

# PERCEIVED VALUE OF CERTIFICATION AMONG CERTIFIED, NONCERTIFIED, AND ADMINISTRATIVE PERIOPERATIVE NURSES

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This study was designed to determine similarities and differences in perceived value of certification among three groups of perioperative nurses. Responses to the Perceived Value of Certification Tool (PVCT), demographic questions, and certification experience questions were requested from 1,250 certificants, 2,000 noncertificants, and 1,250 administrators, with an overall response rate of 55.5%. Respondents agreed with 16 of 18 PVCT statements. Agreement was highest for intrinsic items. Respondents were less likely to agree with extrinsic items and did not agree that certification increases salary. All samples were significantly different from each other on the intrinsic construct. Noncertificants were significantly different from certificants and administrators on the extrinsic construct and the total PVCT score; certificants and administrators were not significantly different from each other. Age and experience variables were not related to PVCT constructs or total score. Certificants in administration/management work roles had significantly higher PVCT constructs and total scores than did certified staff nurses but noncertified administrators and staff nurses were not significantly different from each other. Barriers to certification listed most often related to lack of extrinsic rewards. Certification and health care organizations will need to find ways to provide extrinsic rewards if the goals of certification are to be achieved. (Index words: Certification; Perioperative nursing) *J Prof Nurs* 22:242-7, 2006. © 2006 Elsevier Inc. All rights reserved.

CERTIFICATION FOR NURSING practice is designed to protect the public, recognize and encourage professional achievement, and enhance professionalism. Unlike licensure, which ensures that a minimum standard for clinical practice has been attained, professional certification is awarded to those who have demonstrated knowledge, skills, and practice proficiency in a specialized area of nursing practice (American Board of Nursing Specialties, 2000).

Participation in certification programs is voluntary for most nurses. The perceived value of certification

influences the decision of registered nurses (RNs) to pursue the credentialing process. Its interest in understanding certification value among perioperative nurses prompted the Certification Board Perioperative Nursing, now called the Competency and Credentialing Institute (CCI), to undertake a multiphased research initiative (Byrne, Valentine, & Carter, 2004). Research phases associated with development and initial testing of the Perceived Value of Certification Tool (PVCT) and assessment of certification value among a sample of certified perioperative nurses (CNORs) were reported by Gaberson, Schroeter, Killen, and Valentine (2003).

Further research was indicated to determine possible differences in certification value among constituent groups of perioperative nurses. Similarities and differences among certificants and noncertificants were of interest as a guide for educational programming and marketing strategies. Perceptions held by administrators

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were of interest because nurses in administrative roles are in a position to provide support, incentives, and rewards for certification. The purpose of this subsequent phase of research, therefore, was to determine similarities and differences in certification value among perioperative nurses who are certificants, noncertificants, or administrators. A second purpose of the research focused on further psychometric analysis of the PVCT; results of that analysis are presented in a companion article (Sechrist & Berlin, 2006).

### Related Research

In the study on CNORs reported by Gaberson et al. (2003), 90% or more of the certificants expressed agreement or strong agreement with PVCT value statements related to personal accomplishment, professional satisfaction, specialized knowledge, professional growth, attainment of a practice standard, professional commitment, professional challenge, and credibility enhancement. Between 50% and 85% of certificants agreed or strongly agreed with value statements related to confidence in clinical abilities, level of clinical competence, accountability, marketability, autonomy, consumer confidence, and recognition from peers, other health professionals, and employers. Only 30.7% of certificants agreed or strongly agreed with the value statement that certification increases salary.

Several nursing certification organizations other than the CCI have conducted or supported studies that directly or indirectly addressed the value of certification among certificants, noncertificants, and employers of nurses (American Association of Critical-Care Nurses [AACN] & AACN Certification Corporation [CertCorp], 2003; Cary, 2001; Coleman et al., 1999; Niebuhr, 1994). Certification value was determined by questions designed specifically for the study or by inference.

Generalized results of interviews conducted with certified critical care nurses were reported in a white paper on the value of certification. Respondents stated that the primary reasons for becoming certified were personal reasons related to knowledge acquisition and documentation of specialty expertise. The respondents also affirmed a positive impact of certification on the quality of care that they provided (AACN & CertCorp, 2003).

Certificants from 23 certification organizations selected items related to personal, professional, career, and practice changes attributable to certification achievement for the Nursing Credentialing Research Coalition Stage 3 Study. The most frequently selected items were the following: "experience personal growth," "feel more satisfied as a professional nurse," and "feel more competent in my skills as a professional nurse" (Cary, 2001).

