Are Madison and Jacob (Still) More Employable than Aaliyah and Xavier (in Public Accounting Firms)?

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To embrace diversity, the American Institute of Certified Public Accountants (AICPA) has launched initiatives to enroll a more diverse population into the accounting profession. This study investigates if racial disparity currently exists despite these initiatives by conducting a blind study of callbacks for eight fictitious applicants of various races, genders, and resume quality. The study found that although no difference in callbacks existed in general between Blacks and Whites, when quality of resumes is considered Whites have the advantage. Further, the study offers practical solutions for CPA firms and higher education to consider in their efforts to achieve more diversity.

Keywords: diversity, hiring, racial bias, public accounting

INTRODUCTION

A landmark study by Bertrand and Mullainathan (2004) found disparity among sales, administrative support, clerical, and customer service job applicants' callbacks based on the ethnic association of the applicant's name. They found that White job applicants received 50 percent more callbacks than Blacks for interviews. Additionally, White names with higher-quality resumes elicited 30 percent more callbacks, while this increase was far smaller for Blacks with higher-quality resumes. Following AICPA's diversity initiatives, could such a hiring disparity still exist today in public accounting?

In the academic year 2017–2018, 16 percent of bachelor's and master's graduates in accounting were Latino; 13 percent of bachelor's and master's graduates were Asian; and six percent were African American. These percentages showed increases for Latino and Asian students over the 2006–2007 academic year, when only five percent of bachelor's and master's graduates had been Latino and only eight percent had been Asian. At that time, however, seven percent had been African American, showing a decrease over the same 12-year span (Drumgo 2019). Additionally, according to the U.S. Bureau of Labor Statistics, about 1.9 million accountants and auditors are practicing in the United States; only about nine

percent of these professionals and one percent of all Certified Public Accountants (CPAs) are Black (Morrison 2021).

This study is important as it evaluates current hiring practices by CPA firms to understand if disparate hiring practices still exist, specifically within the public accounting profession. If so, then hiring practices themselves may contribute to Black disinterest in the accounting profession, something that has never been specifically measured or addressed in the literature. In contrast, if disparities no longer exist, what then can be done to promote more interest in the CPA profession by Blacks?

This study reviews the literature on diversity initiatives in accounting and their importance. The hypothesis and a research question are presented, followed by the methodology and results. Discussion of the findings is provided, along with limitations of the study and opportunities for further study.

LITERATURE REVIEW

The AICPA has endeavored to diversify its field for decades, beginning with a landmark 1969 resolution (Drumgo 2019). At this time, there were fewer than 150 Black CPAs in the U.S., representing less than .15 percent of all CPAs. The resolution provided distinct actions: a campaign to encourage young people from disadvantaged groups to attend college and major in accounting; special efforts to provide educational opportunities so that young people from disadvantaged groups could enter the profession without educational disadvantage; and these people be hired to better integrate the profession. Due in large part to these campaigns, the number of Black accountants employed by U.S. CPA firms jumped from 197 in 1969 to 700 only one year later (Drumgo 2019). Between 1976 and 1989, the number of Black accountants in major U.S. CPA firms rose by another 43 percent. The AICPA has continued similar awareness campaigns up through the present day.

Despite these continuing initiatives, both the portions of total new bachelor's and master's accounting degrees by Black students (See Figure 1) as well as the total new hires in the U.S. CPA firms of Black students (See Figure 2) have lacked appreciable increases since 2000. The stability is measured as part of a control chart, which evaluates the movement of the data between expected control limits (Upper Control Limits—UCL; and Lower Control Limits—LCL). The average expected is the average control limit (CL). Although such a chart is typically associated with manufacturing processes, this type of analysis can be used in myriad ways, as long as the data collected is comparable (Wheeler, 2017). The chart shows that the portion values stabilize around seven percent, with minor annual fluctuations.

FIGURE 1
PORTION OF BLACKS ENROLLED IN BACHELOR'S AND MASTER'S ACCOUNTING DEGREES

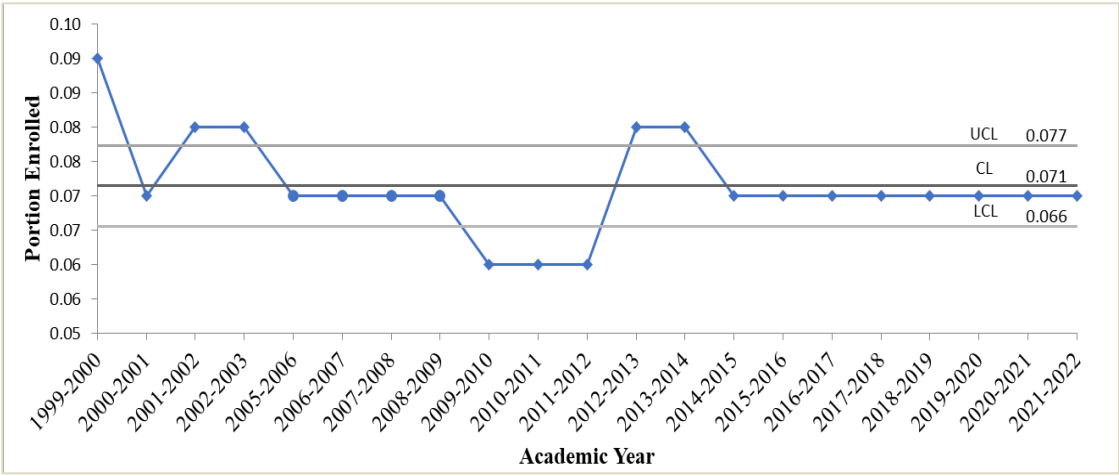
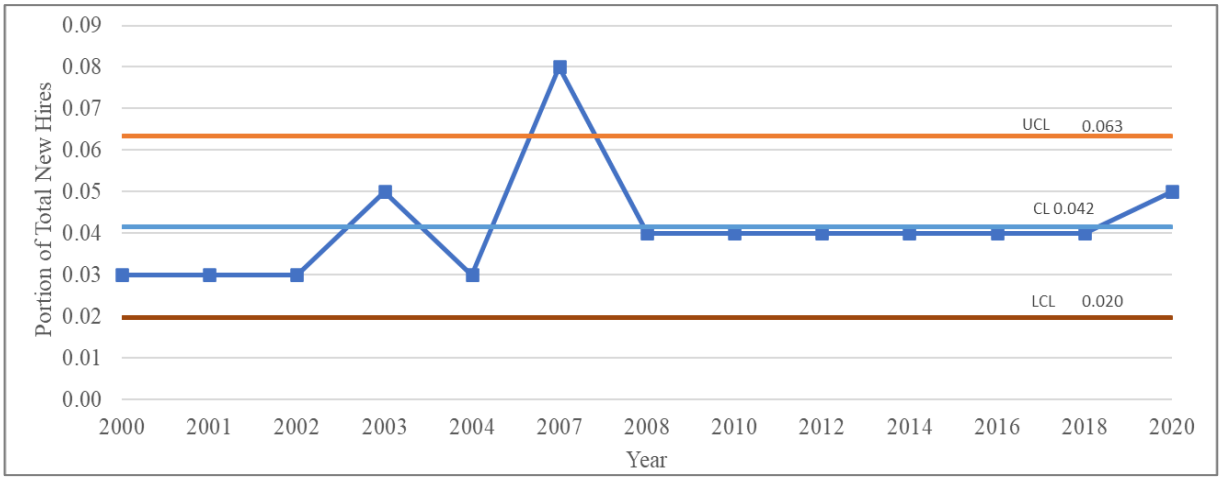


