

What Lies Ahead: Emerging Trends in the Diversity Pipeline Among New Entrants in the Workforce

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This paper reviews the changing demographics in the US population and workforce that have implications for the diversity pipeline into the workforce. The diversity pipeline represents the anticipated new entrants into the workforce from both population trends but also the increasing number of women and ethnic minority college graduates. To examine the outcomes associated with higher college enrollment for women, this study examined gender and race differences in academic measures from nearly 4,000 students and discusses anticipated challenges for managing workforce diversity. The findings are discussed with recommendations for diversity management practices.

INTRODUCTION

The landscape of the US population and workforce has changed significantly over the past twenty-five years. The shifts in race and gender representations in the population and workforce have focused more attention on diversity issues in all aspects of the employment relationship. As of July 2007, women represented 50.7% of the US population and ethnic minorities accounted for 34% of the population (US Census Bureau, 2007) and that trend has remained fairly stable over the past five years. As of March 2008, women outnumbered men in employment in the civilian workforce (US Bureau of Labor Statistics, 2008). Specifically, women accounted for 51.6% of workers and 59% of eligible women participate in the workforce. Among ethnic minority groups, the workforce participation rates are increasing across all groups and increasingly more by women in these groups. African-Americans and Latinos are the most represented ethnic minority groups in the US workforce (US Bureau of Labor Statistics, 2010). These findings solidify the projections of workforce diversity made by the Workforce 2000 project (Johnston & Packer, 1987) more than twenty years ago.

Similar trends in diversity representations in higher educational institutions mirror those of the workforce. According to the American Council on Education, women outnumber men in college enrollment by nearly two to one in undergraduate enrollment programs (www.acenet.edu). In addition, women dominate enrollment in graduate degree programs, including traditionally male-dominated disciplines in medicine and other health professional programs. The population demographics and educational enrollment trends suggest that women may continue to outpace men as new entrants in the workforce. While these numbers may be promising for reflecting a diverse workforce, a closer examination of workplace outcomes reveal significant disparities in managerial positions, salary, and diversity (Cocchiara, Bell, & Berry, 2006). Women still lag behind men in leadership positions and pay despite gains in educational attainment. The purpose of this paper is two-fold. First, we review the employment outcomes and experiences of women and ethnic minority groups in terms of placement,

salary, and discriminatory experiences. Second we assess whether differences in educational performance measures may account for the disparities observed in employment. We evaluate these differences through an analysis of nearly 4,000 potential applicants.

HISTORICAL PERSPECTIVES ON DIVERSITY MANAGEMENT

The 1960's marked a period of significant workplace legislation aimed at reducing discrimination against women and ethnic minorities in education and in the workplace. The Equal Pay Act was passed in 1963 to address gender disparities in pay. Essentially, this act required employers to provide equal pay for comparable work and that gender should not factor into the decision-making process. Today, women still earn roughly \$.78 for every \$1 men earn (U.S. Census, *Income, Poverty, and Health Insurance Coverage in the United States: 2007*), though the gap appears to be narrowing. In 1964, Title VII of the Civil Rights Act was enacted to provide the broadest level of protection to prohibit workplace discrimination and establish protected group status based on race, color, sex/gender, religion, and national origin. As protected groups, women and ethnic minorities have remedies under the law for discriminatory acts in most aspects of the employment relationship. Discriminatory practices include but are not limited to disparate treatment (i.e., treatment based on group membership), adverse impact, sexual harassment, and retaliation. Despite these laws being enacted in the 1960s, race and gender complaints account for approximately 64% of annual charges filed with the US Equal Employment Opportunity Commission (EEOC, 2011; www.eeoc.gov/charges). The specific discriminatory acts that affect employment equity can be purposeful (i.e., disparate treatment) or inadvertent (i.e., adverse impact). Adverse impact discrimination is more salient in personnel selection resulting in organizational entry barriers for women and to a greater extent ethnic minorities (Ployhart & Holtz, 2008), while disparate treatment can include subtle to blatant acts generally arising from racial and gender stereotypes. It is unknown whether the discriminatory complaints filed with the EEOC can attributed more or less to adverse impact or disparate treatment. Research spanning human resource management and global diversity research suggests that both are prevalent (Kossek & Zonia, 1993; Kunze, Boehm, & Bruch, 2011).

