Analyzing the Correlation Between Racial Identity and Income

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Abstract. This research investigates the correlation between racial identity and income, employing a variety of research methods, including data collection, case study analysis, and regression analysis, with the latter being the central focus. The findings reveal that several factors contribute to the racial income gap: education accounts for -2.06%, age for 2.03%, parental education for 8.38%, gender for 14.88%, occupation for 6.07%, industry for 13.20%, and location for 5.98%. Notably, a significant 51.51% of the income disparity remains unexplained, potentially due to other undetected factors or underlying racial discrimination. These insights provide corporations, organizations, and governments with a detailed understanding of the current racial inequalities prevalent in society. Moreover, by identifying the specific contributors to income disparities, this research equips policymakers and social leaders with the tools to address and mitigate these inequities. The unexplained portion of the gap highlights the need for further exploration and deeper analysis to uncover hidden biases or systemic issues contributing to this persistent inequality. Ultimately, the results of this study are crucial in guiding efforts towards creating a more equitable society, where income is less influenced by race and more by individual merit and opportunities.

Keywords: Race; Income; Inequality.

1. Introduction

Social class is an extremely controversial topic in contemporary society and often arouses great attention from people. It is formed through the constantly changing society, including several crucial factors that boost the development and change of the social class such as race and ethnicity. It is significant for people to be aware of the concept of social class and how those factors affect a person's social class since most controversies happening in today's society are about race and ethnicity. For instance, George Floyd who is black, was begging for his life, calling for help, and a police officer dug his knee into his neck for 8 minutes and 46 seconds while 3 other police officers were holding him or standing by, and finally we saw his limp, dead body taken away [1, 2]. This event was attributed to several gigantic chaos or parades in the United States and attracted the attention of people from all over the world since it was an event that involved discrimination towards a person whose race is black. Therefore, race and ethnicity are crucial topics today and people are putting more and more attention towards them, which means that it is necessary to introduce more information about race and ethnicity to the public. Additionally, social class and income are two predominant elements in people's lives since nobody cares about their income. Hence, it will be useful for society to have a clear sense of the relationship between social class or income and race or ethnicity. The concept of social class originated in Ancient Egypt and developed over thousands of years to become the social class that we have currently [1]. Even though no standard or specific classification of social class is recognized in worldwide, People usually categorize social class as the upper class, middle class, and lower class. The upper class is the social class composed of those who are rich, well-born, powerful, or a combination of those [3]. They usually wield the greatest political power [4]. The middle class is usually regarded as those people who are quite wealthy, such as owning a middle or small-sized company. The lower class are usually people who are doing labor work and have extremely low incomes, which might be just sufficient for them to cover their daily expenditures [5].

Race is a kind of human categorization, which usually categorizes people based on their skin color. Common races include black, white, yellow [6]. Finally, ethnicity is a similar concept to race but differs in various aspects. An ethnicity or ethnic group is a group of people who identify with each other on the basis of perceived shared attributes that distinguish them from other groups. Those attributes can include a common nation of origin, or common sets of ancestry, traditions, language, history, society, religion, or social treatment [7]. There are Asians, African Americans, Hispanics. This essay will discuss and investigate how race and ethnicity affect people's social class or income through various aspects and methods. The research will focus on finding out the relationship between race and ethnicity with social class and income. In particular, the research will mainly rely on regression analysis, which is a method that can help people to have a more profound and accurate understanding of how two things relate. In this case, they will be race and social class, and ethnicity and social class. Additionally, the regression analysis will be based on data obtained from reliable sources.

The essay will be separated into several parts, which are a case study, an analysis of the relationship and issues existing in the society or found during the research, giving advice to the research results. In the case study part, there will be a specific case, and a set of data displayed to help readers have a better understanding of the relationship between race and ethnicity with income or social class. The analysis section will focus on analyzing the results derived from the research and give explanations. Then, the advice part will be about how can people improve the situation and give practical policies.