Figure 2 presents a similar story. Aside from an unexplained spike in 2007, the portions of Blacks hired by U.S. CPA firms are between three percent to five percent, with no appreciable increase. (No data is available for 2005 or 2006, or beyond 2020.)

FIGURE 2
PORTION OF TOTAL NEW HIRES IN U.S. CPA FIRMS OF BLACK STUDENTS



Interestingly, according to the U.S. Census's American Community Survey (2021), 23 percent of Black residents aged 25 years or over had earned a bachelor's degree or higher, an increase from 18 percent in 2010 (Factsheets). Furthermore, in 2020, 36 percent of the 18–24-year-olds in the Black population were enrolled in college. Thus, despite the AICPA's diversity initiatives and an increase in degree-seeking Blacks, why are Black college students still shying away from the industry?

According to the Center for Audit Quality, the main reason for non-accounting students of any ethnicity not choosing accounting as a major (32 percent of participants) was a lack of interest or passion (2023). Other leading factors were higher starting salaries for other majors (29 percent of participants), not wanting to pursue the 150 hours for a CPA (28 percent), and not believing they are good enough at math to become an accountant (28 percent). Further, 18 percent of participants do not see people similar to themselves represented in the profession; because 77 percent of CPAs in US CPA firms were White as of 2020, these respondents likely were predominantly non-White. Additionally, only 71 percent of recent Black accounting graduates indicated that they were totally satisfied with the organizational culture of their firms, in contrast with 83 percent of Whites and Hispanics.

Diversification in any workforce is important. Research reinforces that a diverse, equitable, and inclusive workplace enhances a company's economic impact (Bailinson et al. 2020). Inclusive organizations foster equal opportunities for everyone, which ensures transparent communication, leading to good governance. Diversity fosters empathy, allowing for greater competency in managing conflicts of interest and confrontations necessary to uphold fair governance. Lastly, well-managed, culturally diverse boards around the world generate 43 percent higher profits than homogeneous boards (Banerjee 2021). Furthermore, organizations that ignore diversity concerns run the risk of negative societal judgment (Berg 2022).

In addition to the evidence for diversity's general benefits, Black CPAs have been observed to offer specific benefits to their profession. According to Runyon (2021), these include resilience, skill in building authentic relationships, ambition and preparation, and community support in professional workspaces. Resilience results from having to overcome discriminatory barriers in school, society, and the workplace. The skill of building authentic relationships stems from intergenerational behaviors dating back to slavery, when Black people separated from their families learned to build new relationships to survive. Ambition and preparation result from the need to be better at professional pursuits than White counterparts to succeed.

Finally, Black CPAs are deliberate about building networks of community support, either externally through associations or internally through employee resource groups.

Given this importance of diversity in the workplace, researchers have given careful attention to whether hiring practices promote or impede diversity. Most famously, Bertrand and Mullainathan (2004) performed a field experiment to measure racial discrimination in the U.S. labor market through fictitious resumes that were assigned either Black- or White-sounding names. When sent to potential employers, resumes with White-sounding names had a 10.08 percent chance of receiving a callback, but equivalent Black applicant resumes had a 6.70 percent chance, a 50 percent increase for White applicants over Black ones.

Bertrand and Mullainathan (2004) further noted that the callback disparities grew even greater when quality of resumes was considered. The researchers created high-quality and low-quality resumes for both White and Black applicants. The high-quality resumes contained an extra year of job experience, fewer employment gaps, additional special skills, and other advantages, but still had the same education level as low-quality resumes. The researchers found that resume quality, ignoring race, resulted in higher callback rates overall. The callback rate for high-quality White applicants was 11 percent compared to only 8.8 percent for low-quality White applicants, a statistically significant 30 percent increase. In contrast, high-quality Black applicants received a 6.99 percent callback rate compared to 6.41 percent for low-quality Black applicants, a 9 percent increase that was not statistically significant. The findings not only suggest that racial hiring discrimination exists in the U.S. labor market, but also that Black applicants find it hard to fight against such discrimination even by improving their skills or credentials.

A later study by Kessler and Low (2021) sought to identify if resume quality and applicant callbacks had changed since the Bertrand and Mullainathan (2004) study. Their approach differed from that of Bertrand and Mullainathan by focusing on large and prestigious companies, which tend to hire via networks, school relationships, and feeder organizations. Additionally, Kessler and Low invited firms to rate resumes in terms of identified characteristics, which the firms were asked to score. Firms were promised to be matched with a real candidate, thereby facilitating a careful analysis of the resumes. The results indicated that racial and gender biases still existed: bias toward White males was predominant in the STEM fields; no aggregate preferences existed for minorities or females; females and minorities are more difficult to hire due to competitive hiring of many organizations to meet DEI goals, with the added consideration that such DEI efforts allow these individuals to secure more prestigious internships; and a socioeconomic bias existed, as low-level jobs secured in earlier academic years were not valued. Lastly, the more fatigued the firms' reviewers became from evaluating the resumes, the more likely they were to rate White males' resumes higher.

