

Highly Educated Black Americans Report Higher than Expected Perceived Job Demands

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Abstract

Background: Educational attainment has well established and widely recognized the effects on employment conditions and job demands. However, the way in which educational attainment correlates with perceived job demands may be inconsistent across racial groups as suggested by Minorities' Diminished Returns (MDRs). The aim was to test the moderating effect of race on the association between educational attainment and perceived job demands, particularly for Black and White individuals.

Methods: This study was a cross-sectional analysis of MIDUS Refresher 1, including 1,232 Black and White adults over the age of 25 in the United States. Education attainment was the independent variable and perceived job demands was the dependent variable covariates. Linear regression was used for multivariate models.

Results- We observed positive association between education and perceived job demands, however, statistical interaction between race and education suggested stronger positive associations for Black than White individuals.

Conclusion: Being a highly educated Black professional in the United States equals high demand such increase stress is a risk factor of being a middle class black American. Innovated and bold market policies are required to solve this unfair dilemma.

Perceived job demands refer to the subjective assessment or interpretation that an individual makes regarding the requirements, expectations, and pressures associated with their job¹⁻³. It involves how an employee perceives the various aspects of their work that may impact their physical, cognitive, or emotional resources⁴. These perceived demands can encompass a wide range of factors, including workload, time pressure, complexity of tasks, responsibility, and interpersonal interactions within the work environment⁵. Although employees may perceive job demands differently based on their individual characteristics, experiences, and coping abilities, objective job demands are strong predictor of perceived job demands⁶. Understanding and managing perceived job demands is crucial for organizations and individuals alike, as it can influence job satisfaction, well-being, and overall performance⁷. Effective coping strategies and organizational support can help employees navigate and manage perceived job demands to maintain a healthy work-life balance⁸.

Experiencing high perceived job demands can have a significant effect on an individual's health. When faced with excessive workloads, tight deadlines, and overwhelming responsibilities, employees may experience chronic stress,⁹ which can lead to adverse health outcomes over time and overall job dissatisfaction.^{10,11} Prolonged exposure to high, perceived job demands can result in physical and mental health problems¹² such as cardiovascular issues¹³ weakened immune system,^{14,15} insomnia,¹⁶ anxiety, and depression.¹⁷ Implementing targeted interventions for workers at risk can help alleviate the negative health effects of high perceived job demands. Moreover, it is crucial to acknowledge and investigate the variations in health risks associated with elevated perceived job demands across different socioeconomic markers,¹⁸ such as educational attainment.

The impact of educational attainment on perceived job demands has been extensively studied, with research consistently showing a significant association between the two factors. Higher education attainment, while undoubtedly valuable in terms of knowledge attainment and career advancement, has been seen to be a significant source of stress for numerous individuals. Higher educational attainment may be associated with certain protections from physical environmental risk factors, such as air pollution, toxins, and lead. This is not the case for Black people with higher educational attainment, who are considered to have lower environmental protections than White individuals.¹⁹

The positive association between educational attainment and increased perceived job demands in the workplace holds much importance. In turn, it is important to identify whether race modifies this relationship. Some research suggests that higher education attainment results in diminished job stress. However, this association is weakened when moderated for race. A 25-year follow-up study of 3,000 adults found that educational attainments and employment had a weakened protective effect on Black individuals compared to White individuals.²⁰ High educational attainment may not result in low job stress, but high job stress, for African American professionals. In fact, features like work environment, labor-market discrimination, and residential segregation are all possible contributing factors to this weakened association.²¹ Even though there is a positive association between education attainment and perceived job demands, it is essential that this relationship be understood once stratified. Therefore, we cannot assume the positive relationship remains across all racial groups.²²

This study is built on two theories. First, built upon Melissa S. Creary's framework of bounded justice, initiatives aimed at promoting social equity, which include programs, policies, and technologies, are often designed with justice

as their primary goal. However, these interventions frequently neglect to consider the historical experiences of the beneficiaries who have endured the long-term consequences of marginalization. According to Creary's theory, this oversight compromises the effectiveness of the intended justice, as these well-meaning efforts are constrained by broader historical limitations. In accordance with Melissa S. Creary's theory of bounded justice, the challenge lies in addressing fairness, entitlement, and equity when the foundational social and physical infrastructures supporting them have been undermined by historical factors such as racism. Rooted in tokenism, her theory suggests an anticipation of a high perceived demand for jobs among highly educated Black Americans.²³ Second, based on Minorities Diminished Returns, Black individuals with high educational attainment may experience less benefit from their education than White individuals²⁴⁻²⁶ This theory suggests that at each level of education attainment, Black individuals would experience higher levels of systematic barriers that inhibit them from achieving social and economic mobility and health.²⁷

