

A CAUTIONARY NOTE ON PRACTICE CREDENTIAL REPORTING ERRORS IN HASSELBACK'S *ACCOUNTING FACULTY DIRECTORY*

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ABSTRACT

This article examines the underreporting of practice credential possession (e.g., CPA, CMA, and CIA) as presented in James R. Hasselback's 2014-2015 *Accounting Faculty Directory*. The sample comprises all full-time faculty teaching at U.S. schools who earned their highest academic degree over four successive five-year periods spanning 1994-2013. Results indicate that the *Directory* fails to report credential possession of a larger percentage of faculty in each successive five-year graduation time frame. Further, the error rate is significantly higher among graduates teaching at Top 75 research institutions over the entire 20-year graduation period, and across each successive five-year graduation timeframe. However, practice credential information is equally accessible on websites of Top 75 versus non-Top 75 school faculty. Potential influences on reporting accuracy and website credential data accessibility, such as the credentialed status of the academic accounting unit head, AACSB accounting accreditation status, and faculty members' tenure at their current institution, are also investigated. We further evaluate the prevalence of Type-2 errors where faculty are reported as credentialed when this is not the case.

Key words:**Data availability:****INTRODUCTION**

James R. Hasselback's *Accounting Faculty Directory* (hereafter referred to as "the *Directory*") has been the go-to resource over the past 40 years for those seeking information on accounting faculty and institutions. The *Directory* compiles faculty and institutional data for all four-year universities in the U.S. and for more than 200 non-U.S. institutions. As the preface to the 2014-2015 edition of the *Directory* states:

The faculty database includes the dean, department administrator, and each faculty member listed in descending order by rank. The information on each faculty member includes, name, rank, office phone number, teaching/research interests, and the highest degree earned by each faculty member as well as the school and year of the degree. Included for each faculty member is a complete mailing address. E-Mail addresses are provided for over 95% of the faculty. Only full-time faculty are included. An adjunct teaching part-time is not included in the database. There are over 1,100 schools in the database, including over 900 U.S. schools.... There are over 10,000 individuals in the database, including over 1,000 individuals that are non-accounting Deans and Chairpersons.

The 2014-2015 edition of the *Directory* (2014) also indicates whether a listed faculty member is a Certified Public Accountant (CPA), Certified General Accountant (CGA), Chartered Accountant (CA), Certified Internal Auditor (CIA), holds a Certificate in Management Accounting (CMA) and/or holds a Registered Investment Advisor (RIA) certificate.¹ Moreover, the *Directory* also includes data on the number of doctorates conferred each year by each of the Ph.D. granting institutions since 1922², as well as the institution's AACSB accreditation status.

Dr. Hasselback's contribution to the accounting academy has been wide and varied, as a review of the citation index for various editions of the *Directory* attests. The *Directory* has been utilized by accounting scholars in over 400 studies³ to achieve numerous research objectives, including the evaluation of technology in the accounting classroom (Kalbers and Rosen, 2003; Hastings and Solomon, 2005), the appraisal of faculty research productivity (Hasselback et al., 2000), the assessment of influential journals (Bonner et al., 2006) and individuals (Brown and Gardner, 1985), the evaluation of co-authorship patterns (Englebrecht et al., 2008), the consideration

¹The *Directory* uses the following symbols to denote possession by individual faculty members of one or more of the above-referenced practice credentials: & represents a CPA, CGA, or CA certificate; * represents a CMA or RIA certificate; and, # represents a CIA certificate.

²In the 2014-2015 edition of the *Directory*, pre-1995 data are presented in aggregate.

³This body of research has been published in *The Accounting Review*, *The Journal of Accounting Research*, *Accounting Organizations and Society*, *Journal of Managerial Accounting Research*, *Accounting Horizons*, *Issues in Accounting Education*, *Journal of Accounting Education*, *Advances in Accounting*, and many other outlets.

of the structure and progressivity of accounting research (Reiter and Williams, 2002), discussion of gender issues within the academy (Collins et al., 2000; Sayre et al., 2000; Jordan et al., 2006), examination of the peer review process (Bailey et al., 2008), reflection on ethical issues in the field (Bernardi et al., 2008; Bean and Bernardi, 2007), and modeling accounting faculty salaries (Almer et al., 2013), among others.

Over the past decade, the *Directory* has also been used to examine issues pertaining to the intersection of accounting academia and professional orientation (Smith and Emerson, 2016; Boyle et al., 2015; Krische et al., 2013; Braun et al., 2006) and certification (Fogarty and Black, 2014; Smith and Marshall, 2014). These studies appear particularly germane for schools that possess or are seeking separate AACSB accounting accreditation, given the AACSB's recent revision of Standard A8 of the *Eligibility Procedures and Accreditation Standards for Accounting Accreditation* (2015). According to the revised standard, accounting department faculty at universities seeking separate accreditation should include "a sufficient number of individuals with professional accounting credentials, qualifications, certifications, and professional experience" and deploy them "in ways that are consistent with the unit's mission, expected outcomes, and supporting strategies" (p. 31). Moreover, the criteria for meeting this standard include a determination of the extent to which the "accounting academic unit provides support for maintenance of certifications and licenses."