Additionally, according to "Racial Bias in Hiring Practices Widens the Black-White Wealth Disparity" (2022), the top 20 percent of Fortune 500 companies were responsible for 50 percent of discriminatory hiring. Because these large companies contribute greatly to the economic prosperity of the country, such practices widen the Black–White wealth gap. Kline et al (2021), using a new statistical methodology to grade the race and gender callback gaps of large 100 Fortune 500 companies indicates that discriminatory hiring practices still exist, with the abundance of such discrimination existing in specific industries, such as auto parts. This study did not include any accounting firms.

A further consideration is the looming Securities and Exchange Commission's regulation regarding ESG (Environmental, Social, and Governance) reporting, given the rise of ESGs (Kell 2018). Ward (2020) explains that the Big Four accounting firms (Deloitte, PricewaterhouseCoopers, EY, and KPMG) have thrown their support behind ESG reporting, marking their commitment to resources to achieve the skill set to report according to SEC regulation, once the regulation is implemented. The Big Four maintain a client base that represents virtually all publicly traded companies in the aggregate (Ward 2020). The final regulation for reporting will have a trickle-down effect, perhaps facilitating a closer look at DEI initiatives for all firms and fostering more attention to hiring practices.

It is important to note that in the age of AI, 33% of employers use AI to conduct screening of applicants (Maurer, 2024); however, according to Mukherjee (2024), judgment and review cannot be performed by AI; instead, AI must complement human resource processes. MIT (2021) indicates that AI algorithms,

because they are trained by humans, historically bias applicants by gender and race. As a result, human evaluation is essential.

In summary, although accounting professional societies are attempting to foster diversity in the profession, and DEI efforts are paramount to achieving social justice and organizational economic success, disparate hiring practices may still exist. However, CPA hiring efforts have not been specifically studied. This study seeks to understand potential CPA hiring discrimination by public accounting firms through a study similar to that of Bertrand and Mullainathan (2004).

HYPOTHESIS AND RESEARCH QUESTION

Given the various initiatives aimed at Black populations to pursue CPA careers, as well as societal emphasis on DEI and ESG initiatives, we hypothesize that similar opportunities for CPA employment will be available for high-quality CPA students, regardless of race. To challenge this hypothesis, we posed the following research question:

> *Are there differences in employment interest (both for applied-for positions and unsolicited encouragement to apply for public accountancy positions) with regard to name (categorized by race), resume quality, and gender?*

Although the focus of this study is on race, gender is considered as an interest, in that many DEI efforts are broad and may impact gender as well. It is expected the levels of employment interest will be similar for race and gender when resume quality is analogous.

RESEARCH METHODOLOGY

This study uses a mixed methods analysis for its methodology. The fictitious resumes were developed using specific qualitative criteria relevant to public accountancy. The names linked to the resumes were qualitative regarding race association, while the resulting employment interest evaluation was quantitative. This section will provide the context of the research and then present each research question and analytical approach.

Context of the Research

To begin, a set of realistic resumes for eight fictitious job seekers was generated. All eight were students about to graduate with a bachelor's or master's degree in accounting, seeking an entry-level position in public accounting. The resumes were generated via Chat Generative Pre-trained Transformer (ChatGPT), the large language model–based chatbot developed by OpenAI, with this prompt: "Generate a resume for a student who has just graduated or is about to graduate from a university in (selected city) with a bachelor's or master's degree in accounting and is seeking an entry-level job in public accounting. Use names of real universities and employers located in (selected state) in the resume." The outline of each resume included objective, education, relevant coursework, skills, experience, professional associations, and leadership and involvement areas; ChatGPT was then prompted to add characteristics that would differentiate resumes as either high- or low-quality, as described below.

Eight resumes were produced, two for each of the four locations identified, to provide a good cross-section of data by assigning the characteristics deemed important to the study to each fictitious individual. These resumes were coded as Low-Quality Black Male (LQBM), Low-Quality White Male (LQWM), High-Quality Black Male (HQBM), High-Quality White Male (HQWM), Low-Quality Black Female (LQBF), Low-Quality White Female (LQWF), High-Quality Black Female (HQBF), and High-Quality White Female (HQWF).

High-quality resumes included four differentiating characteristics when contrasted with low-quality resumes. First, high-quality applicants held master's degrees in accounting, while low-quality candidates held bachelor's degrees. The master's degrees were either Master of Business Administration or Master of

Science in Accounting degrees, based upon what degrees were offered by the institution selected by ChatGPT. Second, high-quality resumes listed grade point averages (GPAs) as either 3.75 or 3.85, while low-quality resumes did not give a GPA. Third, high-quality resumes listed two previous internships, including one that took place at a public accounting firm. Low-quality resumes only listed a single internship in the accounting department of a private company. Finally, the high-quality resumes listed two random sections of the CPA exam as being passed, while low-quality resumes were silent in this regard.

The resumes were assigned one of four locations when prompting Chat GPT for where their respective education and experience occurred. Four locations were selected in an effort to offer a comparison and contrast among locations. The initial location was Buffalo, New York. The other three locations were chosen using Metroverse (https://metroverse.cid.harvard.edu/), an online tool built at Harvard University's Growth Lab. This tool "assesses the similarity between urban economies by calculating whether they are competitive in the same industries. This can reveal 'sister' cities that have similar development opportunities and challenges, or may provide a sense of which industries are feasible in a city like yours." According to Metroverse, the three most similar cities to Buffalo, NY, are Providence, RI; Grand Rapids, MI; and Louisville, KY, respectively. It should be noted that in all 50 states and Washington, DC, individuals must complete 150 credit hours for CPA licensure. ChatGPT was then prompted to assign universities and employers to these resumes based on these locations.

