certificants, such as perioperative nursing. Because that study, as well as previous studies, was not designed to make comparisons of the value of certification among nurses who practice in various specialties, we could not determine from the existing literature the current value of perioperative nursing certification to those who hold the credentials. We designed this study to answer the question, "What is the perceived value of CNOR and CRNFA certification to certified perioperative nurses?"

Evolution of the CBPN research program

The CBPN Research Committee designed a multi-phase research program to investigate the value of certification in perioperative nursing. The background work focused on developing an operational definition of the value related to the CNOR and CRNFA certification credentials. We completed this phase through literature review and focus groups.

Tool development

The pilot study focused on the design of a survey instrument to measure the perceived value of certification. We developed a series of value statements from an analysis of data collected from five focus groups selected using purposive sampling (three CNOR test development committees, one CRNFA test development committee, and the CBPN Board of Directors) and value concepts as identified in the literature. The value content areas were determined to be competency,^{9, 14} recognition,⁹ evidence for consumers,¹⁵ intrinsic rewards,^{4, 8, 9, 16, 17} and marketability and financial benefits.^{15, 18}

The resulting list of 18 value statements related to the perceived value of CNOR and CRNFA certification comprised Part I of a survey instrument; each statement was to be rated on 5-point Likert-type scale (strongly agree, agree, disagree, strongly disagree, no opinion). An additional open-ended item on Part I asked respondents to identify additional perceived values. Part II of the instrument included demographic questions reflecting the educational preparation of the participants as well as prior and current nursing experience.

Pilot test

We pilot-tested the instrument to evaluate the comprehensiveness, clarity, length of time to complete, and psychometric properties of the instrument. After we obtained Institutional Review Board (IRB) approval from Duquesne University, we mailed the instrument to a sample of 400 nurses who had earned CNOR or CRNFA certification or both, identified from the CBPN database; a total of 239 surveys were returned (61% response rate). A test of differences in the means between participants who held the CNOR only and those who held both the CRNFA and CNOR credentials identified no difference on any of the value statements; therefore, we combined the data from these two groups for the data analysis.

Item analysis of the instrument and total item intercorrelations identified two consumer-related items that were highly correlated. Psychometric analysis of the pilot test data revealed an internal consistency reliability (Cronbach's α) of 0.94. A principal components factor analysis produced two strong factors, personal values and external values, which explained 59.9% of the variance. The mean time required to complete the survey was 7 min with a median of 5 min.

Respondents made several comments related to their reasons for obtaining certification and placed emphasis on the personal satisfaction they obtained by completing the process. Based on these comments and the item intercorrelations, we made two modifications to the instrument: one consumer item was deleted and a satisfaction item was added. We used this final version of the instrument, Perceived Value of Certification Tool (PVCT), to collect data from a larger sample of nurses who hold CNOR or CRNFA certification or both.

Method

The study was reviewed for protection of the rights of human participants in research and approved by the Duquesne University Institutional Review Board. We selected a sample of 2750 certified perioperative nurses from the CBPN database. The sample comprised 2612 CNORs and 138 CRNFAs and was stratified to assure representative sampling from all geographic regions of the country. We used the Total Design Method (TDM) for mailed surveys^{19, 20} to maximize the response rate. The TDM builds on a set of complementary techniques that together produce a high quantity and quality of responses. The initial mailing included a cover letter, the survey instrument, and a self-addressed stamped envelope. The cover letter reflected a basic appeal for the respondents' help. It was printed on CBPN letterhead and individually hand-signed by a member of the CPBN Research Committee. One week following the initial mailing, we mailed a reminder postcard.

A total of 1398 surveys were returned (50.8% response rate). We did not analyze responses from CRNFAs (n = 89) separately from the CNORs since the pilot test had identified no differences in responses between these groups. Only surveys with no missing responses (n = 1367) were included in the reliability and validity analyses.

Findings

Sample description

Respondents ranged in age from 22–70 years (M = 47 years) with 91% between 32 and 60 years of age. Respondents were employed in the following roles: Staff nurse (54%), management/administration (22%), RNFA (9%), educator (5%), advanced practice (3%) and other (3%). The remaining 4% did not indicate their employment roles or were currently not working. The majority (42%) of respondents reported receiving their initial professional nursing education in diploma schools, 38% were initially educated at the associate degree level, and 19% received the baccalaureate degree initially; 1% of respondents were initially educated at the master's or doctoral level or did not report this information. Twenty-seven percent of respondents reported their current educational level as diploma; 28% reported earning an associate degree, 29% had earned a baccalaureate degree in nursing, and 6% held a baccalaureate degree in another discipline. Only 5% of respondents held a master's degree in nursing, 5% had earned a master's degree in another discipline, and less than 1% were doctorally prepared.

The respondents had an average of approximately 24 years of nursing experience, 20 years of which were in perioperative nursing (range = 1–40 years). They reported a mean of 11 years of experience prior to becoming certified.

Value statements

For most data analysis purposes (analysis of variance, reliability estimate, factor analysis), we included all five categories of response to the value statements (strongly agree, agree, disagree, strongly disagree, and no opinion). For better clarity in interpreting and describing the findings, we collapsed the responses to the value statements so that positive responses of “strongly agree” and “agree” were scored as “agree” and negative responses of “strongly disagree” and “disagree” were scored as “disagree”. Then we calculated the percentage of agreement with each value statement. [Table 1](#)

represents the number of respondents who agreed or strongly agreed with the value statements on the survey tool. The only item with which fewer than 50% of respondents agreed was “increases salary,” and only 50.5% of respondents agreed that certification increases consumer confidence. Over 90% of respondents indicated agreement with statements about the value of certification related to feelings of personal accomplishment, personal satisfaction, validating specialized knowledge, indicating professional growth, attainment of a practice standard, professional commitment, professional challenge, personal challenge, and professional credibility.