The representations of diverse groups in terms of race and gender have sparked research and social programs designed to understand the challenges represented by differences as well strategies to effectively manage groups in the workplace (DiTomaso, Post, & Parks-Yancy, 2007; Konrad, 2003). Some of the issues concerning race and gender in the workplace include organizational entry barriers, pay disparities, and promotional opportunities. On the one hand, women and ethnic minority groups face unique challenges in equal employment opportunity in terms of access and successful entry despite significant gains in educational attainment (Cocchiarra et al., 2006). On the other hand, women and ethnic minorities report a different set of challenges *within* organizations in terms of inclusion and fairness that suggest current diversity management practices may not be well suited to address these issues. The focus of the current paper is on adverse impact issues that can serve as organizational entry barriers that negatively impact diversity management.

GENDER AND RACE DIFFERENCES IN EMPLOYMENT

Research has consistently shown that increased diversity alone does not create productive work environments where employees share information and experiences that enhance outcomes for all employees (Kossek & Zonia, & Young, 1996; Konrad, 2003). As part of employment equity initiatives by the Equal Employment Opportunity Commission, they compile and evaluate employment trends for women and minorities in both private sector and state and local government entities. As shown in Table 1 below, the representations of women and ethnic minorities in the workforce are roughly 46% overall in public sector employment yet pay disparities, an important component of workplace-employee congruity, are quite evident.

TABLE 1
PUBLIC SECTOR FOR NATIONAL SUMMARY OF STATE AND LOCAL GOVERNMENT
EMPLOYMENT STATISTICS FOR THE FISCAL YEAR ENDING 2009

	Men	Women	Whites	Blacks	Hispanic	Asian	Native
Workforce Participation	54.2%	45.8%	66.5%	19.2%	10%	3.6%	.67%
Women	-	-	43%	56%	47%	50%	47%
Median salaries ¹	\$50,254	\$41,474	-	-	-	-	-
Men	-	-	\$51,519	42,691	49,499	61,525	47,812
Women	-	-	42,236	38,550	40,648	54,217	40,739

Source: Equal Employment Opportunity Commission. ¹Workforce participation is the overall workforce, while median salaries are reported for public sector organizations.

As shown in Table 1, women represent 46% of public sector employees in state and local government yet earn 17% less than men. The outcomes are most promising for Asians who have a relatively low participation rate yet reflect significantly higher salaries for both genders. The contrasts are even more startling when examining *within- and between-race* variability of workforce participation and salary differences. For instance, African-American women have the highest workforce participation rates among all women (e.g., 56%) yet earn less than their female counterparts across all races. This suggests a great deal of variability among women and ethnic minority women, in particular, possibly experiencing slower gains from their human capital investments in higher education. In addition to this data collected by the EEOC, they report discriminatory complaints have continued to increase over the past ten years with race and gender complaints accounting for the majority of cases reviewed (www.eeoc.gov). Thus, there are significant business necessity mandates for effectively managing diversity.

The finding of pay disparities coupled with the rising trends in workforce discrimination complaints provide sufficient evidence that more research is needed. Workplace diversity issues for women and ethnic minorities can generally be classified into two broad categories – organizational entry barriers and *within-organization* workplace experiences. Organizational entry barriers deal with issues stemming from sex and race stereotyping (Bell, 2007), sex segregation into occupations (Wooten, 1997), and personnel selection practices that span from standardized testing to subjective evaluations that allow biases to influence the decision-making process (Ployhart & Holtz, 2008). Prior research has shown that women and ethnic minorities are disproportionately affected by standardized tests and additional research has been spurred to search for alternatives that accomplish the objective of decision-making accuracy yet minimizing the impact to protected groups (Ployhart & Holtz, 2008; Schmitt, Rogers, Chan, Sheppard, & Jennings, 1997). Women traditionally score lower than men on SAT tests, which is an important predictor in college admissions decisions. Ethnic minority groups, namely Latino and African-American, score lower than Whites. Standardized tests are also widely used in the workplace in personnel selection decisions. Tests of cognitive ability have shown the largest discrepancies in scores for women and ethnic minority groups that may impact participation and more importantly, equal access. Though there have been many recent calls to explore alternatives to personnel selection that would minimize organizational access issues, this research have not progressed significantly to adequately address these disparities.