Once these eight resumes were generated, Black- or White-sounding male and female names were assigned to each. ChatGPT was used for assistance in identifying first names to be used for the research, and the U.S. Census Bureau for last names. As neither the Social Security Administration nor the U.S. Census Bureau provide demographic information on popular baby names by decade, and the choosing of names is crucial to the findings of the research, ChatGPT was prompted to provide "the ten most common names given to (particular race) (particular gender) babies born between 2001–2002," a timeframe consistent with the age of college graduates at the time of seeking employment. ChatGPT responded: "As an AI language model, I don't have real-time data or access to specific statistics on baby names. However, I can provide you with a list of popular names that have historically been given to male babies of African American or Black heritage. Please note that naming trends can vary, and the popularity of names can change over time. Here are ten names that have been commonly used during the early 2000s," followed by a list of ten names. Two first names from each list were chosen for the resumes. For surnames, data from the 2000 U.S. Census was used to identify the surnames of the highest percentage of Black households and White households, and these were chosen for the resumes.

To determine if the names' associations with race and gender were likely to be perceived as intended, a convenience survey of perceived impressions of the names was issued via a professional networking app that allowed anyone within the researchers' networks to respond. The survey was open for two weeks and garnered 32 responses. The survey was confidential, anonymous, and requested to be completed by only those of 18 years of age and above. Respondents overwhelmingly perceived the race and gender of the names as intended.

Lastly, to post the resumes to a job search website, individuals were assigned email addresses; physical addresses or phone numbers were not provided. Email addresses were assigned by selecting the first initially suggested email address by the email address provider. The final assignments are found in Table 1: Assignment of Locations, Names, and Resume Characteristics.

TABLE 1
ASSIGNMENT OF LOCATIONS, NAMES, AND RESUME CHARACTERISTICS

Location and Applicant	Resume Characteristics
Buffalo	
Madison Yoder	Low-Quality White Female (LQWF)
Emily Krueger	High-Quality White Female (HQWF)
Providence	
Aaliyah Jefferson	High-Quality Black Female (HQBF)
Jacob Krueger	Low-Quality White Male (LQWM)
Louisville	
Michael Yoder	High-Quality White Male (HQWM)
Xavier Washington	Low-Quality Black Male (LQBM)
Grand Rapids	
Destiny Washington	Low-Quality Black Female (LQBF)
Malik Jefferson	High-Quality Black Male (HQBM)

Over five weeks, the eight fictitious job seekers directly applied for 108 jobs in public accounting. Furthermore, 547 unsolicited inquiries from employers were received based on the posted resumes, though many of these inquiries were not for jobs in public accountancy.

Direct job applications were completed by searching for "public accounting" jobs within 100 miles of each resume's respective locations, filtered by entry-level positions. Applications were submitted by applying for jobs in the order the job search website presented them. The data of these applied-for positions were then recorded as either positive (an email to schedule an interview was received), negative (an email was received indicating the candidate was not chosen for an interview), or no response. Low-quality resumes still received some positive responses, as similar individuals are being considered for positions in public accounting firms at an increasing rate; firms then encourage those hired to get the extra 30 credits necessary to take the CPA exam while employed (Mintz et al. 2023).

Unsolicited replies were those received directly from an individual within a public accountancy firm, not solicited advertisements from the job search website itself. The data from these responses were collected in total, with a dual segmentation for public accounting solicitation versus other types of jobs.

Addressing the Research Question

To answer the research question, chi-square analyses were performed with positive responses received by applicants and negative responses received by applicants, as a percentage of applications. Percentages were used to level the data for better comparison so that small sample sizes would not "hide" relationships. It was determined if differences existed between resume quality (high versus low); race (Black versus White); and gender (female versus male). To triangulate the results of the chi-square analyses, multivariate analyses of variance (MANOVAs) were performed.

Unsolicited communications received by applicants necessitated a simpler type of analysis, in that sets of data were not available as with the solicited applications. Here, a firm reached out to any one of the applicants; thus, the analytical challenge is to determine whether any one applicant received more unsolicited inquiries than the other applicants. This analysis was accomplished by using an XmR control chart that allows for the detection of aberrant variation. In a further refinement using the unsolicited data, the chi-square analyses were repeated, considering unsolicited inquiries as positive responses.

RESULTS

This section will discuss the research results for both applied-for positions and unsolicited inquiries. Following the presentation of the results, the research question will be considered.

Applied-for Positions

A summary of the applied-for jobs in terms of resume category and those categories' resultant responses is found in Table 2: Summary of Applied-for Jobs and Corresponding Responses in Percentages.

TABLE 2
SUMMARY OF APPLIED-FOR JOBS AND CORRESPONDING RESPONSES IN PERCENTAGES

Resume Category	N of jobs applied for	Positive %	Negative %	No Response %
HQWF	13	53.8	7.7	38.5
HQWM	14	35.7	21.4	42.9
HQBF	16	25	31.2	43.8
HQBM	11	36.4	27.3	36.3
LQWF	13	30.8	38.5	30.7
LQWM	14	0	42.9	57.1
LQBF	12	41.7	33.3	25
LQBM	15	13.3	46.7	40

The total number of jobs applied for was 108. The values in Table 2 suggest that race and gender do not appear to play a significant role in receiving positive interest from applied-for jobs. The LQBF garnered an unusually high percentage of positive responses, second only to the HQWF. The HQWM fared slightly less favorably on the positive responses than the HQWF and the HQBM.

To further evaluate these results, chi-square analyses were performed by comparing various combinations of resume qualification categories to percentages of positive responses, negative responses, and no responses. The conclusion for each analysis was compared against the chi-square expected values. The summary results are illustrated in Table 3: Chi-Square Analyses Comparisons.