With Standard A8, the AACSB is signaling clear support for congruence between program goals for students to achieve professional certification and the qualifications and certifications of the faculty charged to assist students in realizing those goals. The *Directory* has been a key data resource for researchers who have examined issues related to this and other related accreditation standards.

The *Directory's* above-referenced contributions notwithstanding, inaccuracies are unavoidable due to the voluntary nature of the data reporting process. To update the *Directory*, Dr. Hasselback periodically sends the heads of academic accounting units a list of their respective faculty and requests that they return the list with any changes and updates. Fogarty and Black (2014), speaking with respect to reported practice credential data, voice concern and imply that inaccuracies may exist due to department heads failing to procure and submit accurate revised data⁴. The purpose of this study is to examine whether there are significant practice credential reporting inaccuracies in the *Directory*, and if so, whether they are random in nature or if any significant misreporting patterns emerge. It is motivated by Fogarty and Black's (2014) above-referenced concern regarding practice credential reporting inaccuracies, as well as our finding of missing credentialed faculty in the conduct of another study (Smith and Emerson, 2016). If indeed there are significant practice credential misreporting patterns, the findings may provide insight into possible remedies to mitigate such inaccuracies in future editions of the *Directory*.

METHODS

Participants

Hasselback's 2014-2015 edition of the *Directory* (2014) provided the source data for this study. The full sample consists of the 1,414 faculty members teaching at U.S. schools who earned

⁴ Dr. Hasselback explicitly accepts responsibility for any inaccuracies, but notes that the source of some of the misinformation is a result of schools not providing complete information.

their doctoral (Ph.D., Ed.D, or DBA) degree ($n = 1,267$) or highest non-doctoral degree ($n = 147$) during the period spanning 1994-2013, and possess at least one of the practice credentials listed in the *Directory*.⁵ The sample includes 1,162 tenure-line and 252 full time non-tenure track (FTNTT) faculty.

Timeframe

This study covers four key graduation timeframes spanning 1994-2013. These include 1994-1998, 1999-2003, 2004-2008, and 2009-2013. We use five-year graduation windows to mitigate the potential bias that might arise from selecting individual graduation years as measurement points, and because our chosen graduation timeframes encompass the time period over which the Pathways Commission (2012) and others have warned of an increasing disconnect between academia and accounting practice.

Data

We independently verified the status of those listed in the *Directory* as credentialed and consulted additional resources in an effort to find additional credentialed faculty among those not so listed. To do so, we first searched each faculty member's website and, where available, online resume, for practice credential information. Second, we reviewed the LinkedIn® profiles of each registered faculty member. Third, we searched CPAverify in an effort to locate individuals who have an active or inactive CPA license but are not listed in the *Directory* as a CPA. CPAverify is "an online central repository of information about licensed CPAs and public accounting firms maintained by the National Association of State Boards of Accountancy (NASBA) to provide a single-search resource covering participating jurisdictions where a person or firm has been licensed" (<http://www.cpaverify.org/>). Fourth, we searched for potentially unaccounted for CMAs by consulting the Institute of Certified Management Accountants website list of active CMAs (http://www.imanet.org/docs/default-source/cma_lib/cmasaa9dc8dc18cd658b8bd3ff00003d9775.pdf?sfvrsn=2).^{6,7} Lastly, we queried faculty via direct email solicitation requesting information about any practice credentials they may hold.

Fogarty and Black (2014) suggest that those gatekeeping the performance expectations of faculty at high prestige institutions may place less value on practice credential acquisition and maintenance in favor of quantitative academic research in top journals. To address this concern, we incorporated a program quality measure to examine the relationship between institutional prestige and accuracy of practice credential reporting in the *Directory*. This measure classifies the schools where faculty members taught during 2014-2015 according to their placement among the Top 75 accounting research institutions as originally identified by Trieschmann et al. (2000), and more

⁵The 1,414 credentialed individuals include 1,126 individuals whose credential possession appears in the *Directory* and 288 whose credential possession were uncovered by other means described below.

⁶This database, updated monthly, provides a listing of the names (only) of active and retired CMAs.

⁷The Institute of Internal Auditors does not provide public access to their credentialed members. Nor could we find comprehensive listings of CGAs, CAs, or RIAs. However, our entire search only uncovered five CAs, one CGA, and no RIAs, thus providing reasonable assurance that unidentified individuals with these credentials would have a non-significant impact on the findings.

recently applied by Glover et al. (2006) and Glover et al. (2012). Glover et al. (2012, p. 649) addressed the concern that university rankings based on research productivity may have changed since Trieschmann et al. (2000) by "...focusing on benchmarks based on portfolios of 15 universities, which should temper the effects of ranking shifts of individual universities in our benchmarks". To address this same concern, we incorporated data from the 73 named Top 75 schools listed in Glover et al. (2012, p. 651), which should also mitigate the effects of shifts of individual university rankings.⁸

RESULTS

Among all of the 1994-2013 graduates listed in the *Directory* who taught at U.S. schools during 2014-2015 ($n = 2,213$), the *Directory* lists 1,126 as possessing one or more of the practice credentials that it tracks. Our search effort uncovered an additional 288 faculty who possessed at least one of these credentials. Thus, the *Directory* fails to report these credentials for over 20 percent (288/1,414) of the 1994-2013 credentialed graduates. The analyses below include these additional 288 individuals as a means of assessing the existence of practice credential misreporting patterns.