Respondents to a survey about the oncology certified nurse (OCN) credential were asked about their reasons for seeking or not seeking OCN certification or recertification. Based on the responses, the Oncology Nursing Society Research Committee concluded that

oncology nurses value the OCN credential and recognize its importance (Coleman et al., 1999).

Two unpublished studies were summarized by Niebuhr (1994). Findings from a study conducted by the Intravenous Nurses Certification Corporation indicated that "professional recognition" was the primary reason for obtaining certification among their certificants. Respondents to a study conducted by the AACN Certification Corporation identified "a sense of pride and achievement" as the most important of 10 values related to certification.

The stated values of certification differed among organizations and may be related to the nature of instrumentation for each study. Most of the values identified were related to the personal value of the credential for a certificant. A few studies related certification value to patient care or to recognition by others such as peers and consumers.

### Methods

This research was approved by Independent Review Consulting for compliance with guidelines for the protection of human subjects in research before it started. Using survey research methodology, we asked perioperative RNs to complete and return a scannable form containing the PVCT as well as accompanying demographic and certification experience questions.

#### Sample

Three geographically stratified random samples of perioperative nurses comprised a total sample of 4,500 RNs. The first sample of 1,250 certificants was drawn from the CCI database. A second sample of 2,000 noncertificants was obtained from the Association of Perioperative Registered Nurses database. The third sample of 1,250 perioperative nurse administrators was obtained from an unduplicated file from the CCI and American Organization of Nurse Executives databases. A proportionately larger sample of noncertificants was selected to ensure an adequate response because of the nature of the Association of Perioperative Registered Nurses database, which included interest list contacts as well as organizationally involved perioperative nurses.

#### Instrument

Perceived value of certification was assessed using the 18-item PVCT. Respondents indicated their level of agreement or disagreement with the items on a five-point Likert-type scale (4 = *strongly agree*, 3 = *agree*, 2 = *disagree*, 1 = *strongly disagree*, 0 = *no opinion*). In previous research, the PVCT had an internal consistency reliability (coefficient  $\alpha$ ) of .92 (Gaberson et al., 2003).

Demographic questions included on the data collection form with the PVCT items included year of birth, educational background, years of nursing experience, years of perioperative nursing experience, work roles, and primary work setting. Certification experience questions included whether a respondent was certified and in what year, if certification had ever lapsed, reasons

for lapsed certification, and factors that discouraged certification if the respondent was never certified.

### Data Collection

Data were collected concurrently from all three samples using a modified Dillman survey methodology (Crosby, Ventura, & Feldman, 1989). Individuals identified for the samples were sent the scannable form along with a CCI cover letter. A follow-up postcard was sent 1 week after the initial mailing. A second set of the survey and cover letter was mailed to nonrespondents 3 weeks after the initial mailing.

The sample size for each sample was reduced by the number of known duplicate entries, individuals identified as not appropriate to the study (non-nurses), and individuals for whom questionnaires were returned as nondeliverable. Actual sample sizes and response rates were as follows: 1,236 certificants, with a response rate of 77.2% ( $n = 954$ ); 1,737 noncertificants, with a response rate of 38.9% ( $n = 675$ ); and 1,212 administrators, with a response rate of 55.3% ( $n = 694$ ). A total of 4,185 individuals was included in the study. The overall response rate was 55.5% ( $N = 2,323$ ).

### Findings

Means and standard deviations for age, years of nursing experience, and years of perioperative nursing experience for the three samples are shown in Table 1. As a group, the noncertificants were younger and had fewer years of nursing and perioperative nursing experience than respondents from the other two samples. Administrators were older and had more experience than perioperative nurses from the other two samples. Differences in age among the three samples were statistically significant,  $F(2, 2,279) = 43.005$ ,  $P < .0001$ ; all samples were significantly different from each other in post hoc Scheffe analyses ( $P < .05$ ). Significant differences in mean years of nursing experience,  $F(2, 2,272) = 75.655$ ,  $P < .0001$ , and in mean years of perioperative nursing experience,  $F(2, 2,250) = 135.252$ ,  $P < .0001$ , were also present. Post hoc Scheffe comparisons for both analyses identified all samples as significantly different from each other ( $P < .0001$ ).

Female sex accounted for 94.7% of certificants, 91.3% of noncertificants, and 91.7% of administrators. Among certificants, 69 held the certified registered nurse first assistant credential in addition to the CNOR credential. Approximately half (48.8%) of the administrators were CNOR certified, and 1.2% also held the

certified registered nurse first assistant credential. Of the noncertificants, 52 were CNOR certified at one time but had allowed their certification to lapse. Among certificants and administrators who held the CNOR credential, 61% listed a diploma in nursing or an associate degree as their highest level of education at the time of certification.

