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Skin color, physical appearance, and perceived discriminatory treatment

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ABSTRACT

This paper examines the relation between observer-ratings of attractiveness and skin tone, weight, and height, and provides evidence on whether these physical characteristics affect the likelihood that individuals report discriminatory treatment in a variety of contexts. African Americans with lighter color, and white men with darker color, are rated as more attractive, as are taller men and both men and women of normal weight. Although a vast literature indicates that physical appearance influences how one is treated, there is little evidence that perceived discriminatory treatment is related to physical characteristics such as attractiveness, weight, or height. An exception is for African Americans with lighter skin color who report less discriminatory treatment in daily activities and on the basis of color.

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1. Introduction

This paper is motivated by the vast evidence that physical appearance affects how people are treated in a wide range of dimensions. An extensive literature in social psychology documents that more attractive individuals are viewed as having more favorable qualities and receive better treatment than unattractive individuals (e.g., Langlois et al., 2000; Alam and Dover, 2001). There is evidence that more attractive individuals have higher earnings (e.g., Hamermesh and Biddle, 1994; French, 2002; Mobius and Rosenblat, 2006), and that African Americans (e.g., Hersch, 2006; Goldsmith et al., 2006; Goldsmith et al., 2007) and immigrants (Hersch, 2008) with darker skin color have lower pay. Other physical characteristics such as weight and height have also been found to be related to earnings.[1] The effect of physical characteristics on earnings is large and often on the order of pay disparities found on the basis of race or gender. Differences in treatment associated with physical appearance may be due to discrimination, as noted throughout this literature.

This paper has two objectives. First, I begin with estimates of the relation between observer's ratings of attractiveness and physical characteristics, specifically skin color, height, and measures of weight. While it is widely perceived that those with excess weight or that African Americans with darker skin color are considered less attractive, there is little empirical evidence on this relation. I find, as expected, that excess weight is associated with lower attractiveness ratings. Taller men are rated as more attractive, although height has a negative relation with attractiveness for African American females and no relation for white females. Skin color has an important influence on attractiveness ratings of African Americans, with those with darker skin color rated as less attractive. Skin color also affects attractiveness ratings of white men, with white men with relatively darker skin color rated as more attractive. These findings add to the limited literature that examines the relation between skin color and attractiveness for African Americans (Hill, 2002; Hersch, 2006) and provide unique information on the relation between skin color and attractiveness for whites, as well as unique information on the relation between height and attractiveness.

Second, to provide some information on the importance of discrimination as the mechanism by which appearance is related to treatment, I examine whether appearance is related to the probability that individuals report discriminatory treatment in a variety of situations. Thus, instead of inferring discriminatory treatment from unexplained differences in outcomes that are associated with physical characteristics, my approach provides complementary evidence on the importance of discrimination from the vantage point of individual perceptions.

Overall, I find limited evidence that general attractiveness, weight, and height are related to perceived discriminatory

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[1] There is a large literature examining the relation between obesity and earnings, as well as between height and earnings. See, for example, Register and Williams (1990), Loh (1993), Averett and Korenman (1996), Baum and Ford (2004), Cawley (2004), Persico et al. (2004), Case and Paxson (2008), and DeBeaumont (2009).

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treatment. A notable exception is skin color, with African Americans with lighter skin color less likely to report discriminatory treatment in daily activities, as well as less likely to report worse treatment generally because of their skin color. Also noteworthy is that although blacks are far more likely than whites to be unfairly stopped or searched by the police, gradations in skin color among blacks are not associated with the probability of being stopped or searched unfairly by the police.

Given the vast literature indicating that physical appearance influences how one is treated, the negative results with respect to general attractiveness, weight, and height may seem surprising. One possible explanation for the limited effect of appearance on perceived discriminatory treatment is derived from the social psychology literature and indicates that people who are less attractive internalize their inferior treatment and think that they deserve to be given worse treatment, and so do not consider such treatment to be unfair. However, there is little relation between attractiveness and measures of self-esteem or personal mastery. A self-fulfilling cycle in which those who are less attractive have lower self-esteem does not seem to explain why physical appearance has limited effect on reports of unfair treatment. In contrast, skin shade among African Americans is associated with perceived differential treatment, lending support to the interpretation that observed differential outcomes on the basis of skin shade are based in discrimination.

2. Data set and variable definitions

The data set used here is the Detroit Area Study 1995: Social Influence on Health: Stress, Racism, and Health Protective Resources (Jackson and Williams, 2002). The Detroit Area Studies series was initiated in 1951 at the University of Michigan, and since then, new surveys focusing on varying topics have been conducted in most years. The sampling frame is a multistage area probability sample of individuals age 18 and older residing in the Detroit metropolitan area and surrounding suburban areas. Black households are oversampled. The 1995 survey (hereafter DAS 1995) provides a sample of 1139 respondents in the Detroit area.[2]

The DAS 1995 seems to be the only available data set based on a probability sampling frame that contains information on physical appearance and perceived discriminatory treatment. In addition to information on standard demographic measures (e.g., age, education, sex, race), the DAS 1995 includes interviewer assessments of attractiveness and skin color as well as measures of objective appearance such as height and weight. Respondents report whether they have been treated unfairly in a number of situations. I analyze five measures of perceived unfair treatment that correspond to the types of discrimination on the basis of appearance that have been indicated in the literature and an additional measure specifically related to skin color that is uniquely available in the DAS 1995.