Table 1 compares the number of credentialed faculty reported in the *Directory* to the total number of credentialed faculty for each of the four graduation timeframes. This analysis reveals that over the first three successive five year graduation periods, the percentage of total credentialed faculty reported in the *Directory* is significantly lower than that reported for graduates from the

TABLE 1

Hasselback Directory Practice Credential Reporting of 1994-2013 Accounting Program Graduates Teaching at U.S. Institutions during Academic Year 2014-2015¹

Graduation Timeframe	Credentialed Graduates	Credentialed in Hasselback Directory	Percent Credentialed in Hasselback Directory	Yates ² χ^2 (df = 1)	Yates p-value
1994-1998	479	439	91.65%		
1999-2003	347	286	82.42%	15.12	<.001
2004-2008	298	214	71.81%	9.75	0.002
2009-2013	290	187	64.48%	3.52	0.069
	1,414	1,126	79.63%	NA	NA

¹Pearson chi-square goodness of fit statistic for the percentage of all credentialed graduates listed in the *Directory* across all four timeframes is 96.32 (df=3; $p < .001$).

²Successive timeframe chi-square values incorporate Yates' correction for continuity to improve the accuracy of the null-condition sampling distribution of chi-square. Preecher (<http://www.quantpsy.org/chisq/chisq.htm>) recommends that this correction be limited to 1-df tests.

⁸Trieschmann et al.'s (2000) list of Top 75 accounting programs includes two schools that are unnamed because in the original study a school also had to be ranked among the top 100 research business schools to be included among the Top 75 accounting programs, which these two schools were not (Glover et al., 2012, p. 651).

previous five-year period. For example, the percentage of 1999-2003 credentialed graduates captured in the *Directory* (82.42%) is significantly lower ($\chi^2 = 15.12$; $df = 1$, $p < .001$) than that of their 1994-1998 counterparts (91.65%). The other inter-period differences can be interpreted in the same manner.

Table 2 reports the results from a series of cross-sectional and longitudinal comparisons of practice credential reporting accuracy between graduates teaching at Top 75 schools versus those teaching at accounting programs not ranked among the Top 75 for each of the four successive five year graduation periods spanning 1994-2013, and for the entire 1994-2013 timeframe. Cross-sectional analyses show that, over the entire 20-year period, and for each of the four graduation timeframes, the *Directory* captures a higher percentage of credentialed faculty teaching at non-Top 75 schools than it does of those teaching at Top 75 schools. For example, among the 1999-2003

TABLE 2

Hasselback Accounting Faculty Directory Practice Credential Reporting of Accounting Program Graduates Teaching at Top 75 Vs. Non-Top 75 U. S. Schools during Academic Year 2014-2015

Graduation Timeframe	Teaching at Top 75 School	Credentialed Graduates	Credentialed in Hasselback Directory	Percent Credentialed in Hasselback Directory	Yates χ^2 (df=1)	Yates p-value
1994-1998	Yes	89	75	84.27% _H	6.64	.010
	No	390	364	93.33% _H		
1999-2003	Yes	67	44	65.67% _L	14.68	<.001
	No	280	242	86.43% _M		
2004-2008	Yes	60	31	51.67% _L	13.84	<.001
	No	238	183	76.89% _L		
2009-2013	Yes	75	37	49.33% _L	9.63	.002
	No	215	150	69.77% _L		
Total	Yes	291	187	64.26%	52.19	<.001
	No	1,123	939	83.62%		

¹Pearson chi-square analyses revealed significant differences in the percentage of reported credentialed graduates teaching at both Top 75 ($\chi^2=26.99$ $df=3$; $p<.001$) and non-Top 75 ($\chi^2=66.45$, $df=3$; $p<.001$) schools across the four graduation timeframes. Based on the Bonferroni pairwise test of timeframe differences, _H indicates that the associated school (i.e., Top 75 or non-Top 75) Percent Credentialed in Hasselback Directory is significantly higher than that of the respective other timeframes denoted as _L; _L indicates that the associated percentages is significantly lower than that of the other timeframes denotes as _H.

graduation cohort, the percentage of credentialed graduates captured in the *Directory* teaching at Top 75 schools (65.67%) is significantly lower ($\chi^2 = 14.68$; $df = 1$, $p < .001$) than that of their counterparts teaching at non-Top 75 schools (86.43%). Longitudinal comparisons (interpreted vertically on the Percent Credentialed in Hasselback *Directory* column) using Bonferroni post-hoc pairwise comparison test results show distinct patterns of decline by graduation timeframe in the percentage of credentialed graduates captured in the *Directory*.⁹ Among faculty teaching at Top 75 schools, the percentage of credentialed graduates from the 1994-1998 cohort captured in the *Directory* (84.27%) is marginally higher (at $p = .078$) than that for the 1999-2003 cohort (65.67%), and significantly higher than for the 2004-2008 (51.67%) and 2009-2013 (49.33%) cohorts. No statistically significant percentage differences emerged among the latter three cohorts. Among those teaching at non-Top 75 schools, the percentage of credentialed graduates from the 1994-1998 cohort captured in the *Directory* (93.33%) is significantly higher than that of the 2004-2008 (76.89%) and 2009-2013 (69.77%) cohorts, but not significantly different from the 1999-2003 cohort (86.43%). The percentage for the 1999-2003 cohort is also higher than the percentages for the latter two cohorts, which are not significantly different from one another.