TABLE 3
CHI-SQUARE ANALYSES COMPARISONS

Compared Categories	p Value (ά=0.05)	Variables Related?	Conclusion from Expected Values	Favored Category
W–B	0.51716	NO		
LQW–LQB	0.09914	NO		
HQWM–HQBM	1.00000	NO		
LQWF–LQBF	0.27271	NO		
HQBF–HQBM	0.21450	NO		
HQW–HQB	0.01922	YES	High-Quality Whites had higher-than-expected positive responses and lower-than-expected negative responses, while High-Quality Blacks had lower-than-expected positive responses and higher-than-expected negative responses.	HQW
HQWF-HQWM	0.00391	YES	High-Quality White Female had higher-than-expected positive responses and lower-than-expected negative responses, while High-Quality White Male had lower-than-expected positive responses and higher-than-expected negative responses.	HQWF
HQWF-HQBF	1.98E-06	YES	High-Quality White Female had higher-than-expected positive responses and lower-than-expected negative responses, while High-Quality Black Female had lower-than-expected positive responses and higher-than-expected negative responses.	HQWF
LQWF-LQWM	3.44E-09	YES	Low-Quality White Female had higher-than-expected positive responses and lower-than-expected negative responses, while Low-Quality White Male had lower-than-expected positive responses and higher-than-expected negative responses.	LQWF
LQBF-LQBM	3.44E-05	YES	Low-Quality Black Female had higher-than-expected positive responses and lower-than-expected negative responses, while Low-Quality Black Male had lower-than-expected positive responses and higher-than-expected negative responses.	LQBF
LQBM-LQWM	2.65E-04	YES	Low-Quality Black Male had higher-than-expected positive responses and very similar actual to expected negative responses, while Low-Quality White Male had lower-than-expected positive responses and slightly lower-than-expected negative responses.	LQBM

These chi-square analyses suggest that no general relationship exists between Black (B) applicants and White (W) applicants, regardless of the quality of the resume. However, when specifically comparing high-quality resumes from Whites (HQW) versus high-quality resumes from Blacks (HQB), White applicants appear to have an advantage.

Additionally, no associations are suggested by the analysis for the following comparisons: 1) Low-Quality White (LQW) versus Low-Quality Black (LQB); 2) High-Quality White Male (HQWM) versus High-Quality Black Male (HQBM); 3) Low-Quality White Female (LQWF) versus Low-Quality Black Female (LQBF); and 4) High-Quality Black Female (HQBF) versus High-Quality Black Male (HQBM).

When variables did demonstrate a suggested relationship, three of the six combinations are attributable to gender rather than race. Specifically, the analyses suggest that the White Female (WF), regardless of resume quality, had an advantage over the High-Quality White Male (HQWM), High-Quality Black Female (HQBF), and Low-Quality White Male (LQWM). Further, the analyses indicate that the Low-Quality Black Female (LQBF) appears to be favored over the Low-Quality Black Male (LQBM).

When low-quality males were compared, the Black (LQBM) applicant received higher positive-response rates than the White applicant (LQWM). And, as noted, when comparing high-quality resumes from Whites versus high-quality resumes from Blacks, White applicants appear to have the advantage, and this advantage appears to be driven by the High-Quality White Female (HQWF). These chi-square analyses are found as Appendix I: Initial Chi-Square Analysis. Each combination of resume categories is presented, followed by the actual data output.

To refine the chi-square analyses, consideration was given to the "no responses" from the companies to which the applicants applied. Such responses may result from at least two reasons: (1) employers choose not to respond to a job applicant because of lack of interest, analogous to a negative response; or (2) employers simply cannot or do not actively review the applicants' resumes. Given that applications were made to posted positions, the former reason is more likely than the latter. Thus, "negative responses" and "no responses" were combined, and the chi-square analyses were repeated to identify any differences in outcomes. No differences in outcomes were noted.

A multivariate analysis of variance (MANOVA) was performed using the applicants' characteristics as the independent variables and the outcomes of callbacks as the dependent variables. As with the refined chi-square analyses, "negative responses" and "no responses" were combined. The results of this analysis are shown in Table 4: MANOVA: Significance Exists for Quality and Quality*Race.

TABLE 4
MANOVA: SIGNIFICANCE EXISTS FOR QUALITY AND QUALITY*RACE

Source	DF	Type I SS	Mean Square	F Value	Pr > F	Significance
Quality	1	0.75	0.75	4.08	0.0461	**
Race	1	0.00925926	0.00925926	0.05	0.8229	
Gender	1	0.37835073	0.37835073	2.06	0.1545	
Quality*Race	1	0.83589824	0.83589824	4.55	0.0354	**
Quality*Gender	1	0.42106356	0.42106356	2.29	0.1333	
Race*Gender	1	0.15254901	0.15254901	0.83	0.3645	
Quality*Race*Gender	1	0.28014036	0.28014036	1.52	0.22	

These results corroborate the chi-square analyses in finding that race plays no significant role in callbacks unless quality of the applicant is included. The MANOVA did not find any significance for gender, although the chi-square analyses seem to suggest that the High-Quality White Female has a callback advantage.

Taken together, these analyses suggest that although White applicants have no significant advantage over Black applicants overall, when parsed by resume attributes, a statistically significant advantage

appears for the HQW candidates over the HQB candidates. The chi-square analyses intimate that the HQW advantage is mostly driven by HQWF. Additionally, in the chi-square analyses, low-quality (LQ) selections tend to favor females (LQF) over males (LQM), if a relationship appears.

Unsolicited Inquiries

Unsolicited job opportunities were presented to all of the categories of applicants. Unsolicited opportunities were those that were directed to a particular candidate from an actual organization, and not job offerings suggested by the job search website. These unsolicited opportunities were evaluated to determine if they involved actual accountancy jobs, as opposed to other types of positions, such as bookkeeping. Table 5: Summary of Unsolicited Job Interest provides insight into these contacts, as a function of the resume category.