The sample analyzed in this paper is restricted to respondents who are either black or white and for whom the interviewer reported an attractiveness rating and a skin color rating. The remaining sample is comprised of 1063 observations, with 398 black females, 180 black males, 268 white females, and 217 white males. Descriptive statistics for the variables used in the analysis are reported in Table 1 by race and sex.

The DAS 1995 includes several measures of physical appearance. The analysis takes into account four characteristics of appearance: general attractiveness and skin color as reported by the interviewer and self-reported height and weight. At the end of the interview, interviewers rated the respondent on a 7-point scale with endpoints marked 'very unattractive' and 'very attractive,' which I reverse code so that higher values indicate a higher attractiveness rating. I use the 7-point scale to estimate ordered probits of the attractiveness rating. For the estimates of discriminatory treatment I group the attractiveness rating into three categories based on whether the respondent's attractiveness rating falls below, at, or above the scale midpoint of 4. These three groups are referred to as "below average looks," "average looks," and "above average looks." As Table 1 shows, interviewer rate more of the respondents as above average than as below average for all race and sex groups, and more than half of the white females are rated as above average. The attractiveness ordered probits take into account physical characteristics such as weight that influence the attractiveness ratings.

Whether the attractiveness rating available in the DAS 1995 is a reliable indicator of the respondent's appearance is a concern. Some key questions relevant to the reliability of the DAS 1995 attractiveness measure include intra-evaluator reliability, whether cultural differences in standards of beauty would affect ratings, and whether the findings from the social psychology literature typically based on photographs differ from findings based on personal interaction. The findings from the meta-analysis of Langlois et al. (2000) provide reassuring support for the validity of the DAS 1995 measure of attractiveness. Specifically, there is significant agreement both within and across cultures about attractiveness, with judges showing high levels of agreement. Judgments and treatments based entirely on photographs and those made in person or by observing video yield similar inferences. In addition, the degree of familiarity of the perceiver with the target (e.g., brief interaction, teacher–child) likewise has little effect on the relation between attractiveness and judgment or treatment. There also are no gender effects detected: attractiveness is equally important for both sexes. For this reason, the analyses examining the influence of appearance on perceived discriminatory treatment pool males and females.

In addition to the interviewer-reported rating of attractiveness, the DAS 1995 includes several other measures of physical appearance, specifically skin color, weight, and height.[3] Both self-assessed and interviewer-assessed skin color are reported as one of five categories. I use the interviewer report of skin color in order to examine how external perceptions influence perceived treatment. Different markings on the scales are indicated for black and non-black respondents. The scale for black respondents is marked 'very dark brown,' 'dark brown,' 'medium brown,' 'light brown,' and 'very light brown.' The scale for non-black respondents is marked 'very dark,' 'dark,' 'medium fair,' 'fair,' and 'very fair.' The ratings of skin color are distributed fairly symmetrically around the medium brown rating for the sample of black respondents. Half of the black respondents are rated as medium brown in color, and few black respondents are rated as either very dark or very light. In contrast, white respondents are primarily rated as medium fair or fair, with no white respondents rated as very dark. Within race, female respondents have lighter skin color than males, which is consistent with measures of skin color derived using reflectance spectrophotometer, and adds credence to the interviewer-reported measure of skin color (Hersch, 2008). Because there are few observations at the

[2] As with all data sets drawn from a targeted population, the findings of this paper may not apply to the U.S. population as a whole. However, it is worth noting that the Detroit Area Study 1992 provides data for one of the four cities surveyed for the Multi-City Study of Urban Inequality, 1992–1994: [Atlanta, Boston, Detroit, and Los Angeles] which suggests that Detroit may be considered representative of urban areas in the United States.

[3] Hair and eye color are also reported, but there is little variation in hair and eye color within the African American sample. As these characteristics are never significantly related to any of the outcomes examined here they are not included in the regression equations.

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Table 1
Sample characteristics by race and sex.