A second barrier occurs within organizations involves issues that women and ethnic minorities face once they become a member of the organization. Specifically, there is significant research examining gender stereotypical attitudes (Wood, 2008) and barriers to advancement attributed to glass ceilings and concrete walls (Cocchiara, et al., 2006). In addition, sex discrimination and sexual harassment of women

in the workplace continues to be an issue with the alarming increase of nearly 25% of additional complaints filed with the EEOC over the past ten years (www.eeoc.gov/stats). Finally, recent research on turnover and exits from corporate America reveal that women quit at rates higher than men and quit rates are significantly higher for African-Americans, Hispanic Americans, and Asian Americans (Hom, Roberson, & Ellis, 2008).

Whether organizational entry barriers or the internal barriers within organizations are the primary determinants of the differential outcomes and women and ethnic minorities needs to be explored in diversity management research. For example, though, women are participating in the workplace at some of the highest rates in history and account for the greater percentage of college graduates, they are still underrepresented in leadership positions and experience greater pay disparities (Cocchiara et al., 2006). The purpose of this study was to examine whether workforce diversity outcomes may be precipitated by the performance levels of women and ethnic minorities in education compared to Whites and male counterparts. The study seeks to make two contributions to the body of research in diversity and personnel selection. First, recruiters widely report their use of academic measures and in making initial screening decisions yet there is limited research on its use in personnel selection contexts and this science-practice gap needs to be examined (Brown & Campion, 1994; Cole, Rubin, Feild, & Giles, 2007; McKinney, Carlson, Mecham, D'Angelo, and Connerley, 2003; Rynes, Orlitsky, & Bretz, 1997). Second, the inclusion of academic performance measures may reduce the likelihood of adverse impact and thus mitigate organizational entry barriers that have resulted from personnel assessments (Ployhart & Holtz, 2008).

DIVERSITY IN ACADEMIC AND EMPLOYMENT MEASURES

Personnel selection is the process of hiring qualified applicants who are predicted to perform well on the job, which ultimately determines who is allowed to join the organization. The most commonly used measures include cognitive ability, personality, integrity tests, assessment centers, and situational judgment tests. A review of selection practices with the United States and 20 countries revealed that cognitive ability and personality tests were two of the most widely used assessments (Ryan, McFarland, Baron, & Page, 1999). There are several comprehensive reviews of selection practices that have evaluated group differences in assessments and the potential outcomes to the groups that may be disproportionately affected (e.g., see Hough, Oswald, & Ployhart, 2001 and Ployhart and Holtz, 2008 for comprehensive reviews). Collectively, women tend to score lower on quantitative ability, spatial ability, physical ability, and selected personality traits (Hough et al., 2001; Ployhart & Holtz, 2008). On average, women score lower on quantitative ability tests, conscientiousness and agreeableness tests, situational judgment tests, and biodata measures (Hough et al., 2001; Ployhart & Holtz, 2008). For ethnic minorities, the group differences are markedly higher than gender differences. The majority of research in ethnic group differences has focused on Black-White differences in which the differences vary considerably by test type. Significant black-white differences were also prevalent in interviews, biodata, and situational judgment tests creating the greatest likelihood of adverse impact for Blacks that would screen them out of applicant pools at a higher rate than other groups (Hough et al., 2001; Ployhart & Holtz, 2008).

