Making the Grade: Analysis of Performance on the ISMPP CMPP Examination

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ABSTRACT

Objective: The International Society for Medical Publication Professionals (ISMPP) developed a program to certify professionals with ≥2 years' experience and demonstration of professional knowledge and ethics in medical publishing. To date, examinee demographic and descriptive characteristics and factors related to examination performance are not well understood. This analysis was undertaken to provide insights into Certified Medical Publication Professionals' (CMPP) characteristics.

Research design and methods: De-identified data across the first five testing sessions of the examination were pooled for analysis. To explore predictors of exam performance, a least squares multiple regression analysis was employed, with test score entered as the criterion and experience (years), gender, position, and education entered as predictors.

Results: Significantly more examinees were female (n1/4291) than male (n1/4137), $X^2(427) = 55.4$, $p<0.001$. A total of 56.5% of examinees had achieved post-baccalaureate, advanced education. Agency-based account service/business professionals and scientific personnel comprised 72.2% of examinees. Publication experience ranged from 2 to 35 years, M = 7.71, SD = 4.53. Results showed a significant model, $F(5, 395) = 5.83$, $p<0.001$, accounting for 6.9% of the variance in test performance, R = 0.26. Greater education, $t = 4.4$, $p<0.001$, and more years' experience, $t = 2.0$, $p = 0.04$, were associated with higher exam scores.

Conclusions: Results provide preliminary support that the current pool of CMPPs is well educated and well tenured, and these characteristics are significantly related with a strong performance on examination.

INTRODUCTION

Credentialing is the process by which professionals in a particular field are certified, defined by *Merriam-Webster* as genuine or authentic.[1] Different from a certificate, which is considered the end result of an educational process, certification denotes a commitment to ongoing education, which ensures currency in the area in which a professional is certified.

Typical attributes associated with certification include the following:[2]

- Results from an assessment process that recognizes an individual's knowledge, skills and competency in a particular specialty
- Requires professional experience
- Awarded by a third-party, standard-setting organization, typically not for profit
- Indicates mastery/competency as measured against a defensible set of standards, usually by application or exam
- Standards set through a defensible, industry-wide process (job analysis/role delineation) that results in an outline of required knowledge and skills
- Has on-going requirements in order to maintain; holder must demonstrate he/she continues to meet requirements

With the heightened awareness of increased scrutiny and questions about our practice as medical publication professionals, in 2009, the International Society for Medical Publication Professionals (ISMPP) launched the ISMPP Certified Medical Publication Professional™ (CMPP) credentialing program. The objective of the credential is to certify that the holder has demonstrated expertise as a medical publication professional, proficiency in good publication practices, commitment to ethical and transparent data dissemination standards, and leadership in upholding and fostering integrity and excellence in medical publications. To ensure a robust and defensible credential, ISMPP partnered with an external firm with expertise in developing credentialing programs, to ensure an examination that is psychometrically valid and meets certification industry standards.

Results of the task analysis, which as noted above is an integral part of the formal process for determining the content for a certification examination, are shown in **Figure 1**.

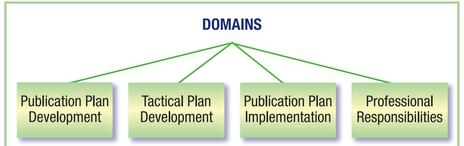

Figure 1. Credentialing Examination Domains as Determined by Formal Task Analysis

Baseline eligibility criteria to sit for the CMPP exam are a bachelor's or ex-US equivalent degree and at least 2 years of professional experience. As the ISMPP program rolled out, it was realized that there was a high number of candidates with eligibility criteria that far exceeded the minimum requirements. The current study was undertaken to try and understand the demographics of the current CMPP population, and to better understand who takes and does well on the CMPP examination.

Research design and methods

De-identified demographic data from applicants who took the first five examinations offered were pooled for analysis. Descriptive statistics, including mean, standard deviation, and frequency were calculated across examinees. Demographic characteristics were compared using either t-test for continuous variables or chi-square for discrete factors. In order to explore predictors of exam performance, a least squares multiple regression analysis, with standard entry of variables, was employed. Test score was entered as the criterion and experience (years), gender, position, and education were entered as potential predictors.

RESULTS

Data from a total of 428 examinees were included in the analyses. Numbers may have varied for some of the parameters assessed, as not all applicants filled in every data field in their application. Missing data was minimal, thus, no data imputation was required to conduct analyses.

Significantly more examinees were female (n = 291) than male (n = 137), $X^2(427) = 55.4$, $p<0.001$ (**Table 1**). A total of 56.5% of examinees had achieved post-baccalaureate, advanced education. Agency-based account service/business professionals and scientific personnel comprised 72.2% of examinees. Publication experience ranged from 2 to 35 years, M = 7.71, SD = 4.53.