	Black female	Black male	White female	White male
Attractiveness				
Attractiveness 1–7 scale	4.32	4.34	4.68	4.57
	(1.29)	(1.32)	(1.56)	(1.29)
Below average looks	25.13	22.22	21.64	13.36
Average looks	35.18	39.44	24.25	41.94
Above average looks	39.70	38.33	54.10	44.70
Skin color				
Very dark	2.51	3.33	0.00	0.00
Dark	20.35	27.22	5.22	9.22
Medium	50.00	51.11	42.16	56.68
Light	22.11	15.00	46.27	31.34
Very light	5.03	3.33	6.34	2.76
Weight and height				
Obese	41.71	26.67	26.49	19.35
Overweight	30.65	41.67	32.46	47.93
Normal weight	27.64	31.67	41.04	32.72
Height in inches	64.47	69.73	64.26	69.79
	(3.04)	(3.39)	(2.83)	(2.79)
Unfair/worse treatment				
Race/ethnicity	55.53	75.56	11.94	19.82
Skin shade-whites	9.78	13.56	0.38	0.47
Skin shade-blacks	12.72	9.55	–	–
Fired/not promoted	31.41	47.22	21.64	26.73
Not hired	29.15	35.00	10.07	13.82
Police	19.85	60.00	5.97	20.28
Daily affronts	39.45	43.33	14.18	16.59
Demographics				
Less than high school	19.10	22.22	12.69	9.68
High school graduate	29.40	32.22	33.21	26.73
Some college	36.68	32.22	29.85	26.27
BA or higher degree	14.82	13.33	23.88	36.41
Age	45.18	45.13	47.91	45.46
	(16.95)	(17.02)	(18.36)	(17.20)
N	398	180	268	217

Source: Author's calculation from the Detroit Area Survey 1995.
Note: Table reports percents for dichotomous variables or means with standard deviations reported in parentheses for continuous variables.

extremes, I collapse the five categories into three categories of dark and very dark, medium, and light and very light in the regressions.

Respondents self-report their weight and height. I calculate body mass index (BMI) for each individual and define indicator variables for those who are obese (BMI of 30 or higher), overweight (BMI at least 25 and less than 30), or normal weight (BMI under 25; the few respondents who are considered underweight based on BMI are grouped with those of normal weight). As indicated in Table 1, most of the sample is overweight or obese. The proportion who are overweight or obese by race and sex in the DAS 1995 is similar to national data from the National Health and Nutrition Examination Survey (Flegal et al., 2002, Table 4). In addition to controlling for whether the respondent is obese or overweight, I include height directly in the regressions.

To examine whether there is a connection between physical appearance and treatment, I use respondents' reports of whether they have been treated unfairly or differently in a number of situations. I analyze six measures of perceived discriminatory treatment that are available for all respondents. In particular, I examine whether respondents report they have ever been treated unfairly because of their race or ethnicity, treated differently because of the shade of their skin color, unfairly fired or denied a promotion, unfairly not hired, received unfair police treatment, or experienced unfair treatment in a series of routine daily activities.[4] Only the first question is posed in terms of race or ethnicity, and only the second question makes specific reference to skin color. The other questions refer generally to unfair treatment that is not necessarily caused by race or ethnicity.

The DAS 1995 does not include questions asking directly about unfair treatment in pay, although the labor market activities of firing, promotion, and hiring are related to potential earnings. Although the specific measures examined in this study are analyzed because they are available in an existing publicly available data set based on a sampling frame, these measures correspond to the kinds of treatment based on appearance that are identified within the literature. There is no objective evidence available in the DAS 1995 that can be used to corroborate whether those reporting unfair treatment actually experienced such treatment. However, Coleman et al. (2008) find that the vast majority of black workers reporting job discrimination or discrimination in promotions or raises on the basis of race or ethnicity did indeed experience wage discrimination as indicated by a comparison of their actual wages to what they would receive if treated by the labor market as though they were a white worker. In contrast, they found that most white workers reporting discrimination on the basis of race or ethnicity did not experience wage discrimination. These findings provide some support for the validity of these reports of unfair treatment within the DAS 1995 sample of African Americans.

The specific definitions of the six measures of discriminatory treatment follow. The first measure is based on whether the respondent had ever experienced adverse treatment on the basis of race or ethnicity. Specifically, respondents are asked: "Thinking over your

[4] Although the questions about unfair treatment do not explicitly use the term 'discrimination,' the context of the question suggests that respondents are likely to understand the questions to refer to discriminatory treatment. However, discrimination in the legal sense may be understood to be more egregious than unfair treatment, and if so, survey participants may be more likely to report treatment as unfair than they would be to report the same treatment as discriminatory.

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whole life, do you think you have ever been treated unfairly or badly because of your race or ethnicity?" Those responding affirmatively are assigned the value of one for the variable 'race/ethnicity.' As Table 1 indicates, substantially more black respondents report such treatment than do white respondents, with 56 percent of black females and 76 percent of black males reporting unfair treatment, but only 12 percent of white females and 20 percent of white males reporting unfair treatment. The empirical analysis stratifies the sample by race and addresses whether skin color and other aspects of appearance affect the probability of reporting unfair treatment because of race or ethnicity.

Following the question in which respondents self-report their skin color, black respondents are asked: "Because of the shade of your skin color do you think white people treat you a lot better, somewhat better, no different, somewhat worse, or a lot worse than other blacks?" The question is then repeated asking instead whether the respondent's skin shade affects how they are treated by black people. Non-black respondents are asked a similar question about whether their skin shade affects how they are treated by white people relative to others. Those responding that they have been treated somewhat worse or a lot worse by whites are assigned the value of one for the variable 'skin shade-whites,' with a similarly defined variable for the black respondents called 'skin shade-blacks' to indicate worse treatment by blacks because of skin shade. Hersch (2006) shows that on average blacks with lighter skin tones report dramatically better treatment from whites than do blacks with darker skin tones, as well as better treatment from blacks. This current analysis examines whether this relation continues to hold with controls for other individual characteristics. As shown in Table 1, almost no white respondents report that they are treated worse by other white people because of their skin shade. However, within the black sample, 10–14 percent report worse treatment by other blacks and by whites because of their skin shade, reflecting the findings of a large literature showing differential treatment on the basis of skin tone among African Americans (e.g., Russell et al., 1992; Hall, 2008).