The finding of gender and ethnic group differences is particularly important in selection contexts because of the implications for creating group barriers to organizational entry and subsequent differential employment outcomes in the occupational representation of men and women. Researchers seeking alternative methods of selecting individuals to reduced adverse impact have advocated the use of measures that also aid decision-makers (Ployhart & Holtz, 2008). The current study examines academic performance as an alternative measure to assess whether group differences exist that would minimize or adverse impact potential for women and ethnic minorities. The focus on academic measures given is supported by recruiters' use as a screening mechanism in entry-level personnel selection decisions among recent college graduates (Roth & Bobko, 2000; Rynes, et al., 1997; Cole, et al., 2007), though; academic measures have generally been excluded in empirical research of selection practices. Given the projected increase in college graduates entering the workforce, it is important to examine academic measures for

their use in personnel selection and whether group differences exist that may not be captured in prior selection and adverse impact research.

STUDY RATIONALE

Few studies in selection contexts have included academic performance measures despite the reported use by recruiters in college recruiting contexts (Rynes et al., 1997; Trank, Rynes, & Bretz, 2002). Given the diversity in college graduates that will influence workforce diversity representations, it is timely to examine group performance in academic settings for use in the workplace. Often there is very little information available on newly minted college graduates, hence, college GPA becomes an important decision-making tool. The present study seeks to examine (1) gender and ethnic differences in college GPA that would be applicable in selection contexts and (2) the likelihood of adverse impact for college graduates when GPA is used as a selection screening tool. This current study will specifically focus on college GPA because of its use in employment decisions and adverse impact implications if group differences exist in these measures.

METHOD

Sample

This study examined academic measures for sample groups over a four-year timeframe. Participants were approximately 4,000 undergraduate students representing two graduating classes in a large Southeastern U.S. public university. Sample 1 (N=1,879) consisted of students from the Spring 2005 graduating class, while Sample 2 (N=2,120) were students in the Spring 2006 graduating class. Race and gender demographics were coded based on self-reports from the college admissions application. Sample 1 demographics were 72% female, 71% White, 22% Black, with a mean age of 24 and Sample 2 was 69% female, 72% White, 20% Black, with a mean age of 22. White and Black students account for 89% of the sample are generally the two focus groups of comparison in prior studies (Roth & Bobko, 2000; Sternberg, 2006), thus the current study only examined Black-White differences among ethnic groups in addition to gender differences.

Measures

Though college GPA is the primary focus of this study, we were able to capture SAT and high school GPA data to evaluate race and gender differences in these assessments. SAT data were reported directly from the College Board to the university and high school GPA was extracted from high school transcripts that were submitted as part of the college application process. Only the math and verbal sections of the SAT were scored for admission resulting in scores ranging from 200 to 1600. Both high school GPA and college GPA were coded on a 4.0 scale. Cumulative college GPA data were gathered over four years for enrolled students to examine the level and stability of changes in group differences over time. Each of these data (e.g., SAT, high school GPA, cumulative college GPA) were obtained from the Office of Institutional Research and not based on self-report data.

Analyses

First, descriptive statistics and the intercorrelations between all study variables (e.g., high school GPA, SAT, and cumulative college GPA for four years) were calculated. To determine whether and at what level group differences exist, means were computed for men and women. To evaluate the nature of gender and ethnic group differences, the *d* statistic (reported as *d-values*) is commonly used and represents the mean differences between two groups (e.g., Black/White or male/female) divided by their pooled standard deviation (Hunter & Schmidt, 2004). The *d*-statistic (*d-value*) allows one to compare the level of differences across groups in standard deviation terms (Hunter & Schmidt, 2004). *D-values* range from -1.00 to +1.00 and based on absolute values. To evaluate *d-values*, there are general rules of thumb for interpreting such that $d \leq .25$ is considered small, d 's of .30 to .45 are considered moderate, and $d \geq .6$ is

considered strong (Roth & Bobko, 2000). We used the same criteria as suggested by Roth and Bobko (2000) to evaluate group differences using *d-values* for assessing adverse impact potential.

The two samples were analyzed independently for two reasons. First, the samples represent two different cohort groups which were not equivalent in terms of tenure within the university. Second, evaluating Samples 1 and 2 independently allowed us to evaluate the generalizability to Sample 2 which lagged one year behind Sample 1. Thus, separate analyses further allowed us to evaluate the consistency of group differences from Sample 1 to Sample 2.