Aims

The aim of the current analysis is to investigate the relationship between educational attainment and perceived job demands. The present study aims to explore whether there are significant differences in job demands among employed White and Black individuals that participated in the midlife in the United States (MIDUS) Refresher cohort. Particularly, our analysis aims to understand if there if race plays a role in diminishing the association between educational attainment and perceived job demands, particularly for African American compared to White professionals. The results may inform targeted interventions and strategies that can alleviate the negative health effects of high, perceived job demands for workers across different racial groups.

Methods

Design and setting

The present study conducted a secondary analysis of baseline data from the 2011-2014 Midlife in the United States (MIDUS) Refresher Cohort which builds from the original MIDUS 1 cohort. MIDUS is a cross-sectional study that focuses on two national samples (age groups as described below) of Americans and examines the role of psychological, social, and biological factors and their variation with age. Though an amended design, MIDUS Refresher, utilizes the same comprehensive assessments as MIDUS 1. The National Institute on Aging funded both entities that make up the MIDUS Refresher. In November of 2011 the MIDUS Refresher younger decades was supported and consisted of 2,100 recruited individuals between the ages of 25-54. Followed by the MIDUS refresher for old

decades, which began in June 2014 with 1,400 recruited 55–74-year-olds.²⁸ The 2011-2014 MIDUS Refresher contains data from all races, however, this analysis will focus on Black and White individuals.

Participants and sampling

The sample for the current analysis was derived from the MIDUS Refresher Cohort, collected between 2011 and 2014. Inclusion criteria was restricted to Black and White respondents that reported some level of educational attainment and were employed at the time surveyed. Those who were unemployed were excluded from the analysis. The final analytic sample for this study included 1,232 individuals.

Measurement

Predictor: Education Attainment. Educational attainment was self-reported by participants and was coded using a numeric scale. The scale ranges from values 1 to 12 to capture the highest educational level achieved by the participants. Education levels were reported as: (1) no education/some grade school (grades 1-6); (2) eight grade/junior high school (grades 7-8); (3) some high school (grades 9-12 no diploma/no GED); (4) GED; (5) graduated from high school; (6) some college (1-2 years); (7) 3 or more years of college (no degree); (8) 2-year college, vocational school, or Associate's Degree; (9) graduated from a 4 or 5-year university/ attained Bachelor's degree; (10) some graduate school; (11) Master's degree; (12) Ph.D., Ed.D, MD, DDS, LLB, LLD, JD or other professional degree.

Dependent Variable: Perceived Job Demands. Perceived job demands are defined as required physical and psychosocial efforts of one's job. Participants reported their perceived job demands level using a self-reported scale to collect data of their job characteristics. Job Demands ($\alpha M2 = .77$; $\alpha MR = 0.73$) perceived Job demands was assessed by the sum of five items that concerned cognitive demands, work overload, role conflict, time inadequacy, interruptions, and work intensity on a five-point frequency scale (1=never to 5=all of the time).²⁹

Moderator: Race. The cohort participants were asked to self-report their race. This self-reported data created the groups individuals were assigned. Race was Black and White in this study.

Confounders: Age (continuous, years), gender (1=female, 0=male), hand laborer (type of job that requires manual labor and are not office-based occupations).

Statistical Analysis

Given the MIDUS Refresher study design, it was necessary to apply SPSS 27.0 (IBM Inc., NY, USA) for data analysis. Using SPSS, adjustments for eligibility criteria

were applied to attain the sample for the present study ($n = 1,232$). In these models, education attainment was the predictor variable, and the perceived job demands scale was the dependent variable. The descriptive statistics for these models included income, education, Black, Latino, age, job category, U.S. born, or non-U.S. born, female, and an education scale. Race was the moderator. Independent samples t-test was used for comparing variances among the means of both population groups. The SPSS used a 95% confidence interval (CI) to calculate the lower and upper bound ranges for each category. The unstandardized Beta, coefficients of standard error, t-test, and p-values were reported under the coefficients table. A p-value of 0.05 or less represents a significant value. We ran two linear regression models; *Model 1* did not include any interaction terms. *Model 2* included the interaction of race and education. The second model was used to show the differential effect of educational attainment for White and Black people.