The additional four measures are based on reports of unfair treatment in a series of specific contexts. Instead of specifying the basis for unfair treatment to be race, ethnicity, or skin color, interviewers start the series of questions on unfair treatment by saying, "In the following questions, we are interested in your beliefs about the way people have treated you," followed by these questions: "Do you think you have ever been unfairly fired or denied a promotion?"; "For unfair reasons, do you think you have ever not been hired for a job?"; and "Do you think you have ever been unfairly stopped, searched, questioned, physically threatened or abused by the police?" Indicator variables called 'fired/not promoted,' 'not hired,' and 'police' are assigned the value of one for those responding affirmatively to the corresponding question.

The final measure of unfair treatment in routine daily activities is derived from a series of nine questions. Specifically, respondents report whether in their day-to-day life, any of the following nine things happen to them: treated with less courtesy, treated with less respect, receive poorer service in restaurants and stores, people act as though they think you are not smart, people act as though they are afraid of you, people act as though they think you are dishonest, people act as though they're better than you, you are called names or insulted, you are threatened or harassed. Those reporting that any of these types of treatment happen very often or fairly often are assigned the value of one for the variable 'daily affronts.'

As Table 1 shows, for each type of treatment, black males are the most likely to report unfair treatment and white females are the least likely. The share of black males reporting unfair treatment ranges from 35 percent for unfair treatment in hiring to 60 percent for unfair treatment by police. A large share of black females also report unfair treatment, ranging from 20 percent for unfair treatment by police to 31 percent reporting they were fired or nor promoted for unfair reasons.

3. Determinants of attractiveness ratings

This section examines how specific physical characteristics affect the attractiveness rating. This analysis is included for two reasons. First, it allows an examination of the influence on the attractiveness rating of physical characteristics, such as obesity, that are widely believed to influence how one's attractiveness is perceived. Second, there is limited information on the relation between skin color and attractiveness for African Americans and no such information for whites. The analysis here adds to this literature.

Table 2 presents ordered probit estimates of attractiveness by race and sex. The dependent variable is the interviewer rating of attractiveness on the 7-point scale, and the equations control for indicators of skin color (medium and light or very light, with dark or very dark the omitted category), whether the respondent is obese or overweight (normal weight is the omitted category), height, indicators for highest level of education (less than high school graduate is the omitted category), and age and its square.[5]

The interpretation of ordered probit estimates requires recognizing that the signs of the coefficients only provide information on the changes in the probabilities for the left- and right-most cells. What happens to the probability in all other cells is ambiguous. To help with interpretation, Table 3 provides predicted probabilities of attractiveness rating for representative types of each race and sex. The representative types are chosen based on the physical characteristics identified as statistically significant at the 10 percent level in the ordered probit regressions by race and sex. For groups in which height has a statistically significant effect on attractiveness rating, I compare the height of those at the 25th percentile to those at the 75th percentile by race and sex. The values of all other variables are held at their race and sex sample mean. To save space, I sometimes vary combinations of physical characteristics rather than changing only one characteristic at a time.

As Table 3 indicates, skin color shifts the distribution of attractiveness ratings so that blacks with lighter skin color and white men with darker skin color are rated as more attractive. For example, the probability that a black woman is rated as above average is 10.5 percentage points higher if she has light skin than if she has dark skin, holding all other variables at their means. The corresponding probability for black men is 12.6 percentage points. Skin color has a surprisingly large effect on the attractiveness rating of white men, where the probability that a white man with dark skin is rated above average is 23.6 percentage points higher than if he has light skin. Also of interest is the relation between height and attractiveness and between weight and attractiveness. Taller men of both races are rated as more attractive, while taller black women are rated as less attractive. For example, the probability that a black man is rated above average is 10.2 percentage points higher if he is 6 feet tall (75th percentile) than if he is 5 feet, 8 in. tall (25th percentile). White women's attractiveness rating is unrelated to height.

Obesity has a large effect on the attractiveness rating of white men and white women. The probability that a white man of normal weight is rated as above average is 24.7 percentage points higher than if he is obese; the corresponding difference for white women is

[5] Hill (2002) uses data from the National Survey of Black Americans 1979–1980, which provides a similar 7-point attractiveness scale, to estimate attractiveness regressions. He finds that those with lighter skin color are rated as more attractive with the relation stronger for women than for men. Height is not included in his regressions.

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Table 2
Ordered probit estimates of attractiveness rating by race and sex.