Table 3 reports the findings of a logistic regression analysis designed to assess the relationship between key demographic factors and the appearance of one's CPA credential in the *Directory*, modeled as follows:

$$\text{CPA STATUS CORRECTLY REPORTED IN THE DIRECTORY } (p) = \beta_0 + \beta_1 \text{TOP 75 SCHOOL} + \beta_2 \text{AACSB} + \beta_3 \text{DEPARTMENT HEAD CPA} + \beta_4 \text{TENURE AT CURRENT SCHOOL} + \varepsilon$$

where,

TOP 75 SCHOOL = whether the individual faculty member taught at a Top 75 school during the 2014-15 academic year, coded as 0 = no, 1 = yes;

AACSB = whether the school where the individual faculty member taught during the 2014-15 academic year had separate AACSB accounting accreditation, coded as 0 = no, 1 = yes;

DEPARTMENT HEAD CREDENTIALLED = whether the department head at the school where the individual faculty member taught during the 2014-2015 academic year was a CPA, coded as 0 = no, 1 = yes;

0-4 YEARS TENURE AT CURRENT SCHOOL = faculty members who worked four or fewer years at their current institution as of the end of the 2014-2015 academic year, coded as 0 = no, 1 = yes; ($n = 330$);

⁹We utilized the Bonferroni test in the analysis of variance module in Systat 13 to assess all reported pairwise timeframe differences as it provided for multiple post-hoc pairwise comparisons adjusted for family-wise error rate.

5-7 YEARS TENURE AT CURRENT SCHOOL = faculty members who worked five to seven years at their current institution as of the end of the 2014-2015 academic year, coded as 0 = no, 1 = yes; ($n=292$);

8-13 YEARS TENURE AT CURRENT SCHOOL = faculty members who worked eight to 13 years at their current institution as of the end of the 2014-2015 academic year, coded as 0 = no, 1 = yes; ($n=333$);

OVER 13 YEARS TENURE AT CURRENT SCHOOL = faculty members who worked 14 or more years at their current institution as of the end of the 2014-2015 academic year years ($n= 336$).¹⁰

Of the 1,414 credentialed faculty in the sample, 1,291 are confirmed U.S. licensed CPAs, 1,043 of whom are reported as CPAs in the *Directory*, and 248 others were uncovered by one of the other means described above. We restricted the logistic regression analysis to faculty who possess current or lapsed CPA licenses due to the data limitation issues reported above with respect to the other credentials, and the fact that 91% (1,291/1,414) of the total credentialed faculty are confirmed U.S. licensed CPAs.

Performance expectations may differ as a function of institutional prestige and mission (Fogarty and Black, 2014); high prestige institutions may place greater value on quantitative academic research at the expense of practice credential acquisition and maintenance. That assumption, along with the Table 2 findings with respect to practice reporting accuracy among those teaching at Top 75 versus non Top 75 schools, led us to predict that the CPA status of those teaching at Top 75 schools would be less likely to be accurate than it is for their non-Top 75 counterparts. We also thought it intuitively appealing that academic accounting heads possessing a CPA would be more likely to value and disclose CPA possession among their respective faculty. Given the emphasis on faculty professional credentials in AACSB's Standard A8 as noted above, we posit a positive association between faculty at AACSB-accredited programs and accuracy of reported CPA possession by that individual. Finally, we expect a negative relation between CPA misreporting and tenure at one's current institution given the likelihood that the longer one resides at a specific school, the more likely it is that credential reporting errors are caught and corrected.

Table 3 Panel A examines model fit. The likelihood-ratio statistic of 113.458 is chi-squared with six degrees of freedom and a p-value of $<.001$, indicating that the hypothesis that all of the coefficients except the constant are 0 should be rejected. The Naglekerke's R^2 indicates that the model explains 14.5% of the variance in the dependent variable.¹¹

¹⁰These length of time categories were motivated by a desire to: 1) convert this sole continuous predictor into a categorical variable in line with the other predictors; and, 2) have a somewhat comparable number of individuals in each group given the actual years of tenure at the current school among the individuals in the sample.

¹¹Multi-collinearity among the predictors does not appear to be an issue as the Spearman correlation coefficients range from .046 to .136, with the highest correlations between AACSB Accounting Accreditation and both Department Head CPA and Teaching at a Top 75 School. As a precaution, we omitted AACSB Accounting Accreditation from the model and re-ran the logistic regression analysis. The coefficients and relevant standard errors of the other variables changed very little, thus providing additional assurance that multicollinearity among the predictors is not an issue.