2. Case Study

Table 1. Householder [8]

Characteristic	2021 Number (thousands)	2021 Median Income (dollars)	2022 Number (thousands)	2022 Median Income (dollars)	Percent Change in Real Median Income (2022 less 2021*)
All households	131,200	76,330	131,400	74,580	-2.3
Type of Household					
Family households	84,270	98,300	84,330	95,450	-2.9
Married-couple household	61,410	115,300	61,180	110,810	-3.9
Female householder, no spouse present	15,620	55,170	15,030	56,630	2.6
Male householder, no spouse present	7,212	76,050	7,128	73,630	-3.2
Nonfamily households	46,940	45,070	46,740	45,400	0.8
Female householder	24,240	38,540	24,360	40,200	4.3
Male householder	22,720	53,340	22,740	51,930	-2.6
Race and Hispanic Origin of Householder					
White	102,100	80,080	101,400	77,520	-3.5
White, not Hispanic	85,080	84,110	84,010	81,060	-3.6
Black	17,900	52,080	18,080	52,860	1.5
Asian	7,276	109,400	7,609	108,700	-0.6
Hispanic (any race)	20,930	62,520	19,320	62,800	0.5
Age of Householder					
Under 65 years	95,370	87,060	94,300	85,860	-1.4
15 to 24 years	6,661	65,690	6,136	62,450	-5.8
25 to 34 years	20,990	80,720	20,840	77,320	-4.2
35 to 44 years	22,600	97,380	22,530	96,650	-0.8
45 to 54 years	22,970	101,800	22,500	101,500	-0.3
55 to 64 years	22,200	80,040	22,300	78,640	-1.7
65 years and over	35,830	47,620	37,100	47,040	-1.2
Nativity of Householder					
Native-born	113,300	79,600	113,700	77,580	-2.5
Foreign-born	17,900	70,600	17,700	70,060	-0.8
Naturalized citizen	11,420	80,800	11,560	78,020	-3.4
Not a citizen	6,486	58,400	6,174	58,420	0.0

Region					
Northeast	22,640	85,430	22,460	82,240	-3.7
Midwest	26,050	73,140	25,960	71,340	-2.5
South	51,660	70,640	52,010	69,090	-2.2
West	30,850	84,850	30,970	82,080	-3.3
Residence					
Inside metropolitan statistical areas	113,300	79,600	113,700	77,580	-2.5
Inside principal cities	43,630	65,300	43,670	63,930	-2.1
Outside principal cities	69,670	85,820	70,020	83,570	-2.6
Outside metropolitan statistical areas	17,940	57,800	17,500	55,320	-4.3
Educational Attainment of Householder					
Total, aged 25 and older	120,300	79,970	121,300	77,130	-3.5
No high school diploma	10,460	40,130	9,834	34,850	-13.2
High school, no college	31,250	57,840	31,590	54,520	-5.7
Some college	35,370	66,770	35,320	63,850	-4.4
Bachelor's degree	43,730	102,400	44,510	100,510	-1.9

In 2022, the United States of America’s national census of the income distribution according to races demonstrates a clear discrepancy between different races. According to this data in the Table 1, This paper found that Asian have the largest median income, then white, black, and Hispanic. Hence, race and ethnicity are affecting a person’s income since there are significant differences between different races and ethnicities.

3. Analysis

This research is based on statistics from The Panel Study of Income Dynamics (PSID), which is the longest-running longitudinal household survey in the world [9]. It helps researchers to have a thorough understanding of their research area. This paper utilized data related to labor income, race, educational attainment, parental education, gender, occupation, industry of employment, and state of residence, to help conduct my research by putting these statistics into programs to run regression analysis.

Firstly, from the first glance of the statistics shown below, blacks’ income tends to the lower than non-blacks’ income, both in terms of mean and income in the figure 1.