	Black female	Black male	White female	White male
Medium skin color	0.023	−0.229	0.010	−0.514*
	(0.132)	(0.183)	(0.302)	(0.259)
Very light/light skin color	0.257+	0.436+	−0.251	−0.312
	(0.150)	(0.241)	(0.300)	(0.269)
Obese	−0.301*	0.198	−0.733**	−0.640**
	(0.134)	(0.218)	(0.179)	(0.213)
Overweight	0.009	−0.058	−0.309*	−0.320+
	(0.138)	(0.188)	(0.152)	(0.167)
Height	−0.049**	0.065**	0.034	0.051+
	(0.018)	(0.025)	(0.025)	(0.027)
High school graduate	0.079	−0.318	0.273	−0.089
	(0.160)	(0.237)	(0.211)	(0.284)
Some college	0.262+	0.069	0.055	0.039
	(0.157)	(0.235)	(0.224)	(0.275)
Bachelor's degree or higher	0.116	0.159	0.401+	0.201
	(0.191)	(0.292)	(0.233)	(0.276)
Age	0.012	−0.048+	−0.020	−0.019
	(0.019)	(0.026)	(0.021)	(0.025)
Age squared/100	−0.015	0.031	0.007	0.006
	(0.019)	(0.025)	(0.020)	(0.025)
N	398	180	268	217
McKelvey and Zavonia's R^2	0.068	0.223	0.212	0.161
Log-likelihood	−642.126	−273.032	−447.936	−325.837
Likelihood ratio	26.124	41.354	59.231	34.922
Pr (likelihood ratio)	0.016	0.000	0.000	0.000

Source: Author's calculation from the Detroit Area Survey 1995.
Note: Standard errors in parentheses. Indicator variables for missing values for weight, height, and age are included in the equations, but these coefficients are not reported.
+ Significant at 10%.
* Significant at 5%.
** Significant at 1%.

28.6 percent. While weight also affects the attractiveness rating of black women, the gap in attractiveness between obese and normal weight black women is far smaller than for white men and white women, with the difference in the probability that a black woman of normal weight is rated above average 11.4 percentage points higher than if she is obese.

The factors that affect the attractiveness rating are the same physical characteristics that have been shown to have a direct relation with economic outcomes. For example, the large attractiveness penalty associated with obesity among white men and white women is mirrored in the pay penalty associated with obesity that is most frequently found among whites, and in particular,

Table 3
Predicted probabilities of attractiveness rating for representative types.

	Less attractive		More attractive					Percentage above average
	1	2	3	4	5	6	7	
Black female								
Light skin	0.4	4.2	14.1	34.5	21.6	18.9	6.4	46.9
Dark skin	0.8	7.0	18.9	36.9	18.9	13.8	3.7	36.4
Light skin, normal weight, height 62 in.	0.2	2.6	10.3	30.8	22.9	23.4	9.9	56.2
Dark skin, obese, height 66 in.	1.7	10.8	23.6	36.9	15.6	9.6	2.0	27.2
Height 62 in.	0.5	4.8	15.2	35.2	21.1	17.7	5.6	44.4
Height 66 in.	0.8	6.9	18.7	36.8	19.1	14.0	3.7	36.8
Normal weight	0.5	4.9	15.5	35.4	21.0	17.4	5.5	43.9
Obese	1.1	8.4	20.9	37.2	17.6	12.0	2.9	32.5
Black male								
Light skin	0.6	1.6	8.6	37.8	23.0	21.0	7.6	51.6
Dark skin	1.3	3.1	13.4	43.3	20.2	14.8	4.0	39.0
Light skin, height 72 in.	0.4	1.3	7.3	35.6	23.5	22.9	9.0	55.4
Dark skin, height 68 in.	2.0	4.2	16.2	44.8	18.1	11.9	2.8	32.8
Height 68 in.	2.2	4.5	16.9	45.0	17.6	11.3	2.5	31.4
Height 72 in.	1.2	2.8	12.4	42.5	20.8	15.9	4.5	41.2
White female								
Normal weight	0.4	4.6	6.8	22.2	20.4	30.3	15.3	66.0
Obese	2.9	15.2	14.5	30.0	17.5	16.0	3.9	37.4
White male								
Dark skin	0.3	1.5	3.7	34.1	24.1	23.4	12.9	60.4
Light skin	1.4	5.2	9.3	47.3	19.7	12.9	4.2	36.8
Dark skin, normal weight, height 72 in.	0.1	0.6	1.7	23.2	22.7	28.7	23.2	74.6
Light skin, obese, height 68 in.	4.1	10.6	14.5	49.3	13.5	6.6	1.5	21.6
Normal weight	0.4	2.0	4.5	37.2	23.8	21.4	10.7	55.9
Obese	2.1	6.8	11.0	48.9	17.7	10.5	3.0	31.2

Note: Values in table are the predicted percentage within that attractiveness rating category. Predicted probabilities hold all other independent variables at their means.

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Table 4
Influence of appearance on unfair treatment.