TABLE 3

**Binary Logistic Regression Analysis of Factors
of Potential Influences on CPA Reporting Accuracy**

(Dependent Variable: CPA Appears in the *Directory*: 0 = no (n = 248), 1 = yes (n = 1,043)¹)

Panel A: Overall Model Fit

Log-Likelihood of Constant Only Model	-588.917
Log-Likelihood of Full Model	-532.188
Chi-Square	113.458
df	6
p-Value	0.000
Naglekerke's R ²	0.145

Panel B: Parameter Estimates

	Estimate	Standard Error	Z	p-value	95% Confidence Interval	
					Lower	Upper
CONSTANT	-1.743	0.239	-7.303	0.000	-2.210	-1.275
AACSB Accounting Accreditation	0.151	0.159	0.947	0.344	-0.161	0.463
CHAIR CPA	0.465	0.161	2.899	0.004	0.152	0.780
Teaching at a Top 75 School	-1.019	0.171	-5.952	0.000	-1.355	-0.683
0-4 Years Tenure at Current School	1.211	0.239	5.072	0.000	0.743	1.679
5-7 Years Tenure at Current School	1.519	0.239	6.346	0.000	1.050	1.989
8-13 Years Tenure at Current School	0.329	0.267	1.233	0.218	-0.194	0.851

Panel C: Odds Ratio Estimates

	Odds Ratio	Standard Error	95% Confidence Interval	
			Lower	Upper
CHAIR CPA	1.163	0.185	0.851	1.588
Teaching at a Top 75 School	1.593	0.256	1.163	2.181
0-4 Years Tenure at Current School	0.361	0.062	0.258	0.505
5-7 Years Tenure at Current School	3.357	0.801	2.102	5.360
8-13 Years Tenure at Current School	4.570	1.094	2.858	7.307
	1.389	0.370	0.824	2.342

¹The logistic regression model uses the highest category for each variable as the referent group. Therefore, the referent groups in this analysis are the faculty member's: 1) CPA appears in the *Directory*; 2) accounting program has separate AACSB Accounting Accreditation; 3) department head is a CPA; and 4) tenure at their current school is over 13 years (n = 363).

The parameter estimate statistics presented in Panel B indicate that the accounting unit head's possession of a CPA, teaching at a Top 75 school, and a faculty member's tenure at their current institution, are all significant predictors of the dependent variable. However, possession of AACSB Accounting Accreditation by the school where a faculty member teaches is not a significant predictor despite the fact that the relation with the dependent variable is in the right direction.¹²

The parameter estimates in the model represent the expected change in the log odds for a one unit change in the predictor while holding all others constant. Accordingly, the odds ratio estimates presented in Panel C are calculated as exponentiations of the parameter estimates and can be interpreted to express the nature of the relationship between each of the significant predictors and the likelihood that a faculty member's CPA possession will appear in the *Directory*. Controlling for all of the other variables in the model: 1) the odds of appearing as a CPA in the *Directory* are 59.3% greater for a faculty member at a school where the accounting unit head is a CPA than at those schools where the head is not a CPA; 2) the odds of faculty members teaching at Top 75 schools seeing their CPA listed in the *Directory* are only 36.1% of that of their counterparts at non-Top 75 schools; and, 3) the odds of appearing in the *Directory* as a CPA for faculty members with over 13 years of tenure at their current school are 337% greater than those with 0-4 years tenure, and 457% greater than those with 5-7 years tenure.

Supplementary Analyses

To further explore potential explanations for why specific individuals' practice credential possession are not denoted in the *Directory*, we surveyed via personal email each of the 288 non-reported credentialed faculty members. The email message stated that our research uncovered that they possessed at least one of the *Directory's* tracked practice credentials, yet the 2014-2015 edition of the *Directory* did not report their credential possession, and asked the following two questions: 1) Are you aware that your credential possession is not listed in the *Directory*?; and, 2) Would you state or speculate why your practice credential(s) do not appear in the *Directory*? After four weeks and two follow-up messages, we received responses from 102 (35%) of the subjects. There were no significant response rate differences between those teaching at Top 75 (32/104; 31%) and non-Top 75 (70/184; 38%) schools, those from schools with (53/155; 34%) and without (49/133; 37%) AACSB accounting accreditation, and those whose academic accounting unit was (58/159; 36%) or was not (39/111; 35%) credentialed. Only seven respondents indicated that they actually knew why they were not listed as credentialed, four of whom indicated that their license is inactive, two have passed the exam but have not completed the work experience requirements, and one speculated that their employer school simply failed to include the information when the *Directory* was last updated. Of the 95 individuals who indicated that they did not know, 18 speculated that it was because their license was inactive, and another nine expressed concern that their credential(s) were not listed. Other conjectures included lack of concern about credential possession at their employer institution, clerical error, and lack of knowledge about how the data are provided to the *Directory*.