RESULTS

The descriptive statistics for study variables are reported in Table 2. For Sample 1, the mean SAT score was 1034 (SD=137.37) with a mean high school GPA of 3.43 (SD=.41). The mean college GPA at the end of year one was 2.58 (SD=.88). The mean cumulative college GPA level ranged from 2.58 to 2.62 over the four years examined, with the highest value in year four. The findings were similar with Sample 2 which revealed mean SAT scores of 1035 (SD=137.09) and high school GPA of 3.44 (SD=.41). College GPA levels ranged from 2.58 to 2.62 with the highest level in year four. The intercorrelations among study variables are also reported in Table 2. Across both samples, we found that high school GPA had the strongest associations with academic performance outcomes. The correlation of high school GPA with college GPA ranged from .42 to .49, compared to SAT correlations which ranged from .20 to .30.

TABLE 2
DESCRIPTIVE STATISTICS AND CORRELATIONS AMONG STUDY VARIABLES

	SAT	HSGPA	Year 1 GPA	Year 2 GPA	Year 3 GPA	Year 4 GPA
SAT	-	.13	.24	.22	.21	.20
HSGPA	.20	-	.48	.49	.48	.48
Year 1 GPA	.30	.42	-	.96	.94	.92
Year 2 GPA	.27	.43	.96	-	.98	.97
Year 3 GPA	.26	.42	.94	.98	-	.99
Year 4 GPA	.26	.42	.92	.97	.99	-
M_{Sample1}	1034	3.43	2.55	2.55	2.58	2.60
SD_{Sample1}	140.59	.40	.87	.85	.84	.85
M_{Sample2}	1035	3.44	2.58	2.58	2.59	2.62
SD_{Sample2}	137.09	.41	.88	.87	.86	.87

Note: N for Sample 1=1879; N for Sample 2=2128 . Correlations for Sample 2 are reported above the diagonal.

Group Differences

Table 3 reports the mean levels of SAT, high school GPA, cumulative college GPA over four years, and *d-values* by gender and race independently in each of the study variables. As shown in the first table, raw mean values were higher for men on all SAT data. Women had higher scores on high school GPA

and college GPA over each of the four years examined. Whites also scored higher than Blacks on study variables. The results are discussed concerning group differences using *d-values*.

TABLE 3
GENDER AND ETHNIC DIFFERENCES AND *D-VALUES* IN SAT, HIGH SCHOOL GPA, AND CUMULATIVE COLLEGE GPA

	Overall	<i>Sample 1</i>			<i>d-values</i>	Overall	<i>Sample 2</i>		
		Men (N=541)	Women (N=1338)				Men (N=674)	Women (N=1446)	<i>d-values</i>
SAT	1034	1081	1015		.47	1035	1073	1017	.41
HSGPA	3.43	3.29	3.49		-.50	3.44	3.30	3.50	-.49
Year GPA	1 2.55	2.41	2.61		-.23	2.58	2.39	2.67	-.32
Year GPA	2 2.55	2.39	2.62		-.27	2.58	2.36	2.68	-.37
Year GPA	3 2.58	2.39	2.66		-.32	2.59	2.36	2.70	-.40
Year GPA	4 2.60	2.40	2.68		-.33	2.62	2.37	2.73	-.41

	Overall	<i>Sample 1</i>			<i>d-values</i>	Overall	<i>Sample 2</i>		
		White (N=1301)	Black (N=411)				White (N=1451)	Black (N=408)	<i>d-values</i>
SAT	1034	1067	926		1.00	1035	1061	944	.87
HSGPA	3.43	3.44	3.39		.13	3.44	3.44	3.40	.10
Year GPA	1 2.55	2.62	2.33		.33	2.58	2.61	2.45	.18
Year GPA	2 2.55	2.61	2.37		.28	2.58	2.61	2.44	.20
Year GPA	3 2.58	2.64	2.41		.27	2.59	2.63	2.45	.21
Year GPA	4 2.60	2.65	2.43		.26	2.62	2.65	2.48	.20

Note. Negative *d-values* favor women and blacks.