Panel A: Black

	Race/ethnicity	Skin shade-whites	Skin shade-blacks	Fired/not promoted	Not hired	Police	Daily affronts
Below average looks	0.033	−0.019	0.017	−0.028	−0.076	0.052	0.096^{+}
	(0.053)	(0.019)	(0.037)	(0.055)	(0.049)	(0.056)	(0.057)
Above average looks	0.064	0.045*	0.055^{+}	0.076	−0.016	0.047	−0.024
	(0.049)	(0.022)	(0.032)	(0.049)	(0.046)	(0.050)	(0.050)
Medium skin color	−0.029	−0.075**	−0.094**	0.015	0.015	−0.045	−0.101*
	(0.051)	(0.021)	(0.031)	(0.050)	(0.048)	(0.049)	(0.051)
Very light/light skin color	−0.023	−0.081**	0.051	−0.069	−0.006	−0.008	−0.184**
	(0.061)	(0.017)	(0.037)	(0.058)	(0.057)	(0.058)	(0.054)
Obese	−0.021	−0.031^{+}	−0.008	0.018	0.001	0.027	0.007
	(0.054)	(0.017)	(0.032)	(0.053)	(0.050)	(0.052)	(0.054)
Overweight	−0.034	−0.042*	0.008	−0.024	−0.031	−0.078	−0.014
	(0.054)	(0.017)	(0.031)	(0.052)	(0.049)	(0.049)	(0.054)
Height	0.010	0.003	0.010*	0.017**	0.007	0.005	0.013^{+}
	(0.007)	(0.003)	(0.004)	(0.007)	(0.006)	(0.006)	(0.007)
Male	0.178**	−0.009	−0.069*	0.089	0.033	0.419**	−0.033
	(0.053)	(0.020)	(0.029)	(0.057)	(0.055)	(0.055)	(0.057)
Age	0.018*	0.005	0.003	0.021**	0.011	−0.002	0.001
	(0.007)	(0.003)	(0.004)	(0.008)	(0.007)	(0.007)	(0.008)
Age squared/100	−0.018*	−0.007*	−0.003	−0.023**	−0.013^{+}	−0.002	−0.010
	(0.007)	(0.004)	(0.005)	(0.008)	(0.007)	(0.007)	(0.008)
High school graduate	0.022	−0.025	−0.042	0.121^{+}	0.031	−0.022	−0.073
	(0.061)	(0.020)	(0.032)	(0.066)	(0.062)	(0.061)	(0.063)
Some college	0.124*	−0.042*	−0.047	0.142*	0.127*	0.021	−0.009
	(0.058)	(0.020)	(0.033)	(0.065)	(0.062)	(0.062)	(0.064)
BA degree or higher	0.208**	0.038	0.008	0.164*	0.154^{+}	0.108	−0.050
	(0.061)	(0.037)	(0.044)	(0.081)	(0.079)	(0.081)	(0.075)
McKelvey and Zavonia's R^2	0.154	0.606	0.103	0.151	0.084	0.286	0.190
Log-likelihood	−356.099	−153.606	−184.692	−350.104	−342.356	−304.597	−355.949
Likelihood ratio	56.779	83.955	42.295	52.785	26.954	118.510	69.082
Pr (likelihood ratio)	0.000	0.000	0.000	0.000	0.029	0.000	0.000

Panel B: White

	Race/ethnicity	Fired/not promoted	Not hired	Police	Daily affronts
Below average looks	0.086	0.036	−0.029	0.064	0.005
	(0.057)	(0.061)	(0.036)	(0.053)	(0.047)
Above average looks	−0.021	−0.063	−0.041	0.006	−0.025
	(0.038)	(0.046)	(0.032)	(0.030)	(0.036)
Medium skin color	0.005	−0.046	0.036	−0.012	0.008
	(0.064)	(0.075)	(0.055)	(0.045)	(0.059)
Very light/light skin color	−0.018	0.001	0.005	−0.042	−0.010
	(0.065)	(0.076)	(0.056)	(0.044)	(0.060)
Obese	0.007	−0.013	0.073	−0.025	−0.040
	(0.048)	(0.054)	(0.049)	(0.033)	(0.040)
Overweight	0.055	0.007	0.039	0.019	0.027
	(0.039)	(0.045)	(0.036)	(0.029)	(0.036)
Height	0.002	−0.005	0.001	0.009^{+}	−0.004
	(0.006)	(0.007)	(0.005)	(0.005)	(0.006)
Male	0.042	0.062	0.023	0.058	0.031
	(0.048)	(0.059)	(0.041)	(0.039)	(0.046)
Age	0.006	0.013^{+}	0.003	−0.002	−0.004
	(0.006)	(0.007)	(0.005)	(0.005)	(0.005)
Age squared/100	−0.007	−0.018*	−0.006	−0.002	−0.001
	(0.006)	(0.007)	(0.006)	(0.005)	(0.006)
High school graduate	0.030	0.155^{+}	−0.002	−0.047	−0.006
	(0.071)	(0.091)	(0.051)	(0.041)	(0.050)
Some college	0.139^{+}	0.225*	0.003	−0.009	−0.070
	(0.084)	(0.095)	(0.052)	(0.046)	(0.043)
Bachelor's degree or higher	0.136^{+}	0.192*	0.011	−0.009	−0.125**
	(0.083)	(0.094)	(0.054)	(0.047)	(0.040)
McKelvey and Zavonia's R^2	0.131	0.167	0.153	0.333	0.234
Log-likelihood	−195.038	−249.678	−162.919	−150.087	−181.754
Likelihood ratio	26.327	33.172	24.265	58.277	49.501
Pr (likelihood ratio)	0.024	0.004	0.043	0.000	0.000