As noted above, the most frequently cited presumption as to why one's credential does not appear in the *Directory* is that it is inactive. To test this assumption, we obtained information via

¹²A supplementary logistic regression analysis that further broke down AACSB status into 0 = non-accredited, 1 = business accredited, and 2 = business and accounting accredited also resulted in no significant intergroup differences.

CPAverify, faculty websites, LinkedIn®, and direct email solicitation on the status of the CPA licenses belonging to the 1,084 individuals in the full sample listed in the *Directory* as CPAs.¹³ We also verified the active status of the CPAs not listed in the *Directory* using the same procedure, and then conducted a chi-square analysis to assess if there was a significant difference between groups. Among the CPAs listed in the *Directory*, there were 1,044 with U.S. licenses, 686 (66%) of whom had active licenses. Among the 288 credentialed faculty not listed in the *Directory*, there were 251 with U.S. CPA licenses, 170 (68%) of whom had active licenses. The active-to-total CPA ratio was not significantly different ($\chi^2 = .282$; $df = 1$, $p = .594$) between groups.

We also conducted analyses to assess factors related to the consistency of practice credential misreporting in the *Directory* over subsequent editions. The first analysis assessed how many of the 288 faculty whose credentials were not reported in the 2014-15 edition of the *Directory* had their credential possession correctly reported in the 2015-16 and 2016-17 editions, respectively. A total of 27 corrections appeared in the 2015-16 edition, and another 57 appeared in the 2016-17 edition. Thus, nearly 30% ($84/283$)¹⁴ of those who were misreported in the 2014-15 edition were corrected in the 2016-17 edition. There were no significant demographic differences among the individuals corrected in the 2015-16 edition. However, among those whose corrections appeared in the 2016-17 edition ($n = 84$), a significantly higher percentage of corrections appeared for faculty who graduated during the 2009-2013 timeframe ($\chi^2 = 37.945$; $df = 3$, $p < .001$) and those with 0-4 years of tenure at their current institution ($\chi^2 = 24.562$; $df = 3$, $p < .001$), vis-à-vis their respective counterpart groups. No other significant differences were measured.¹⁵

As another measure of consistency, we evaluated initial practice credential reporting accuracy. To accomplish this, we searched the *Directory* edition for the year in which each of the 1,088 U.S. and foreign licensed CPAs listed in the 2014-15 edition first appeared in the *Directory* at their current school to determine if that person's credentialed status was accurately reported. Results indicate that 945 (86.86%) were correctly described as possessing a CPA in their first year with no identified significant demographic differences noted.

To assess new reporting errors, we examined practice credential reporting data for the 363 individuals currently teaching at U.S. schools who graduated from U.S. accounting Ph.D. programs during the period spanning 2014-May 2016 according to Hasselback's *Accounting Doctorates by School* (2016). One hundred seventy four (47.93%) were credentialed, 79 (45.40%) of whom were not reported as credentialed the year in which they initially appeared in the *Directory*. Among these individuals, 76 were CPAs, two were CMAs, and one was a CIA. We found 75 of the non-reported credentialed faculty by examining their respective websites, three through CPAverify, and one through LinkedIn®. No significant difference was measured between the percentage of non-reported

¹³We limited this analysis to the CPA credential due to the above-referenced data limitation issues with the other credentials and the fact that 91% (1,291/1,414) of the total credentialed faculty are U.S. licensed CPAs.

¹⁴One faculty member no longer appeared in the *Directory* after the 2014-15 edition, and an additional four faculty members no longer appeared in the 2016-17 edition.

¹⁵Reported chi-square values based on 84 total corrections found in the 2016-17 edition of the *Directory* and the remaining 199 (288-84-5) faculty members whose credentials still did not appear in that edition. Chi-square analyses revealed no significant differences in total corrections appearing in the 2016-17 edition of the *Directory* according to teaching at a Top 75 school status, AACSB Accounting Accreditation possession status, or department head credentialed status.

credentialed faculty teaching at Top 75 schools (52.73%; 29/55) and those teaching at non-Top 75 schools (42.02%; 50/119). Among the 167 U.S. CPAs in this cohort, there was no significant difference in the percentage between those reported as CPAs in Hasselback (71.43%; 65/91) and those not reported (60.53%; 46/76). The credentials for 24 of the 79 non-reported credentialed faculty (30.37%) have been corrected in the 2016-17 edition.

Limiting our analysis to the CPA credential for the reasons cited above, we also tested for Type 2 errors in the *Directory*, i.e., individuals who are listed as CPAs but in fact are not. Of the 1,088 above-referenced 1994-2013 graduates listed as CPAs in the *Directory*, 20 replied to our direct email solicitation as to the status of their licenses by indicating that they did not hold the CPA credential, 19 of whom indicated that they held no practice credential whatsoever. Thus, approximately 1.83% of the faculty listed as credentialed are recorded erroneously, thus increasing the ratio of non-listed credentialed faculty to actual credentialed faculty.¹⁶ The CPA status is corrected for only three of these faculty members in the 2016-17 edition of the *Directory*.