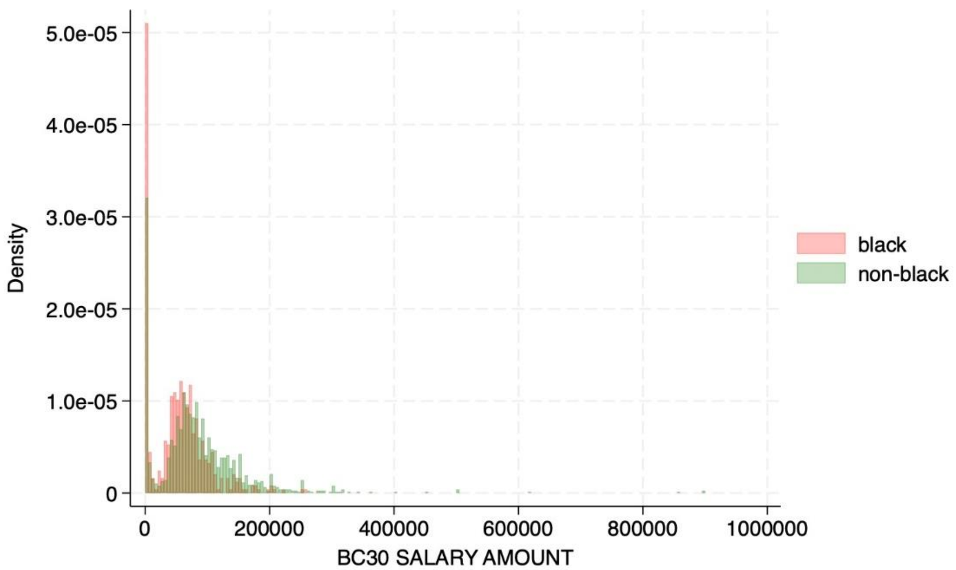

Fig. 1 BC30 SALARY AMOUNT [9,10]

Table 2. Summary Statistics for Wage by Race

Percentile	Black	Non-Black
1%	300	400
5%	750	1000
10%	1073	2000
25%	4310	42500
50% (Median)	52000	74000
75%	75000	110000
90%	105000	158000
95%	140000	200000
99%	200000	310000
Mean	52807.95	83456.89
Std. Dev.	44872.44	74905.75
Variance	2.01e+09	5.61e+09
Skewness	1.053922	3.524594
Kurtosis	4.942703	31.39813

What caused these differences shown in table 2? This paper first investigated the impact of educational level to the disparity of income. The result shown below in table 2 and 3 demonstrates a gap between black's educational level compared to other races.

Table 3. High School Graduation Rate by Race

High School Graduation Rate	Black	Non-Black
Graduated	86.95%	85.67%
Not Graduated	13.05%	14.33%

Table 4. College Attendance Rate by Race

College Attendance Rate	Black	Non-Black
Attended	54.94%	63.31%
Not Attended	45.06%	36.69%

Table 5. Regression of Income on Education and Race

Variable	Coefficient	Std. Err.	t	P¿—t—
1.black	-31233.15	3469.322	-9.00	0.000
1.high school	17231.64	7766.293	2.22	0.027
1.college	38977.18	4538.992	8.59	0.000
- cons	34493.2	6717.518	5.13	0.000
Number of obs		2053		
R-squared		0.0894		
Root MSE		66952		

As shown from table 3 to table 5, the variables high school and college are positively associated with the income, which means that attending college and high school indeed have an impact on a person's income. However, the coefficient for black remains large, indicating that educational level does only have a slight impact on a person's income.

Also, the occupation and industry might have an impact on a person's income. According to the graph below This paper found that there are significant differences in the industry that blacks and non-blacks [9,10].

Table 6. Industry Type by Race

Industry Category	Black	Non-Black
Primary Industry	0.47%	3.41%
Secondary Industry	15.26%	24.01%
Tertiary Industry	60.82%	45.22%
High-Tech	11.18%	14.37%
Finance	5.79%	6.56%
Government	6.49%	6.42%

Table 7. Regression of Income on Occupation, Industry, Education, and Race

Variable	Coefficient	Std. Err.	t	P¿—t—
1.black	-21466.74	3675.152	-5.84	0.000
1.high school	20043.01	8525.254	2.35	0.019
1.college	27707.16	4897.127	5.66	0.000
age	744.3895	129.5262	5.75	0.000
1.father college	10856.78	3252.126	3.34	0.001
1.father hs	5715.712	5615.806	1.02	0.309
Secondary Industry	21226.49	12449.24	1.71	0.088
Tertiary Industry	3310.149	12104.62	0.27	0.785
High-Tech	28940.11	12428.91	2.33	0.020
Finance	40832.08	12900.53	3.17	0.002
Government	-146.6257	12689.3	-0.01	0.991
_cons	-33105.49	16151.32	-2.05	0.041
Number of obs		1877		
R-squared		0.1560		
Root MSE		64631		

From table 6 and 7, we can see that if blacks participate in industries like high-tech and finance, they will gain significantly more income. Nevertheless, blacks' population seem to be lacking in those industries, which contributes to the difference in racial income.