Source: Author's calculation from the Detroit Area Survey 1995.
Note: Table reports marginal probit coefficients with standard errors in parentheses. Indicator variables for missing values for weight, height, and age are included in the equations, but these coefficients are not reported. The number of observations is 578 in Panel A and is 485 in Panel B.

$^{+}$ Significant at 10%.
* Significant at 5%.
** Significant at 1%.

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white women. Most studies that have examined the wage effects of physical characteristics have not included measures of general attractiveness, which are rarely available. This raises the possibility that what we observe as wage effects of physical characteristics are actually wage effects of general attractiveness. However, the limited evidence from studies that control for attractiveness as well as for weight, height, or skin color indicates that attractiveness and other physical characteristics have distinct effects on wages.[6] But the evidence is limited, and the relations found here between physical characteristics and attractiveness suggest that it is possible that some of the wage effects of weight, height, and skin color may arise from differences in attractiveness rather than directly from these physical characteristics.

4. Perceptions of unfair treatment

To examine whether reported discriminatory treatment is related to physical appearance, I estimate equations of the following form, where the sample is stratified by race:

$$Pr(RD_i = 1) = f(AD_i, X) \quad (1)$$

where $RD_i = 1$ if the individual reports discriminatory treatment of type i, and AD_i represents actual discriminatory treatment of type i, which is unobserved. X is a vector of control variables such as education and age that may influence whether a respondent reports discriminatory treatment. Because actual discrimination is unobserved, measures of physical appearance are used as proxies for actual discrimination. If appearance affects discriminatory treatment, those who are more attractive are expected to be less likely to report discriminatory treatment. Because the sample is stratified by race in the empirical analysis, any influence of physical appearance is net of any direct effect of race on discriminatory treatment. In addition, it is not necessary that respondents are aware of a link between their appearance and any discriminatory treatment. Instead, the regression analyses establish empirically whether or not such a connection is present.

Table 4 provides marginal coefficients from probit regressions for each of the types of unfair treatment, stratified by race and controlling for measures of attractiveness (average looks is the omitted category), skin shade (very dark or dark is the omitted category), indicators for obese and overweight (normal weight is the omitted category), and height, as well as for sex, age and its square, and highest level of education (less than high school graduate is the omitted category). Results for blacks are reported in Panel A, with corresponding results for whites reported in Panel B.[7]

As Table 4 shows, blacks with below average looks are more likely to report daily affronts (significant at the 10 percent level). Blacks with above average looks are, surprisingly, more likely to report worse treatment because of their skin shade. Otherwise, appearance as reported by the interviewer has no effect on the probability of reporting unfair treatment. Black men are more likely than black women to report unfair treatment on the basis of race or ethnicity or by police. Relative to those with dark or very dark skin color, African Americans with medium skin color are 10 percentage points less likely to report daily affronts, and those with light or very light skin color are 18 percentage points less likely to report daily affronts. African Americans with medium or light/very light skin color are about 8 percentage points less likely to report that they are treated worse by whites because of their skin shade than are those with dark or very dark skin color, and those with medium skin color are 9 percentage points less likely to report worse treatment by other blacks. There is limited evidence of a relation between being overweight and obese and reports of discriminatory treatment, although there is evidence that taller respondents are more likely to report unfair treatment in being fired or not promoted and daily affronts (blacks) or police treatment (whites).

Because physical characteristics such as skin shade, weight, and height influence the attractiveness rating, including in the regressions measures of attractiveness as well as other physical characteristics may lead to an insignificant effect of physical characteristics via multicollinearity. However, excluding the measures of attractiveness has almost no effect on the magnitudes of the coefficients on physical characteristics. In particular, the effects of skin shade on reports of treatment are not affected by inclusion or exclusion of the attractiveness rating.

Given the vast evidence of preferential treatment of more attractive individuals, it is puzzling that appearance has such a limited effect on the probability of reporting discriminatory treatment. To examine whether the limited effect of appearance on reports relates to lower self-esteem of those less attractive, I use the measures of self-esteem and personal mastery available in the DAS 1995 and defined in Boardman et al. (2001) and Ellison et al. (2001). The measure of self-esteem is derived from responses to four questions about whether the respondents believe they are a person of worth, are a failure, are able to do things as well as other people, and do not have much to be proud of. Personal mastery is derived from the responses to four questions about whether the respondents believe they can do anything they set their minds to, are not able to solve problems they have, feel helpless in dealing with the problems of life, and feel that what happens in the future depends mostly on themselves. As Boardman et al. (2001) and Ellison et al. (2001) note, these measures have been validated and are widely used in research in social psychology. There is some evidence that among white respondents, those more attractive have higher self-esteem. The rank order between the attractiveness rating and self-esteem yields a Spearman's rank correlation coefficient of 0.13 (p-value < 0.01). None of the other correlations are statistically significant at the 10 percent level. However, inclusion of these measures does not substantially alter the estimated relation between attractiveness and reports of unfair treatment.