We also evaluated other means by which an individual's credentialed status can be determined. School websites represent an increasingly valuable resource for obtaining demographic and professional information on individual faculty members such as area of expertise, courses taught, publications, and practice credentials held. To determine if any of the identified factors related to the accuracy of practice credential reporting in the *Directory* are also related to accessibility of data on the websites for each of the 288 non-reported credentialed faculty members, we conducted a series of chi-square analyses testing each factor (e.g., Top 75 status, credentialed status of department head, accreditation status, and tenure) for differences based on availability of credentialed status on the school's website.¹⁷

Our results (non-tabulated) show that the percentage of the non-reported credentialed faculty whose credential status is accessible on their faculty website is comparable across all levels. We also conducted a logistic regression analysis similar to that reported in Table 3, substituting website accessibility of practice credential information for CPA status correctly reported. The results indicated poor fit for the model, and none of the predictors were significant.

DISCUSSION

Fogarty and Black (2014) report a significant decline in practice credential possession among accounting academics beginning in the mid-1990s, and note that the decline is even more precipitous at higher prestige institutions compared to lower-tier schools. Interestingly, this study's results show a similar pattern with our finding of an inverse relation between each successive five-year graduation window and the proportion of non-reported credentialed faculty. That is, the more recent the timeframe of graduation, the higher the percentage of faculty whose credential(s) are not reported. Moreover, this error rate pattern is more extreme among the Top 75 schools. For each

¹⁶The addition of these 20 individuals to the dataset utilized in the logistic regression analysis reported in Table 3 results in insignificant change in the coefficients and relevant standard errors of the other variables.

¹⁷Accessibility is defined as a specific denotation of a credential on the faculty member's website bio or linked vita containing evidence of that person's possession of one or more of the practice credentials tracked in the *Directory*.

graduation window, the percentage of credentialed faculty not captured in the *Directory* is significantly higher among graduates teaching at Top 75 schools than it is at non-Top 75 schools.¹⁸

From a predictive standpoint, it is more likely that the *Directory* will correctly report a faculty member as possessing a CPA if that faculty member has longer tenure at their current school, teaches at a non-Top 75 school, or teaches at a school where the academic accounting unit head is a CPA. The non-significant relationship between AACSB Accounting Accreditation and the likelihood that the *Directory* will correctly report a faculty member's CPA possession is somewhat surprising, yet perhaps explainable by the timeframe of this study versus the promulgation date of Standard A8.

Our findings also provide empirical support to Fogarty and Black's (2014) propositions that there has been a distancing of academics from the certification process, and at the more prestigious institutions the choice to stress quantitative academic research has apparently devalued the acquisition and maintenance of practice credentials. Based on our results, it is reasonable to conclude that accounting program administrators from Top 75 schools have reported practice credential data on their faculty less accurately than those at less prestigious schools, thus providing circumstantial evidence in support of Fogarty and Black's (2014) claims. Conversely, it should be noted that direct evidence of practice credential possession is available on school websites or vitae provided on those websites at comparable rates regardless of institutional prestige, perhaps lending credence to claims that administrators may not be deliberately or inadvertently devaluing credential possession through their failure to provide accurate data. However, the noted similarity between the overall availability of credential possession data on websites versus the divergence seen in the *Directory* is likely attributable to the source of the data in question. School administrators are tasked with gathering and reporting accurate practice credential data to the *Directory*, while individual faculty members are usually responsible for the biographies and vitae provided on school websites, and individual faculty members may be more highly motivated to ensure that their achievements are properly chronicled than are their supervisors, thereby lending support to the contentions of Fogarty and Black (2014).

The overall credential reporting error rate uncovered in this study is non-trivial. For example, consider the credential data for all faculty reported for academic year 2011-2012 by Fogarty and Black (2014). Of the 6,772 total faculty listed, the authors report 4,098 (60.5%) with a CPA, CMA, or CIA, and 3,926 (58%) as having a CPA. Using only the 2012 and 2013 graduates from our data, and adding our remaining non-reported missing credentialed faculty to Fogarty and Black's numbers increases the totals to 4,298 (63.5%) and 4,105 (60.6%), respectively. Moreover, our numbers do not include any non-reported credentialed faculty who graduated before 1994, the inclusion of whom would only further highlight the significance of inaccuracies in the *Directory*'s reported credential data.¹⁹

¹⁸Among the faculty in the full sample (n = 1,414), there is no significant difference in terms of faculty distribution by rank or tenure at one's current school between faculty teaching at Top 75 versus non-Top 75 schools.

¹⁹It was beyond the scope of this study to examine credential reporting error rate differences in previous editions of the *Directory* over multiple time periods. However, a study of this nature could confirm or refute Fogarty and Black's (2014) claim that the magnitude of the changes that they uncovered would be "resistant to a considerable degree of error" (235).