More than half of the noncertificant (64.4%) and certificant (51.8%) respondents listed their work role as staff nurse. As expected, 84.5% of the administrator sample listed their role as administrator/manager but 21.1% of certificants and 18.1% of noncertificants also listed so as their work role. The remaining work roles listed by respondents from all three samples combined included the following: registered nurse first assistant ( $n = 129$ ; 5.7%), education ( $n = 80$ ; 3.5%), advanced practice nurse ( $n = 39$ ; 1.7%), and other ( $n = 172$ ; 7.6%).

One or more perceived barriers to certification were identified by 623 noncertificants and 281 administrators who had never been certified. The barriers listed most frequently among these 904 respondents were the following: lack of institutional reward ( $n = 385$ ; 42.6%), cost of the certification examination ( $n = 329$ ; 36.4%), and lack of institutional support ( $n = 276$ ; 30.5%). A total of 212 respondents entered a perceived barrier in the "other" option. The most frequently listed other barrier was time ( $n = 41$ ; 19.3%).

A total of 4 certificants, 52 noncertificants, and 63 administrators reported that they had allowed their certification to lapse at some point. Reasons listed most frequently among these 119 respondents were the following: no compensation ( $n = 59$ ; 49.8%), no recognition ( $n = 54$ ; 45.4%), and cost of continuing education ( $n = 41$ ; 34.5%).

### Reliability and Validity of the PVCT

Internal consistency reliability (coefficient  $\alpha$ ) values for the PVCT items in each sample were the following: certificants, .92; noncertificants, .94; and administrators, .93. When all respondents were included in the analysis, the coefficient  $\alpha$  was .94. Principal-components factor analysis with Varimax rotation identified a two-factor solution explaining 59.2% of the variance when all samples were combined. The two factors are intrinsic values of certification (intrinsic; 12 items) and extrinsic values of certification (extrinsic; 6 items). All items load consistently on their respective factors at .53 or higher for individual samples and for all samples combined. Second-order factor analysis revealed one

**Table 1.** Mean and Range for Age, Years of Nursing Experience, and Years of Perioperative Nursing Experience by Sample

	Certificants ( $n = 954$ )		Noncertificants ( $n = 675$ )		Administrators ( $n = 694$ )	
	M	Range	M	Range	M	Range
Age (years)	49.24	27-70	46.89	23-71	50.88	30-68
Years of nursing experience	24.29	3-47	20.21	1-48	26.32	5-47
Years of perioperative nursing experience	20.15	3-45	13.78	1-45	21.58	1-46

**Table 2.** Percentage of Agreement With PVCT Items by Sample

PVCT items	Certificants (n = 954)	Noncertificants (n = 675)	Administrators (n = 694)
	% Agreement	% Agreement	% Agreement
<i>Intrinsic factor items</i>			
Enhances feeling of personal accomplishment	98.6	94.3	98.3
Provides personal satisfaction	98.2	94.1	97.2
Validates specialized knowledge	95.8	88.7	94.6
Indicates professional growth	94.7	86.8	93.9
Enhances professional credibility	93.9	84.0	92.0
Provides evidence of professional commitment	93.9	80.7	90.7
Provides professional challenge	93.7	88.7	93.8
Indicates attainment of a practice standard	92.0	83.9	89.2
Enhances personal confidence in clinical abilities	87.0	77.4	87.2
Indicates level of clinical competence	83.6	68.5	72.9
Provides evidence of accountability	83.4	61.0	73.7
Enhances professional autonomy	75.8	60.9	72.9
<i>Extrinsic factor items</i>			
Increases marketability	78.8	68.7	76.9
Promotes recognition from peers	78.4	64.3	81.3
Promotes recognition from other health professionals	74.2	62.8	75.9
Promotes recognition from employers	70.0	59.3	70.3
Increases consumer confidence	56.4	45.4	51.0
Increases salary	39.1	32.4	30.7

factor, perceived value of certification. Model-fit statistics from confirmatory factor analysis showed an acceptable fit of the two-factor solution to the data (Sechrist & Berlin, 2006).

### Perceived Value of Certification

To describe the percentage of agreement of respondents with each of the PVCT items, we grouped respondents who agreed or strongly agreed with each of the value statements together for purposes of descriptive analysis only. The percentage of respondents in each sample agreeing or strongly agreeing with each of the value statements is shown in Table 2. Items were ordered based on the percentage of agreement among certificants within intrinsic and extrinsic factors. Sample agreement reached 50% in all samples for all items with the following exceptions: (1) fewer than 50% of noncertificants agreed with the statement that certification increases consumer confidence and (2) fewer than

40% of respondents in all samples agreed that certification increases salary.