Table 1. Percentage of certificants' agreement with value statements

Value Statement	% Agreement
Enhances feeling of personal accomplishment	97.2
Provides personal satisfaction	96.6
Validates specialized knowledge	95.2
Indicates professional growth	93.7
Indicates attainment of a practice standard	92.8
Provides evidence of professional commitment	92.2
Provides professional challenge	91.8
Enhances professional credibility	90.9
Enhances personal confidence in clinical abilities	85.0
Indicates level of clinical competence	82.1
Provides evidence of accountability	81.9
Increases marketability	75.5
Promotes recognition from peers	72.2
Enhances professional autonomy	69.9
Promotes recognition from other health professionals	66.8
Promotes recognition from employers	63.7
Increases consumer confidence	50.5
Increases salary	30.7

Psychometric evaluation

Psychometric evaluation of responses to the 18-item set of value statements indicated strong internal consistency reliability (standardized $\alpha = .924$). Several survey items demonstrated high intercorrelations, but none were over .80. The value statement “Increases salary” would increase the alpha very minimally if it were removed, but because we determined that it was conceptually consistent by factor analysis, we decided to retain it.

Factor analysis

A principal components factor analysis with Varimax rotation was performed to determine the factor structure of the PVCT. Factor analysis extracted 3 factors that accounted for 61.1% of the variance. The three factors are:

- Factor 1, Personal Value (8 value statements), 26.5% of explained variance
- Factor 2, Recognition by Others (6 items), 19.8% of explained variance
- Factor 3, Professional Practice (4 items), 14.8% of explained variance.

Factor loadings are reported in [Table 2](#). No item loaded below 0.50 on its primary factor. The factors are consistent with both the responses from the initial focus groups and the literature review.

Table 2. Factor loadings for value statements

Value Statements	Scale Factors		
	Personal Value	Recognition by Others	Professional Practice
Satisfaction	.822		
Accomplishment	.768		
Challenge	.739		
Professional Growth	.737		
Professional Commitment	.710		
Confidence in Clinical Ability	.699		
Accountability	.631		
Autonomy	.597		
Employer Recognition		.783	
Recognition by Other Professionals		.721	
Salary		.690	
Marketability		.675	
Peer Recognition		.647	
Consumer Confidence		.590	
Clinical Competence			.799
Practice Standard			.726
Knowledge			.725
Professional Credibility			.519

Discussion

Certification in perioperative nursing had personal value for the participants as represented by their agreement with statements about personal accomplishment and satisfaction; professional challenge, growth, commitment, and autonomy; personal confidence in clinical abilities; and evidence of accountability. Responses by participants revealed that certified perioperative nurses perceived the value of their certification in three areas: personal value, recognition by others, and professional practice. These findings are consistent with the literature on personal value of certification, specifically in the areas of personal achievement and satisfaction,^{7, 8} challenge,⁹ evidence of commitment to professionalism,¹⁰ and other intrinsic rewards.^{4, 16, 17} The personal value of certification may be the strongest motivator to achieve and maintain these credentials, especially in work environments that do not offer financial incentives and professional recognition to perioperative nurses who achieve certification.

Recognition by others, including employers, peers, other health professionals, and consumers, is another area of value perceived by the certified perioperative nurses in this sample. This recognition also is reflected in value statements related to increased marketability and increased salary related to certification. The finding that certification is perceived by certified perioperative nurses to “bring

recognition by others” is consistent with the literature, particularly in the areas of professional prestige or status,[10](#), [11](#) and greater earning potential, eligibility for third-party reimbursement, marketability, and a broader range of job opportunities.[10](#), [12](#), [15](#), [18](#)

The third factor identified as representing the value of certification to certified perioperative nurses was labeled “professional practice”. The respondents perceived that their certification reflected a level of clinical competence and attainment of a practice standard, validated their specialized knowledge, and enhanced their professional credibility. This finding also was consistent with literature that identified the value of certification as an indication of competency and validation of knowledge.[9](#), [14](#)

The instrument that was developed for use in this study, PVCT, is psychometrically strong and conceptually consistent. The three factors identified by factor analysis (personal value, recognition by others, and professional practice) explained 61.1% of the total variance. We chose each factor name according to the broad construct of meaning to which the items that loaded on it seemed to be related; these factors are theoretically consistent with the previously published literature on certification in nursing.

Recommendations

Because we designed this study to measure only the perceived value of certification to certified perioperative nurses, generalizations of these results cannot be made to certified nurses in other specialties or to noncertified nurses. Future research should extend the inquiry into the value of certification in perioperative nursing to other stakeholders, to determine if they place the same value on these credentials as do certified nurses. We have undertaken the next two phases of the CBPN research program, using the same instrument to survey perioperative nurses who are not certified and nurse administrators of both certified and noncertified perioperative nurses. Additional stakeholders who could be surveyed include surgeons and perioperative patients. We suggest that research studies of the value of certification in other nursing specialties be conducted using the same instrument and the results compared with these findings to determine if there are commonalities across specialty areas.

Conclusion

This study of the value of certification as perceived by certified perioperative nurses resulted in the identification of three factors (personal value, recognition by others, and professional practice) that represented the value of the CNOR and CRNFA credentials to nurses who have earned them. These results are consistent with previously published literature on certification in nursing. Additional studies should be completed to study the value of certification to certified nurses in other specialties as well as to noncertified nurses, employers, professional colleagues in other health care disciplines, and patients.

Acknowledgements

The authors wish to acknowledge the assistance of Berlin Sechrist Associates as well as other CBPN Research Committee members B. J. Hoogerwerf, RN, BSN, CNOR, CRNFA and Joanne E. McClure, PhD, in the preparation of this manuscript.

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