IRB & Ethical Considerations

The research project was approved by the Institutional Review Board (IRB) of the Education and Social/Behavioral Sciences and the Health Sciences Departments at the University of Wisconsin-Madison (UW-Madison). However, because this study used fully-deidentified data, there was no need for IRB review. All participants provided written consent. Data were collected, stored, and analyzed anonymously.

Results

Descriptive Statistics

The total sample included 1,232 participants who identified as either Black or White. *Table 1* provides a descriptive data summary of the study participants. Sample participants were predominantly White ($N = 1156$, 93.8%), slightly more male ($N = 643$, 52.2%) compared to female ($N = 589$, 47.8%). Majority of participants were also born in the United States ($N = 1187$, 96.3%).

Bivariate Associations

Table 2 demonstrates results from t-test for statistically significant differences among White and Black individuals in age, education, income, and job category and demand. There were no statistically significant differences in age, education level, or job category and demands at a 0.05 1-alpha level. However, income levels showed a statistically significant difference with at 0.05 1-alpha level ($p = .038$). In addition, 50.0% of Whites and 64.8% of Blacks were female ($p < 0.05$).

Multivariate Analysis

Table 3 shows the result of two linear regression models

Table 1. Descriptive data overall

	N	%
Race		
White	1156	93.8
Black	76	6.2
Gender		
Female	589	47.8
Male	643	52.2
Nationality		
Non-U.S. Born	45	3.7
U.S. Born	1187	96.3
Job Category		
Hand Laborer	204	16.6
Non-Hand Laborer	1028	83.4
	Mean	SD
Age (years)	47.66	12.78
Educational Attainment (1-12)	8.43	2.36
Income (\$)	63,607.19	52,307.54
Perceived Job Demands (4-25)	14.99	3.36

Table 2. Sample descriptive by race

	White		Black		
	M	SD	M	SD	P
Age (years)	47.71	12.77	46.87	12.97	.577
Educational Attainment (1-12)	8.42	2.37	8.62	2.20	.475
Income (\$)	64400.01	53042.97	51548.03	37713.94	.038
Perceived Job Demands (5-25)	15.03	3.33	14.32	3.73	.071

with education attainment as the independent variable and perceived job demands as the dependent variable. *Model 1* covers the effects of gender, education, income, and race. While *Model 2*, includes those same variables, along with an interaction variable between race and education. *Model 1* shows a statistically significant association between education ($p = .000$), income ($p = .000$), and race ($p = .070$) and perceived job demands. In *Model 2*, the interaction of being both Black and educated ($p = .025$) has a significant association with perceived job demands. Figure 1 shows stronger positive association between educational attainment and perceived job demands for Black than White adults.

Discussion

Higher education levels were associated with increased perceived job demands, especially for Black individuals. When examining the relationship between education and perceived job demands by race, Black individuals experienced disproportionately higher job demands compared to White individuals at the same education level.

The effect of educational attainment on perceived job demands has been extensively investigated, and the majority of these studies consistently demonstrate a positive association between educational attainment

Table 3. Summary of Regression Models

	B	SE	95% CI	P
Model 1				
Age (24-74)	-.054	.007	[-.068, -.039]	.000
Gender	.317	.197	[-.070, .704]	.108
Educational Attainment (1-12)	.158	.044	[.071, .244]	.000
Income (\$)	.001	.000	[.000, .001]	.000
Race (Black)	-.698	.731	[13.754, 16.622]	.000
Model 2				
Age (24-74 years)	-.054	.007	[-.068, -.039]	.000
Gender	.312	.197	[-.074, .698]	.113
Educational Attainment (1-12)	.136	.045	[.048, .225]	.003
Income (\$)	.001	.000	[.000, .001]	.000
Race (Black)	-4.490	1.441	[-7.317, -1.663]	.000
Race (Black) X Educational Attainment	.390	.174	[.049, .732]	.025

Note: The large CI for black people in Model 1, could be explained by small sample size.