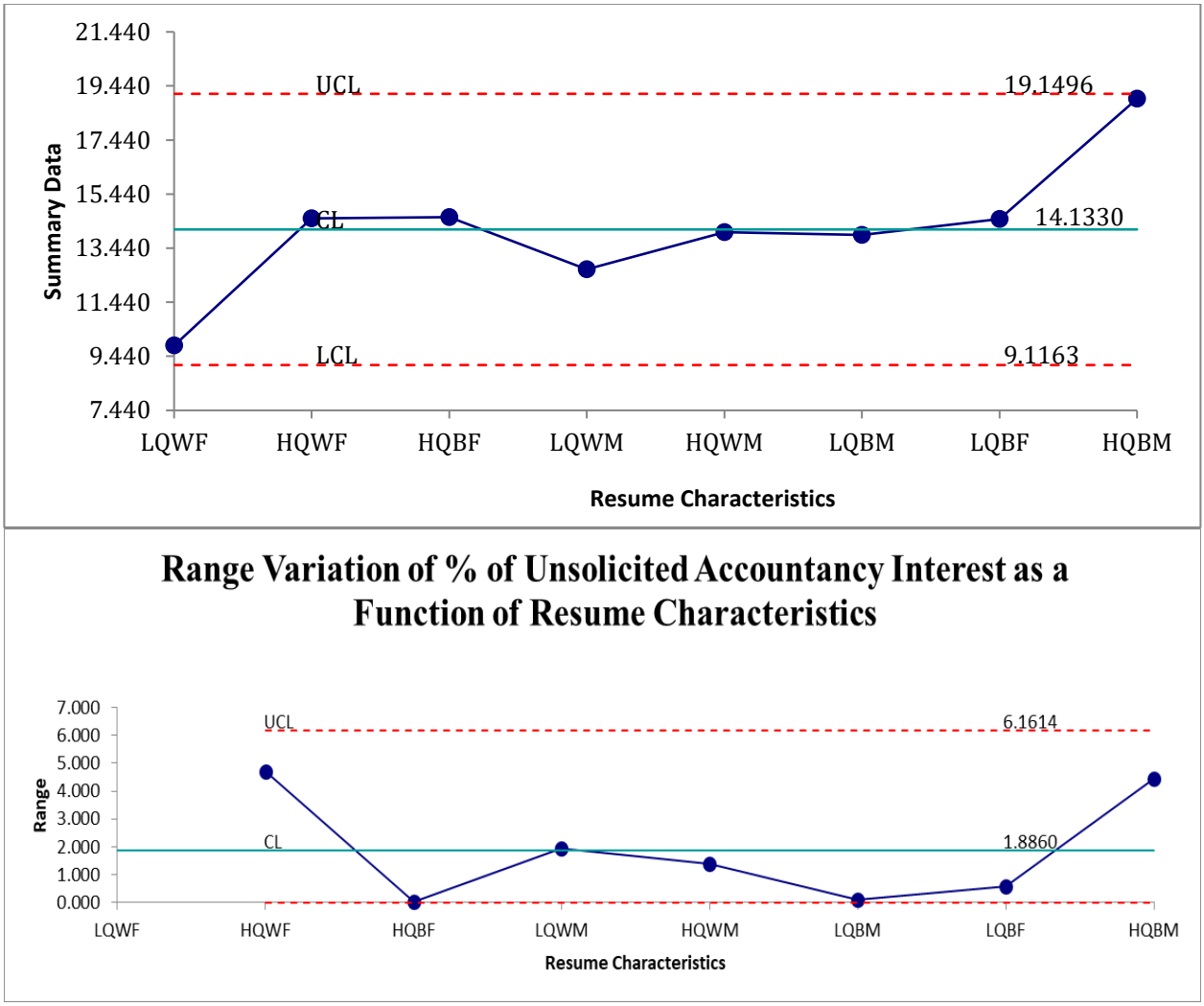
TABLE 5
SUMMARY OF UNSOLICITED JOB INTEREST

Resume Category	Total of Unsolicited Contacts	# of Unsolicited Contacts in Public Accounting	% of Accounting Jobs as Fxn of Unsolicited Contacts
LQWF	61	6	9.84
HQWF	55	8	14.55
HQBF	96	14	14.58
LQWM	79	10	12.66
HQWM	57	8	14.04
LQBM	79	11	13.92
LQBF	62	9	14.52
HQBM	58	11	18.97

A review of Table 5 appears to indicate a substantially higher percentage of the unsolicited job interest for the High-Quality Black Male (HQBM) was for relevant accounting positions. The lowest relevancy percentages are associated with the Low-Quality White (LQW Male and LQW Female) applicants.

To ascertain if the percentage differences are significant, a control chart was constructed to identify any atypical values beyond what might be expected. This chart is illustrated as part of Figure 3: % of Unsolicited Accountancy Interest as a Function of Resume Characteristics.

FIGURE 3
% OF UNSOLICITED ACCOUNTANCY INTEREST AS A FUNCTION OF RESUME CHARACTERISTICS



The top portion of the XmR chart provides a plot of the individual values, along with expected limits (9.1163–19.496) of percentages for the mean value (4.1330). The lower portion, the range chart, allows for an evaluation of normality in the variation among the values. In this case, the variation is within control limits, indicating that variation is indeed normal. Because the range chart is within control limits and exhibits predictability, the individual value chart is considered accurate. As in Table 4, the HQBM has a higher percentage than the other resumes, just shy of the upper control limit. Thus, although the HQBM does not appear as a deviation from the data set, its value still suggests that the HQBM may be favored for unsolicited inquiries.

To further refine this unsolicited analysis, consideration was given to the notion that unsolicited inquiries may be viewed as positive responses. Thus, unsolicited inquiries by applicant category were added to the positive replies as well as to the total of submissions, and percentages were calculated, as with the initial chi-square analyses. When chi-square analyses were repeated combining unsolicited inquiries with positive responses, and maintaining the grouping of no responses with negative responses, the results were similar, with two exceptions.

First, the formerly suggested favorability of the Low-Quality Black Female (LQBF) over the Low-Quality Black Male (LQBM) is no longer demonstrated. Second, there is now a suggested advantage for the Low-Quality Black Female (LQBF) applicant over the Low-Quality White Female (LQWF). This analysis is illustrated in Figure 4: Chi-Square: LQWF-LQBF, Including Unsolicited Responses.

FIGURE 4
CHI-SQUARE: LQWF-LQBF, INCLUDING UNSOLICITED RESPONSES

	LQWF	**LQWBF**	**Total**	**Chi-Sq**	**4.0833333333**	**LQWF Expected**	**LQBF Expected**
Positive %	53	67	120	*p*	**0.04330814281**	60	60
Negative %	47	33	80			40	40
Total	100	100	200				

The LQBF received higher-than-expected positive responses and lower-than-expected negative or no responses, while the opposite is true for the LQWF. This analysis suggests when firms are searching for applicants without formally posting positions, those individuals who conduct hiring may be expanding their job applicant search to be more inclusive when quality of the resume is not considered, as both applicants possess low-quality resumes. However, these were exceptions from the initial, direct application results, which suggested that race was not an issue in the aggregate, but when combined with quality, White applicants were favored, with the White female appearing to drive the favorability.