Though it is difficult to make definitive assertions about the consistency of practice credential reporting accuracy over subsequent editions of the *Directory*, the data do provide some insight. As reported above, nearly 30% of the 1994-2013 graduates misreported as not having a credential in the 2014-15 edition are correctly reported with their respective credentials in the 2016-17 edition. With respect to CPA reporting, of the 143 U.S. licensed CPAs who graduated during 2014 and 2015, 74 (51.75%) were recorded as non-credentialed the first year they appeared in the *Directory*, and 54 (37.76%) were incorrectly reported as non-credentialed in the 2016-17 *Directory*. Of the 67 individuals in this cohort correctly reported as CPAs in the 2016-16 edition, 61 (91.05%) were correctly reported the first year they appeared in the *Directory*. Comparably, of the 104 U.S. licensed CPAs who graduated in 2012 and 2013, 51 (49.04%) were incorrectly reported as non-credentialed the first year they appeared in the *Directory*, and 36 (34.62%) were incorrectly reported as non-credentialed in the 2015-16 *Directory*. Of the 65 individuals in this cohort correctly reported as CPAs in the 2014-15 *Directory*, 53 (81.54%) were correctly reported the first year they appeared in the *Directory*. These data seem to show a somewhat consistent pattern of misreporting and subsequent correction among the CPAs in each cohort.

LIMITATIONS

The accuracy of our practice credential data is a potential limitation of this study. As noted above, we consulted several sources to gather practice credential data on individual faculty members. However, it is likely that there are additional unidentified credentialed faculty in our database. As noted above, the Institute of Internal Auditors does not provide public access to their database of Certified Internal Auditors. In addition, the Institute of Certified Management Accountants website only lists active CMAs, and only by name. While we attempted to contact every individual whose name appears in the list to verify their CMA status, we did not receive responses back from everyone as of this writing. However, we have no reason to suspect that these unidentified individuals would significantly alter our results as: 1) in our entire database of 1,414 credentialed faculty, the overwhelming majority (1,291; 91%) are verified U.S. licensed CPAs; and, 2) any additional credentialed faculty are likely to further support our observations given the practice credential trends uncovered herein.

Our measure of institutional prestige might also be subject to debate. Numerous studies have incorporated various methodologies to rank research programs (for a listing, see Coyne et al., 2010, p. 632), yet no consensus has ever emerged from these efforts. To the extent that placement among Top 75 accounting programs is not an accurate representation of institutional prestige, our inter-institutional comparisons are questionable. However, the Top 75 schools are among those that consistently appear in the literature as “top” U.S. accounting programs based on research productivity, thus giving us comfort that this prestige measure is generally consistent with prior rankings.

While we did examine the data to determine if there were faculty without a credential reported as credentialed, we did not confirm all possible types of errors. For example, a few of the non-reported credentialed faculty responded to our direct email inquiries that they had more than one of the tracked credentials. One for example indicated that he had a CMA, not a CPA. While we did attempt to fully quantify those errors, there is significant potential that more exist. The scope of this study also precluded us from determining with reasonable accuracy faculty possession of other practice credentials not listed in the *Directory*.

CONCLUSIONS

Utilization of *Directory* practice credential data in accounting studies is a relatively recent phenomenon, yet one that may receive additional attention by researchers as they seek to evaluate issues related to the intersection of academia and practice. Moreover, recent concerns voiced by the AACSB, the Pathways Commission, members of the accounting practice community and others about a growing divide between accounting practice and academia (see Smith and Marshall, 2014 for a review) combined with pressures on schools by legislators, parents, and students for value-added educational experiences and outcomes, all appear to be valid motivators for additional research into faculty practice credential possession demographics and trends. However, the *Directory* can only be the primary resource for accurate practice credential data with additional effort by both faculty and accounting program administrators. Faculty members need to report their attainment and/or possession of practice credentials to their accounting program heads on a timely basis, and program administrators need to include these data in the faculty listings that they update for Professor Hasselback, as well as to respond promptly to update requests.²⁰

None of our findings or comments are meant to diminish the service that Dr. Hasselback has provided to the academic accounting community over the past four decades through his work on the *Directory*. In his preface to the 2014-2015 edition to the *Directory*, he clearly states that he assumes responsibility for any mistakes contained therein. Our only suggestion is that he specify in his future requests for updated information his preference for all practice credential data, i.e., those with both current and inactive credentials, or just data for those with active credentials. This should clear up some confusion that likely exists among accounting unit heads and may increase the accuracy of the reported data by standardizing the nature of the practice credential data reported. This suggestion notwithstanding, Dr. Hasselback has provided accounting faculty and accounting program administrators with an invaluable resource. We owe him a debt that we can help repay by providing accurate and timely practice credential and other requested data for inclusion in the database.²¹

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²⁰Accounting unit heads at 28 of the 189 institutions where the non-reported credentialed faculty taught during 2014-2015 failed to respond to Professor Hasselback's request for updated faculty data for that edition of the *Directory*.

²¹The authors are embarrassed to note that in the conduct of this study we discovered three errors in the 2014-2015 *Directory* information for our school: the previous dean and departmental administrative assistant are listed, and one faculty member's Ph.D. is not properly listed as having an accounting concentration. In the 2015-2016 *Directory* edition, another faculty member's Ph.D. is not properly listed as having an accounting concentration, and the previous departmental assistant's name is still listed. However, practice credential information reported for each faculty member is accurate. The department head (one of the authors) assumes full responsibility for these reporting errors.

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