Means and standard deviations for scores on the intrinsic and extrinsic values constructs as well as the total PVCT score are shown in Table 3. Respondents who selected "no opinion" responses or did not complete some items were excluded from these analyses. The ranges of possible scores were 12–48 points for the intrinsic factor, 6–24 points for the extrinsic factor, and 18–72 points for the total PVCT.

Sample mean scores on each of the constructs as well as the PVCT total score were compared using analysis of variance. Significant differences were present among samples on the intrinsic construct,  $F(2, 1,804) = 51.974$ ,  $P < .0001$ . Post hoc Scheffe comparisons showed that noncertificants were significantly different from both certificants ( $P < .0001$ ) and administrators ( $P < .0001$ ). In addition, certificants and administrators were significantly different from each other ( $P = .039$ ). The extrinsic

**Table 3.** Mean and Standard Deviation for Construct and Total PVCT Scores by Sample

	Certificants (n = 760)		Noncertificants (n = 484)		Administrators (n = 563)	
	M	SD	M	SD	M	SD
Intrinsic value of certification (12 items)	41.41	5.64	37.91	6.84	40.56	5.69
Extrinsic value of certification (6 items)	17.51	3.83	16.13	3.86	17.40	3.57
Total PVCT score (18 items)	58.92	8.51	54.03	10.05	57.96	8.52

**Table 4.** Mean and Standard Deviation for Construct and Total PVCT Scores for CNOR-Certified or Noncertified Respondents in Staff Nurse or Administration/Management Roles

	CNOR-certified staff nurse (n = 380)		Noncertified staff nurse (n = 325)		CNOR-certified administrator/manager (n = 401)		Noncertified administrator/manager (n = 303)	
	M	SD	M	SD	M	SD	M	SD
Intrinsic value of certification (12 items)	41.06	5.61	37.82	6.86	42.30	5.27	38.65	5.79
Extrinsic value of certification (6 items)	17.31	4.04	16.15	3.98	18.09	3.40	16.36	3.48
Total PVCT score (18 items)	58.37	8.63	53.97	10.21	60.39	7.82	55.02	8.47

construct also showed significant differences among the samples,  $F(2, 1,804) = 51.974, P < .0001$ . Post hoc Scheffe comparisons showed that noncertificants were significantly different from both certificants ( $P < .0001$ ) and administrators ( $P < .0001$ ). Certificants and administrators were not significantly different from each other on the extrinsic construct. Total PVCT mean scores among the samples showed significant differences among the samples,  $F(2, 1,804) = 46.279, P < .0001$ . Post hoc Scheffe comparisons showed that noncertificants were significantly different from both certificants ( $P < .0001$ ) and administrators ( $P < .0001$ ). Certificants and administrators were not significantly different from each other.

#### Influence of Demographic and Experience Variables

The possible influence of respondent age, years of nursing experience, and years of perioperative nursing experience on the intrinsic and extrinsic constructs as well as on total PVCT scores was analyzed using bivariate (Pearson's) correlation. Respondents from all three samples were included together in the analyses.

Correlation coefficients for constructs with respondent age were as follows: intrinsic,  $r = .018$ ; extrinsic,  $r = .020$ ; and total PVCT score,  $r = .022$ . Years of nursing experience correlation coefficients with constructs were as follows: intrinsic,  $r = .036$ ; extrinsic,  $r = .020$ ; and total PVCT score,  $r = .034$ . Correlation coefficients for constructs with years of perioperative nursing experience were as follows: intrinsic,  $r = .038$ ; extrinsic,  $r = .040$ ; and total PVCT score,  $r = .035$ . All of the correlations are low; none is significant.

#### Influence of Certification Status and Work Role

In addition to the sample of certificants, almost half (48.8%) of the administrator sample were certified. Administration/management work roles, furthermore, were listed by one fifth of certificants (21.1%) and noncertificants (18.1%), as well as most respondents in the administrator sample (84.6%). To further evaluate possible similarities and differences in the perceived value of certification based on certification status and work role, we analyzed responses to the PVCT in a subset of the total study sample. The primary work role of staff nurse was identified by a number of respondents sufficient enough to permit comparative analysis with

respondents identifying administration/management as a primary work role. Respondents who selected "no opinion" responses or did not complete some items were excluded from these analyses, along with respondents who did not list either staff nurse or administration/management as a primary work role. A total of 1,409 respondents was included. The staff nurse work role sample was composed of 380 certificants (53.9%) and 325 noncertificants (46.1%). The administration/management work role sample included 401 certificants (57%) and 303 noncertificants (43%). Proportions of certificants and noncertificants in each work role were not significantly different from expected,  $\chi^2(1, 1,409) = 1.34, P = ns$ .