Corroborating this result was a secondary MANOVA, which used unsolicited contacts as a strongly positive response, due to their unsought nature. These additional data points found significant relationships with quality and race; quality and gender; race and gender; and quality, race, and gender.

DISCUSSION OF FINDINGS

This study sought to determine if the initiatives centered on Black populations to pursue CPA careers, as well as societal emphasis on DEI and ESG initiatives, provide similar opportunities for CPA employment for high-quality CPA students, regardless of race. Secondary to that inquiry was to evaluate gender equity in hiring practices. The research question to guide the study was:

> *Are there differences in employment interest (both for applied-for positions and unsolicited encouragement to apply for public accountancy positions) segmented by name (categorized by race), resume quality, and gender?*

The study results suggest that the racial disparity in hiring practices in terms of callbacks between White and Black CPA applicants in the aggregate (regardless of resume quality) has been mitigated. This finding is inconsistent with Bertrand and Mullainathan (2004), who found significant disparities among sales, administrative support, clerical, and customer service job applicants' callbacks based on the ethnic association of the applicant's name. This disparity may be a function of the experimental scope of Bertrand and Mullainathan, as that scope did not include CPAs; however, it is likely that sample would be difficult to obtain, given the deficit of minorities and women in the profession during that time frame of that landmark study. Hence, no clear comparison can be made. Further, these findings are aligned with Kline et al (2021) who found similar results, although CPA firms were not included.

Additionally, this study suggests that the quality of the applicants' listed qualifications influences the success of the applicant when applying for a CPA position. This finding is consistent with Bertrand and Mullainathan (2004), who also found that the qualifications of applicants played a role in job callbacks. Also similar to Bertrand and Mullainathan's findings, High-Quality Whites (HQW) had higher-than-expected positive responses and lower-than-expected negative responses, while High-Quality Blacks (HQB) had lower-than-expected positive responses and higher-than-expected negative responses, implying

that High-Quality White (HQW) applicants have an advantage over High-Quality Black (HQB) applicants. The advantage, as suggested by this study, is facilitated by the High-Quality White Female (HQWF). This study's findings thus further confirm those of Bertrand and Mullainathan (2004) regarding quality and race of applicants. It also confirms their thinking that Black students therefore have no incentive to improve their qualifications for the job market due to discriminatory hiring practices. This suggests a reason why Black students are still not entering public accounting, a profession that requires a more advanced education as well as additional licenses and continuing education. If Black students know or feel that this extra education or passing the CPA exam will not help them in the job market, they are likely to be driven away from accountancy.

Kessler and Low (2021) provide insight into this notion, as they found no aggregate preferences existed for minorities or females in STEM fields, attributing this finding to females and minority applicants are scarcer due to being actively recruited by organizations to meet their DEI goals. Thus, organizations may have been more apt to call back the High-Quality Female applicant. Kessler and Low (2021) may also provide insight into this study's finding that unsolicited inquiries tended to favor the High-Quality Black Male (HQBM) as well as the Low-Quality Black Female (LQBF), again perhaps resulting from the competitive nature of DEI hirings.

RECOMMENDATIONS FOR PRACTITIONERS: HIGHER ED AND CPA FIRMS

Although the number of Black CPAs is increasing (Drumgo 2019), thanks in large part to AICPA initiatives, work still is necessary to build more diversity in the profession. Such work must occur at both the higher education level as well as the firm level.

According to the findings of the Center for Audit Quality (2023), one reason students do not select accounting as a profession is that they do not see individuals in the profession who are similar to themselves, thereby creating a circular dilemma compounded by discriminatory hiring practices. That is, if Black students believe that they have a decreased opportunity to be hired as a CPA, pursuing a CPA license may be perceived as futile to them. Our study suggests that this perception may continue to be an issue; however, an opportunity of equity may be achieved through the intentional exposure of high school students and early collegiate students to practicing Black CPAs, perhaps as guest speakers or as part of campus job fairs, and similar events. Additionally, the use of building higher-quality experiences for Black students through job shadowing and internships may also motivate such students to pursue CPA careers. The key in this regard is intentionality on behalf of the educational institution. Lastly, educational institutions may find themselves motivated for such intentional endeavors as DEI and ESG initiatives provide pressure from firms for educational action.

While the findings of this study suggest that disparity in hiring practices in public accounting based solely upon race has been mitigated, the quality of those applicants when coupled with race appears to still lead to discrimination in hiring. Thus, diversity efforts must continue at or above current levels to incentivize minorities to enter the profession. To facilitate diversity hiring practices, firms must be aware of the short-comings of AI, as these tools, while increasing productivity, may demonstrate bias (MIT, 2021). As a result, human evaluation must be used in conjunction with AI to mitigate such bias. To that end, it is essential that firms understand the bias in any AI used, and conduct its own verification of results when AI is used to minimize the impact of bias.

LIMITATIONS OF THE STUDY

This study has the following limitations. Firstly, the contents of resumes created by ChatGPT may vary, depending on the instructions provided and/or the use of other AI chatbot software. One mechanism to confront this limitation would be to have the researchers use various AI chatbot software and create the resumes in parallel. The resulting resumes could be compared and contrasted to create resumes with consistent quality attributes.

Secondly, this study acknowledges certain limitations in its scope, specifically regarding the control of exogenous factors. Factors such as geographical locations, the institutions attended by applicants, existing relationships between these institutions and potential employers, and the size of public accounting firms have not been accounted for in our analysis. While these elements could potentially influence the outcomes, their exclusion was necessary to maintain focus and manageability within the research framework. Future studies may benefit from incorporating these variables to provide a more comprehensive understanding of the subject matter.

Thirdly, this study focused on Black versus White races when examining racial bias. It did not accommodate for disparities in hiring among other races, such as Latino or Asian. Inclusion of a variety of races may provide broader insight into racial hiring disparities as U.S. demographics continue to evolve.