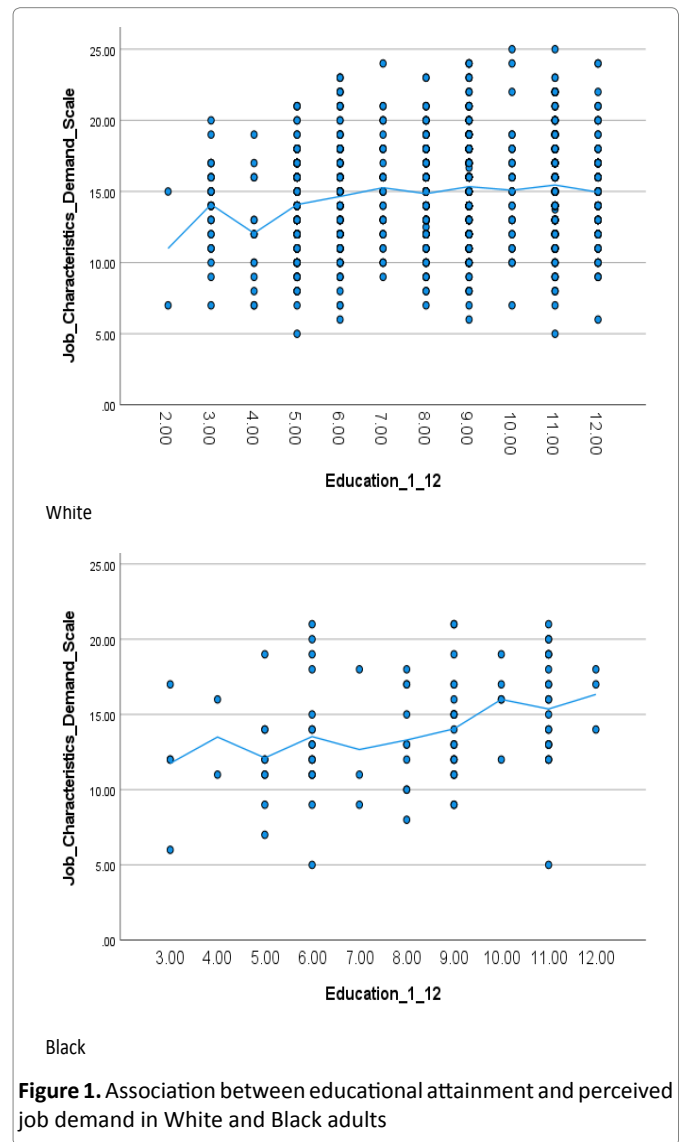


Figure 1. Association between educational attainment and perceived job demand in White and Black adults

and perceived job demands.^{10,21,30,31} One prominent mechanism behind this positive relationship is the propensity for highly educated individuals to be selected for occupations that are characterized as more complex and have increased responsibilities.³² Notably, positions occupied by individuals with higher education levels tend to involve fewer repetitive processes commonly found in lower-paying manual jobs.³³ However, it is imperative to acknowledge that the correlation between educational attainment and perceived job demands may not follow a uniform pattern across different racial groups, necessitating further exploration.²¹

The present study aimed to investigate the influence of race as a moderator in the relationship between education and perceived job demands, acknowledging the potential disparities faced by Black professionals. This research aimed to dive into the intersectionality of race and educational attainment, shape perceived job demands as a proxy of occupational conditions of Americans. Black professionals, for example, may face compounded challenges due to historical and systemic racism, leading to limited access to quality education and subsequently impacting their job prospect.³⁴ By addressing these supporting points, this study will contribute to a better understanding of the complex dynamics between educational attainment, race, and perceived job demands. Educational attainment contribute to one's health and control one's accessibility to resources and occupational conditions.¹⁸

A growing body of research suggests that higher levels of education do not protect Black, Indigenous and People of Color (BIPOC) individuals from disproportionately high perceived job demands and occupational strain in the same way as their White counterparts.^{35,36} In some studies, minority employees with higher education and degrees tend to report and face greater workplace psychological demands compared to equally qualified White employees, including heightened experiences of time pressure, mental workload, and role conflict^{10,19}. Despite controlling for education, systemic inequities and cultural biases persist in organizational contexts, resulting in BIPOC employees exerting additional effort to prove competence, overcome stereotypes, and manage marginalization stressors alongside substantial work responsibilities—an experience dubbed the “double burden”.³⁷ If left unaddressed, the resultant strain can increase BIPOC risks for stress-related health issues and burnout.²⁵

This demonstrates the impact of MDRs, as marginalized groups like Black individuals, derive less advantage from higher educational attainment.^{24,25} A 2019 study found that features like work environment, labor-market discrimination, and residential segregation are all possible contributing factors to the effect of educational attainment on perceived job demands.²¹ Despite attaining advanced

degrees, Black employees continue to report higher psychological perceived job demands compared to equally educated White coworkers. This suggests that systemic barriers persist, leading to disproportionate stress and strain for Black workers.³⁸ MDRs help explain why racial disparities in occupational health remain even after accounting for education levels.