5. Conclusion

This paper finds that although reports of unfair treatment are common, especially among African Americans, there is little evidence that perceived unfair treatment is related to physical appearance. The main exception is the effect of skin color among African Americans, in which those with lighter skin color are less likely to report discriminatory treatment in daily activities and are less likely to report that they receive worse treatment on the basis of their skin color. This result is consistent with widely documented evidence of preferential treatment or higher wages for African Americans with lighter skin color.

Generally, however, although people widely report that they have been treated unfairly in specific contexts, there is little connection between their appearance and the likelihood of reporting unfair treatment. Given the vast literature as well as popular perceptions that appearance matters in numerous arenas, this is a surprising finding. I consider two possible explanations below.

[6] Hamermesh and Biddle (1994) find that inclusion of height and weight in addition to attractiveness has little effect on the relation between attractiveness and wages. Based on data from the National Survey of Black Americans 1979–1980, Hersch (2006) finds that inclusion of attractiveness in addition to skin color in wage equations for African Americans does not alter the estimated effect of skin color on wages.

[7] Panel B, which reports corresponding results for the white sample, does not include estimates for whether the respondent indicated worse treatment because of their skin shade, as only two white respondents indicated worse treatment and so estimation is not possible.

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First, it is generally not possible to determine whether any differential treatment on the basis of appearance is due to discrimination or due to differences in productivity. Discrimination is the residual hypothesis that remains after controlling for observable factors that affect productivity. To the extent that differential treatment is due to productivity differences associated with physical characteristics rather than discrimination, any connection between appearance and perceived unfair treatment may be attenuated. For instance, height may have actual productivity effects. Persico et al. (2004) find that male height in high school is associated with human capital enhancing social activities, and Case and Paxson (2008) find that height is associated with greater intelligence. Attractiveness may also have actual productivity effects. Cipriani and Zago (2011) find that attractiveness is associated with higher college written exam scores for males, which they attribute to greater productivity, as scores on oral exams (which could be affected by professors' discriminatory treatment on the basis of appearance) are not related to appearance.

However, it seems unlikely that all disparities associated with appearance can be explained as arising from productivity differences. For instance, using fictitious job applications in which individual appearance was manipulated while holding qualifications constant, Rooth (2009) found that obesity and attractiveness affects the likelihood that an applicant will receive a callback for an interview. Such differences in callbacks could not be due to productivity differences. As Hersch (2008) discusses, the negative effect of darker skin color on wages among immigrants to the U.S. is unlikely to be related to productivity differences.

Since there is evidence that at least some differential treatment is due to discrimination, a second explanation is that people may not accurately assess whether they have faced discrimination. For example, Kuhn (1987) examines whether female workers report that they had experienced employment discrimination commensurate with their actual pay disparity relative to comparable males. He finds that those with the greatest amount of quantifiable discrimination are actually less likely to report they had experienced discriminatory treatment and concludes that perceived discrimination stems largely from unobservable factors. While Coleman et al. (2008) find that African Americans who report discrimination on the basis of race or ethnicity actually face discrimination in pay, the link between actual discrimination and reported discrimination does not hold for whites. Although studies show mixed evidence of the importance of weight in economic outcomes, a fairly consistent finding is the negative effect of obesity on earnings among white women. Averett and Korenman (1996) report that 17 percent of women who are obese report they had experienced sex discrimination, in contrast to 10–11 percent of non-obese women. Thus, although women who are obese are more likely to report sex discrimination, the difference by obesity status is not large and may disappear with controls for other characteristics.

To the extent that individuals do not accurately recognize whether they have faced discrimination, anti-discrimination employment laws may have a role. The Lilly Ledbetter Fair Pay Act of 2009 was passed in recognition that employees may not become aware of discriminatory treatment for a substantial amount of time (specifically, for a period longer than the 180 day period allowed by Title VII of the Civil Rights Act). Discrimination on the basis of appearance is not prohibited by federal law. Any claim of discrimination on the basis of appearance under Title VII would need to be linked to a protected category of race, color, sex, age, religion, national origin, or disability. Because of evidence of preferential treatment of those more attractive, it is sometimes proposed to add appearance to the list of protected classes. For instance, the District of Columbia Human Rights Act prohibits discrimination in employment on the basis of physical appearance.

To the extent that individuals are unaware of discrimination on the basis of general attractiveness, weight, or height, broadening coverage prohibiting discrimination on the basis of appearance may be ineffective, as individuals unaware of discrimination are unlikely to seek legal remedies. In contrast, there is evidence that African Americans are aware of discrimination on the basis of color, which is already a protected category.

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