OPPORTUNITIES FOR FURTHER STUDY

At a time when affirmative action initiatives are facing rollbacks, potentially impacting diversity, equity, and inclusion (DEI) hiring practices, this study illuminates the potential benefits of robust DEI campaigns. It suggests that such campaigns may enhance fairer hiring practices. However, additional investigation is warranted to draw stronger conclusions.

This further study should encompass an examination of how the efforts of public accounting firms to enhance diversity compare with unsuccessful initiatives in other sectors. For example, existing research, such as studies by Kessler and Low (2021) and the National Fund for Workplace Solutions (2022), highlights persistent biases favoring Whites over Blacks in hiring practices in various sectors.

In replicating the methodology of Bertrand and Mullainathan (2004) with industry-specific adjustments, this study suggests that discriminatory practices in public accounting initial hiring processes due to race alone are mitigated; however, exploring whether prejudicial bias exists beyond initial application responses warrants further investigation. For example, which applicants are actually hired?

Moreover, future research should address whether knowledge of equitable hiring practices in public accounting could influence Black students' career choices. If disparities persist despite fair hiring practices, it is essential to identify why. These reasons provide the specific barriers deterring minority, particularly Black, students from entering the profession. For example, the Center for Audit Quality's (2023) findings suggest that while certain obstacles, such as educational requirements and exam costs, affect both Black and Hispanic students, they may not be the sole deterrents for Black students. Despite perceived value in the CPA license and confidence in passing the exam, barriers persist, indicating underlying issues beyond financial constraints.

The use of AI in accounting hiring is another ripe area of study. If a firm is using AI for hiring, what process does it use? And has the AI been verified prior to its use for implicit bias? An evaluation of AI tools, along with hiring outcomes, would be instructive for firms as AI continues to expand in its use.

An additional area of study would be to expand this research to encompass other minority groups, such as Latinos, Native People, and East Asians and South Asians. A comparative study, controlled for gender and race, may identify areas of increasing concern, allowing future initiatives to confront existing and looming disparities.

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APPENDIX: INITIAL CHI-SQUARE ANALYSES

W–B

	Whites	Blacks	Total	Chi-Sq	1.31879	Whites Expected	Blacks Expected
Positive Response	29.63	27.78	57.41	***p***	**0.51716**	28.70	28.70
Negative Response	27.78	35.19	62.96			31.48	31.48
No Response	42.59	37.04	79.63			39.81	39.81
Total	100	100	200				

HQW–HQB

	HQW	HQB	Total	Chi-Sq	7.90342	HQW Expected	HQB Expected
Positive Response	44.44	29.6	74.07	***p***	**0.01922**	37.03	37.04
Negative Response	14.81	29.6	44.44			22.22	22.22
No Response	40.74	40.7	81.48			40.74	40.74
Total	99.99	100	199.99				

LQW–LQB

	LQW	LQB	Total	Chi-Sq	4.62235	LQW Expected	LQB Expected
Positive Response	14.8	25.9	40.74	***p***	**0.09914**	20.37	20.37
Negative Response	40.7	40.7	81.48			40.74	40.74
No Response	44.4	33.3	77.77			38.88	38.89
Total	100	100	199.99				

HQWM–HQBM

	HQWM	HQBM	Total	Chi-Sq	0	HQWM Expected	HQBM Expected
Positive Response	35.7	35.7	71.4	***p***	**1**	35.7	35.7
Negative Response	21.4	21.4	42.8			21.4	21.4
No Response	42.9	42.9	85.8			42.9	42.9
Total	100	100	200				

LQWF–LQBF

	LQWF	LQBF	Total	Chi-Sq	2.59866	LQWF Expected	LQBF Expected
Positive Response	30.8	41.7	72.5	***p***	**0.27271**	36.25	36.25
Negative Response	38.5	33.3	71.8			35.9	35.9
No Response	30.7	25	55.7			27.85	27.85
Total	100	100	200				

HQBF–HQBM

	HQBF	HQBM	Total	Chi-Sq	3.07886	HQBF Expected	HQBM Expected
Positive Response	25	36.4	61.4	***p***	**0.2145**	30.7	30.7
Negative Response	31.2	27.3	58.5			29.25	29.25
No Response	43.8	36.3	80.1			40.05	40.05
Total	100	100	200				

HQWF–HQWM

	HQWF	HQWM	Total	Chi-Sq	11.08436		HQWF Expected	HQWM Expected
Positive Response	55.8	35.7	91.5	***p***	**0.003918**		46.2029703	45.2970297
Negative Response	7.7	21.4	29.1				14.69405941	14.40594059
No Response	38.5	42.9	81.4				41.1029703	40.2970297
Total	102	100	202					

HQWF–HQBF

	HQWF	HQBF	Total	Chi-Sq	26.2613		HQWF Expected	HQBF Expected
Positive Response	55.8	25	80.8	***p***	**2E-06**		40.8	40
Negative Response	7.7	31.2	38.9				19.64257426	19.25742574
No Response	38.5	43.8	82.3				41.55742574	40.74257426
Total	102	100	202					

LQWF–LQWM

	LQWF	LQWM	Total	Chi-Sq	38.9759		LQWF Expected	LQWM Expected
Positive Response	30.8	0	30.8	***p***	**3.4E-09**		15.4	15.4
Negative Response	38.5	42.9	81.4				40.7	40.7
No Response	30.7	57.1	87.8				43.9	43.9
Total	100	100	200					

LQBF–LQBM

	LQBF	LQBM	Total	Chi-Sq	20.3708		LQBF Expected	LQBM Expected
Positive Response	41.7	13.3	55	***p***	**3.8E-05**		27.5	27.5
Negative Response	33.3	46.7	80				40	40
No Response	25	40	65				32.5	32.5
Total	100	100	200					

LQBM–LQWM

	LQWM	LQBM	Total	Chi-Sq	16.47259		LQWM Expected	LQBM Expected
Positive Response	0	13.3	13.3	***p***	**0.000265**		6.65	6.65
Negative Response	42.9	46.7	89.6				44.8	44.8
No Response	57.1	40	97.1				48.55	48.55
Total	100	100	200					