Table 1. ISMPP CMPP™ Demographics

Characteristic	Percent*	Characteristic	Percent*
Gender		Area of professional focus	
Male	30.6	Account services/ business	39.8
Female	65.1	Scientific services	28.2
Education		Medical writer	20.4
Advanced education†	54.4	Medical editor	4.3
Master's degree	17.4	Other	1.3
Bachelor's degree	22.3		
Associates degree	0.5		
High school	0.7		

*Categories do not total 100% because not all respondents provided full requested demographic data
†Includes MD, PhD, PharmD, DO, and other post-master's advanced degrees

The majority of candidates exceeded the minimum eligibility requirements (**Table 2**). Results showed a significant model, $F(5, 395) = 5.83$, $p<0.001$, accounting for 6.9% of the variance in test performance, R = 0.26. Greater education, $t = 4.4$, $p<0.001$, and more years' experience, $t = 2.0$, $p = 0.04$, were associated with higher exam scores (**Table 3**). These same results are shown graphically in **Figure 2A** and **2B**.

Table 2. Comparative Demographics

Minimum Exam Eligibility Requirements	Majority CMPP Population
≥2 years of industry experience with an emphasis on publication planning and implementation and	Range 2-24 years; $\bar{x} = 7.4$ years
Bachelor's or equivalent degree	Majority ≥Master's or equivalent
or	
≥5 years of industry experience with an emphasis on publication planning and implementation and	Range 2-24 years; $\bar{x} = 7.4$ years
High school diploma or equivalent	Majority ≥Master's or equivalent

Table 3. Coefficients for Multiple Regression Analysis

	Coefficient	t-test	Significance*
Gender	0.46	0.938	0.349
Degree	0.226	4.481	0.000
Position	0.084	1.679	0.94
Years in industry	0.102	2.048	0.041

*Significance: ≤0.5

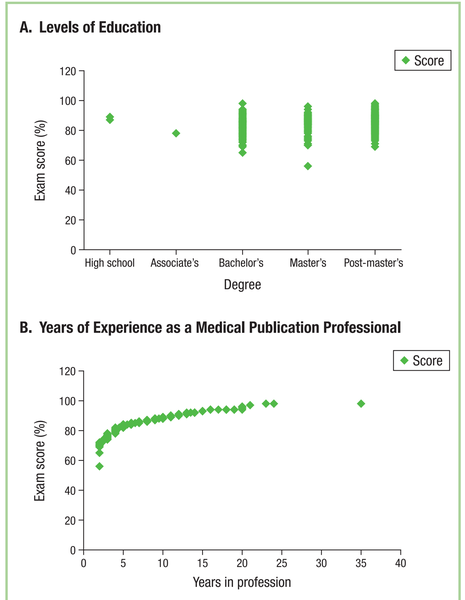

Figure 2. Relationship Between Candidate Exam Scores and (A) Levels of Education and (B) Years of Experience as a Medical Publication Professional

CONCLUSIONS

Results provide support that, among the variety of demographic and descriptive variables examined, the current pool of CMPPs is well educated and well tenured, and both of these characteristics are independently and significantly related with a strong performance on examination.

DISCUSSION

This study sought to understand factors that may predict performance on ISMPP's professional certification examination. To this end, a number of variables in the candidate database were examined retrospectively to examine for potential relationships. The results found that greater education and greater experience in the field were independently associated with better exam performance. Our first groups of candidates were both well educated and had considerable experience; thus, favorable pass rates would be expected on these first administrations of the examination.

Certification examinations are sometimes inappropriately criticized for not providing good differentiation among candidates or for not producing a large number of candidates who pass or fail. It is noteworthy that the ISMPP certification examination was established to measure the demonstration of a minimum knowledge and skill set to function ethically and effectively in a medical publishing role and not to provide broad differentiation among professionals in our field. The exam to date has well-validated psychometric attributes and appears to be effectively distinguishing those candidates with minimum qualification characteristics for certification. It enjoys a favorable pass rate, suggesting high-caliber candidates across the first five administrations. This is now reinforced in the present study, which has demonstrated a significant relationship between experience/education and performance on the examination.

The medical publications arena remains under great public scrutiny, and it is anticipated that this will only increase over the foreseeable future. Identifying mechanisms to demonstrate a sound working knowledge of the ethics and standards of the profession, such as holding the ISMPP CMPP credential, is an important element in helping to confirm that medical publication professionals operate under best practices regardless of level of education or years of experience.

Acknowledgments

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Scan code to receive PDF file of the poster
Or visit:
http://www.ismpp.org/certification/Files/CMPP%202012%20poster.pdf

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