Means and standard deviations for scores on the intrinsic and extrinsic values constructs as well as the total PVCT score are shown in Table 4 for CNOR-certified and noncertified respondents in staff nurse or administration/management work roles. Analysis-of-variance comparison of mean scores identified significant differences among samples on the intrinsic value construct,  $F(3, 1,405) = 44.644, P < .0001$ , the extrinsic value construct,  $F(3, 1,405) = 20.747, P < .0001$ , and the total PVCT score,  $F(2, 1,804) = 46.279, P < .0001$ .

Post hoc Scheffe comparisons identified significant differences ( $P < .0001$ ) on both constructs and the total PVCT score between (1) certified staff nurses and noncertified staff nurses, (2) certified staff nurses and noncertified administrators/managers, (3) certified administrators/managers and noncertified administrators/managers, and (4) certified administrators/managers and noncertified staff nurses. The CNOR-certified respondents perceived significantly greater value in certification than did noncertificants in all comparisons.

Post hoc Scheffe comparisons also identified significant differences between CNOR-certified staff nurses and CNOR-certified administrators/managers on the intrinsic ( $P = .039$ ) and extrinsic ( $P = .037$ ) values constructs as well as the total PVCT score ( $P = .016$ ). Certificants in administrator/manager roles perceived significantly greater value in certification than did certificants in staff nurse roles. Noncertificants were not significantly different from noncertificants administrators/managers on either of the values constructs or the total PVCT score.

## Discussion

Consistently throughout the analyses, certificants placed a significantly higher value on certification than did noncertificants. Although certificants more strongly agreed with statements related to the value of certification, more than half of respondents from all samples agreed or strongly agreed with 16 of the 18 PVCT value statements. Fewer than half of the noncertificants agreed that certification increases consumer confidence, and fewer than 40% of respondents in all samples agreed that certification increases salary.

The percentage of agreement with individual value statements in the certificant sample in this study is similar to the percentage of agreements among CNOR certificants in the initial study on perioperative certificants (Gaberson et al., 2003). In both studies, more than 90% of certificants agreed with intrinsic value statements related to personal accomplishment, personal satisfaction, specialized knowledge, professional growth, attainment of practice standards, professional commitment, professional credibility, and professional challenge. Between 80% and 90% of certificants agreed or strongly agreed with intrinsic value statements related to confidence in clinical abilities, clinical competence, and accountability in both studies. The percentage of respondents in this study agreeing with the final intrinsic value statement, professional autonomy, was 75.8% as compared with 69.9% in the initial study. Between 50% and 79% of respondents in both studies agreed with extrinsic value statements related to recognition from peers, other health professionals, and employers, as well as increased marketability and increased consumer confidence. The percentage of agreement with the extrinsic value statement related to increased salary was 39.1% among respondents in this study and was reported as 30.7% by Gaberson et al. Agreement with intrinsic values of certification is consistent with perceived values of certification identified in other studies on certificants (AACN & CertCorp, 2003; Cary, 2001; Niebuhr, 1994).

Some barriers to certification identified by noncertificants who were never certified or had allowed their certification to lapse were related to extrinsic values of certification, including a lack of financial reward or recognition for certification. Agreement with intrinsic values may still result in decisions not to pursue certification if extrinsic rewards are not present.

Respondent age as well as years of experience in nursing and perioperative nursing were unrelated to perceived value of certification. Among CNOR-certified respondents, administrator/manager roles were related to higher mean scores on the values constructs and total PVCT when compared with staff nurse roles. Among noncertified respondents, there was no role-related difference in mean scores. Determining reasons for

higher perceived value of certification mean scores among certified administrators/managers may require additional data on role expectations, professional expectations, and extrinsic rewards in the workplace.

## Conclusions

Certificants, noncertificants, and administrators agree, although to significantly different degrees, with intrinsic certification value statements as measured by responses to the PVCT. Nurses who are CNOR certified perceive greater value in certification than do those who are not certified. Among certificants, administrators who are CNOR certified perceive greater value in certification than do staff nurses who hold the credential.

Respondents did not agree with the statement that certification increases salary. Although intrinsic values are important, barriers to certification most often listed were extrinsic (lack of reward and recognition). Nursing certification and health care organizations will need to find ways to provide extrinsic rewards if the goals of certification are to be achieved.

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