The *d-values* assessing gender group differences for SAT, high school GPA, and college GPA are also reported in Table 3. Across both samples, the *d-values* favored men for SAT scores ($d=.47$) and ($d=.41$). In contrast, *d-values* favored women on both high school GPA and college GPA, with the

highest difference in high school GPA ($d=.50$) and ($d=.49$), respectively. Among college GPA variables, d -values actually increased over the four-year timeframe examined. Though college GPA increased for both groups over time, the gains were greater for women. In sample 1, the group differences favored females in college GPA during their academic tenure ($d=-.23$ for year one, $d=-.27$ for year two, $d=-.32$ for year three, and $d=-.33$ for year four). Consistent with sample 1, d -values increased over time in college GPA measures. The group differences favored females in college GPA across the four year timeframe ($d=-.32$ for year one, $d=-.37$ for year two, $d=-.40$ for year three, and $d=-.41$ for year four).

The d -values assessing Black-White differences for SAT, high school GPA, and college GPA are also reported in Table 3. Across both samples, d -values favored Whites in SAT ($d=1.00$) and ($d=.81$) and high school GPA ($d=.13$) and ($d=.10$), though the magnitude was significantly lower in high school GPA. The d -values in college GPA also favored Whites from Year 1 ($d=.33$) and ($d=.10$) as well as Year 4 ($d=.26$) and ($d=.20$). The Black-White group differences in college GPA were lower than those for gender and remained fairly stable over time.

Overall, the d -values found here were moderate in size based on gender and race, this level of difference increases adverse impact potential for the lower scoring group. In selection contexts, the higher the d -value between groups on a particular assessment, the more likely adverse impact would be expected for the lower scoring group. As shown in both samples and across all timeframes, females generally had higher college GPAs and the level of differences was consistent over time. Thus, adverse impact potential would be greater for men to the extent that college GPA is used as a primary selection tool. For race, Whites had higher GPAs and thus adverse impact potential would be greatest for Blacks in selection contexts.

TABLE 4
WITHIN-RACE VARIABILITY IN COLLEGE GPA FOR BLACK-WHITE AND MALE-FEMALE CATEGORIZATIONS

	<i>Sample 1</i>				<i>Sample 2</i>			
	SAT	HS_GPA	Year 1 GPA	Year 4 GPA	SAT	HS_GPA	Year 1 GPA	Year 4 GPA
White Male (N=404 & 490)	1104	3.30	2.43	2.42	1091	3.30	2.38	2.38
White Female (N=897 & 961)	1050	3.51	2.70	2.76	1046	3.52	2.73	2.79
Black Male (N=71 & 101)	956	3.22	2.20	2.23	971	3.30	2.30	2.23
Black Female (N=340 & 307)	920	3.43	2.36	2.48	936	3.44	2.50	2.56

Note. N=representation in Samples 1 & 2, respectively. Because d -values represent differences between 2 groups, d -values are not computed for the four categorizations of group differences. Mean values represent similar information without presenting the magnitude in standard deviation terms.

One purpose of this study was to examine *within-race* variability in these measures to determine whether differential outcomes existed for both genders within a given race. In table 4, we examine within-race variability for the following: white males, white females, black males, and black females to determine whether the level of group differences was consistent. In examining these differences, we revert to using comparative mean differences because *d-values* are limited to two groups compared to the four examined in this analysis. As shown in table 4, we found that mean SAT levels were higher for both white males and white females compared to black males and females. This finding was consistent across both samples. However, when examining high school GPA and college GPA levels, the results suggest an interesting pattern that is likely obscured by prior research that only examine black-white and male-female differences. For high school GPA, white females and black females were the higher scoring groups followed by white males and black males, respectively. The findings were similar with college GPA where white females scored the highest in year 1 (e.g., 2.70 and 2.73) and year 4 (e.g., 2.76 and 2.79) across both samples. The second highest scores were among black females but the findings were mixed for year 1 across both samples. In the first sample, year 1 GPA for black females was 2.36, compared to 2.43 and 2.20 for white males and black males, respectively. By year 4, black females outscored both white and black males. In sample 2, black females outscored white and black males in both year 1 and year 4. The year 4 college GPA is important for personnel selection contexts because it represents the GPA recruiters are likely to use when making screening decisions. Thus, when college GPA is used in personnel selection, it would favor both White females and Black females over males of either race.