Highly educated Black employees often deal with tokenism^{39,40}, which refers to the dynamics that arise when a person is a rarity or lone representative for their social group in an organization or setting⁴¹. As tokens in predominantly White workplaces, Black professionals report heightened visibility and performance pressures along with excessive scrutiny of mistakes.⁴² They are often socially isolated and left out of informal networks while simultaneously heavily burdened to represent their entire race.⁴³ This deeply taxing experience of tokenism can persist despite advanced education and professional credentials. Organizations must move beyond treating highly skilled Black employees as tokens and instead foster truly inclusive climates with initiatives aimed at retaining, supporting, and fairly evaluating minority talent based on merit.

In contemporary society, the expectations placed upon highly accomplished and educated Black individuals are notably high, reflecting the anticipation of exceptional performance^{40,44}. Paradoxically, these individuals often find themselves navigating the challenges of workplace tokenism, where their achievements may be overshadowed by perceptions of token representation⁴⁵. This predicament is exacerbated by inadequate job support, a circumstance that appears particularly acute within the Black community. Even among the few highly educated Black individuals within society, the prevailing social environment induces considerable stress. This stress is, in part, a consequence of a deficient educational system that inadequately prepares Black individuals for employment opportunities, especially when contrasted with the superior training afforded to their White counterparts. This disparity is perpetuated by a labor market rife with discriminatory practices, ultimately resulting in the undervaluation of the significant contributions made by highly educated Black professionals⁴⁶. Consequently, the intricate interplay between educational attainment, race, and job stress remains an underexplored terrain, necessitating further research endeavors to unveil its nuances and implications³⁹.

Our findings align with Melissa S. Creary's concept of bounded justice. Frequently, initiatives addressing social equity, encompassing programs, policies, and technologies, are conceived with justice as their ultimate objective. However, these interventions often overlook the historical embodiment of beneficiaries who have long endured the cumulative effects of marginalization. This oversight

compromises the efficacy of intended justice, as these well-intentioned endeavors are confined by broader historical limitations. In accordance with Melissa S. Creary's theory of bounded justice, the challenge lies in addressing fairness, entitlement, and equity when the fundamental social and physical infrastructures supporting them have been undermined by historical factors such as racism²³.

Limitations

This study has limitations. First, its cross-sectional design doesn't allow for causal inferences, so results should be interpreted as associations rather than causations. Second, the data in this study included only Black and White participants, excluding races that fall outside of these criteria. As a result, it is important that races excluded in this study be explored to examine if the association studied here persists. Third, our sample is not evenly distributed; there were more White individuals in the study than Black individuals. Additionally, the MIDUS Refresher used for the current analysis is also not up to date. There are considerably time and period differences in economic opportunities and market conditions. The results may not apply to the ten-year period unaccounted for, in which many social changes have occurred. America's economic recession ended in 2009 and the MIDUS Refresher spans 2011-2014. Within this timeframe, both job availability and demand could have changed drastically or minimally depending on the viability of the recession's lasting effects. Although some evidence suggests otherwise, many believe that COVID-19 has exacerbated pre-existing social and economic inequities, as well as disproportionately impacting minorities' health, employment, and overall wellbeing.^{47,48} Conversely, other research shows that COVID-19 leveled returns of education attainment for minorities.³⁸ One other limitation of the study could be that unemployed individuals were excluded from the analysis, but we don't know about their employment history. Further, there may be systematic differences between the people who were excluded and those who were included in the analysis. In addition, we did not include other types of stress in the study. Despite these limitations these findings increase our understanding that there is a variation amongst racial groups and how their education attainment interacts with their perceived job demands.

Conclusion

According to our findings, race moderates the association between educational attainment and perceived job demands in the United States. The present study suggests that Black professionals experience higher, perceived job demands, which may be the wide and long effect of racism in the lives of Black elites. There remain considerable gaps in research understanding how earning advanced degrees impacts work experiences, especially for minorities and marginalized groups. More research

is needed on how MDRs manifest in the workplace, particularly for Black and other minority groups, so that solutions can target the unique challenges experienced by highly educated minority employees. Additionally, there is a need for research to explore the moderating effect of the COVID-19 pandemic on the complex relationship amongst race, educational attainment, and perceived job demands.

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