In addition, this paper ran a similar regression analysis for other factors, such as age, parental education, gender, and location. The results demonstrate that education is -2.06%, age is 2.03%, parental education is 8.38%, gender is 14.88%, occupation is 6.07%, industry is 13.20%, location is 5.98% of the total contribution towards the racial income gap. The rest 51.51% remain unexplained, which might be other factors have not discovered or racial discrimination.

From the investigations shown above, the income disparity between races is the outcome of various factors. Therefore, it will be extremely hard for society to fully eliminate this income gap. Nevertheless, there are still some actions or policies that we can implement to minimize the gap to our best. Here are several suggestions and how they can be conducted. To resolve the age problem, the government may implement policies such as subsidizing families to promote fertility. Establishing schools for parents to teach them how to raise their kids, can reduce the low-degree parent recognition gap with those high-degree parents. Also, companies and organizations should give their hand to reduce the income gap by encouraging females to have high-salary occupations.

4. Conclusion

In conclusion, this research covered a wide range of factors that will affect a person's income and cause the difference in racial income. It is important to note that there are still other unexplained factors that this research has not discovered. In future research, it is suggested that researchers talk in person with people of various races to understand their expectations for income or life, why they have the income they have, what occupations or industries are they interested in, and what the role of parents in their course of life.

Finally, according to Harvard Business Review, these multi-billion-dollar markets are forming around some of the world's toughest problems — from fighting malaria to providing low-cost housing to educating the poorest of the poor. In these solution markets, businesses, social entrepreneurs, nonprofits, and multinational companies compete, coordinate, and collaborate to solve mega problems. Instead of trying to patch a market failure, they create a market for the solution. Foundations, venture philanthropists, governments — and, often, private businesses themselves — act as funders, investors, and market makers. Therefore, it will be crucial and helpful for the whole society to unite and try to solve the income disparity between races together.

References

[1] Eichstaedt, J. C., Shermanc, G. T., Giorgic, S., Roberts, S. O., Reynoldsa, M. E., Ungar, L. H., & Guntukuc, S. C. (2021). The emotional and mental health impact of the murder of George Floyd on the US population. 56(2), 104-123.

[2] Stenholm, P., Hytönen, K., Pukkinen, T., & Heinonen, J. (2024). Income adequacy among creative professionals—An interplay of identities and skills. Creativity and Innovation Management.

[3] Wingen, T., Englich, B., & Estal-Muñoz, V., et al. (2020). Exploring the relationship between social class and quality of life: The mediating role of power and status. Journal of Economic Psychology, 81, 101-124.

[4] Wang, Y., Feng, H., & Zhang, T. (2024). The effects of Urban Identity on Entrepreneurial Choice. Plos one, 19(4), e0296645.

[5] Russell, K. N., Withrow, A., Voith, L., Vernon, C., Lee, H., & McKinney, S. (2024). Exploring low-income, Black fathers' strengths and barriers to positive change using qualitative methods. Family Relations, 73(3), 1799-1822.

[6] Cosmides, L., Tooby, J., & Kurzban, R. (2003). Perceptions of race. Trends in Cognitive Sciences, 7(4), 173-179.

[7] Dasgupta, U., Mani, S., Sharma, S., & Singhal, S. (2023). Social identity, behavior, and personality: evidence from India. The Journal of Development Studies, 59(4), 472-489.

[8] Oh, S. (2023). Does identity affect labor supply. American Economic Review, 113(8), 2055-2083.

[9] Elbæk, C. T., Mitkidis, P., Aarøe, L., & Otterbring, T. (2023). Subjective socioeconomic status and income inequality are associated with self-reported morality across 67 countries. Nature Communications, 14(1), 5453.

[10] Brensinger, J. (2023). Identity Theft, Trust Breaches, and the Production of Economic Insecurity. American Sociological Review, 88(5), 844-871.