DISCUSSION

This study sought to address a gap in the literature examining academic performance measures to assess whether differential employment outcomes may result that can account for pay disparities and employment differences observed for women and ethnic minorities. With the increasing amount of diversity in terms of race and gender among new entrants to the workforce, it is critical that organizations examine decision processes for their impact on employment outcomes for all employees. This study specifically examined factors that may influence employment outcomes and informs academicians as well as practitioners of the potential unintended consequences of various selection practices but more importantly highlights an aspect of group differences not previously examined. The *within-race* variability in performance represents a significant contribution of this study. The finding of White and Black females outscoring males in college GPA *within and between* races suggests a greater likelihood of adverse impact against men across both races when college GPA is used in employment screening. This finding is in line with research demonstrating a gender gap in educational attainment favoring females in higher education. Though women outnumber men in undergraduate enrollment, the participation rates are quite variable *within-races*. The greatest discrepancies in higher education are for Latino and African-American males who participate at rates lower than their female counterparts (American Council on Education, 2007). The trends change somewhat when examining workplace participation such that African-American women outpace men but Latino males outpace females. It appears that ethnic minority women have unique challenges in workplace equity not linked to differences in educational success. The findings of the current study suggest that gains in salary and placement should follow particularly for African-American women; however, these employment outcomes have not yet materialized.

Limitations

While the current study demonstrated group differences in college GPA that were consistent over time, there were study limitations. First, the results were based on a single source sample that may not generalize to other populations of college students that would be expected in future applicant pools. Specifically, the current sample was 72% female. Additional research is needed to determine whether the results of the current study are generalizable to different university environments and work settings. Second, the current study only examined group differences that would create the likelihood of differential

employment outcomes for women or ethnic minorities. There are many other factors that influence the employment outcomes of women and ethnic minorities which should be explored in future research.

The study was conducted in part to explore potential factors that may explain salary discrepancies for women and ethnic minorities. While the public sector employment data was used and demonstrated disparities, there are likely other reasons that are associated with the differences observed. For example, based on the data provided, we have no information about differences in education levels for the public sector workforce that would coincide with the participation rates and salaries provided. There is also no information on status or job title that may explain salary disparities within or between groups, so we cannot conclude which factors impacted these outcomes.

Conclusion and Future Research

In terms of organizational entry in personnel selection contexts, future research needs to explore alternative measures that demonstrate lower group differences such as academic performance. Prior research has also shown that when standardized measures of cognitive ability are used, it underpredicts the performance of women and ethnic minorities (Gardner & Deadrick, 2008; Manley & Benavidez, 2008). We also need to expand research to include Hispanic and Asian groups which have received less research attention in this area. According to the EEOC's employment data, Hispanic groups now account for the largest growth percentage of workers in the private sector (<http://www.eeoc.gov/eeoc/statistics/employment/jobpat-eeo4/2009/table1/table1.html>). Given the changing demographics in the workplace, it is timely to examine these issues to avoid having organizational entry barriers in the form of selection tests that would negatively impact *any* group.

Personnel selection is the process of hiring qualified applicants who are projected to perform well on the job. This generally involves identifying diverse members and recruiting them into applicant pools. In the contexts of recruiting and diversity, organizations have focused on both applicant reactions (Ployhart, 2006) and targeted diversity recruitment efforts (Avery, 2003) to address diversity enlargement initiatives. In these studies, there is a predominate focus on employment outcomes in terms of adverse impact to women and ethnic minorities and to a lesser extent on applicant and employee reactions to diversity management and personnel selection that influence both organizational attraction and retention issues. Given the findings in the current study that examining within-race variability results in markedly different outcomes than examining between-race differences alone, future research is needed to explore these differences in other selection measures that are widely used in personnel selection. Very little is known about group differences in non-cognitive selection assessments as prior studies have not examined within-group differences that will likely affect the employment outcomes predicted in prior research. Additional research is needed on the various selection tests and criteria used in employment settings to further examine within-race variability and whether those differences actually prove favorable for diversity initiatives.

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