Colorism and Employment Bias in India: An Experimental Study

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Abstract

In this paper we examine whether the prevalence of colorism in India can be linked to discrimination in hiring for people with darker skin shades. Preference for lighter skin became amplified by the skin whitening product industries' efforts to link lighter skin to economic success; specifically labor market success. However the existence of such a link is yet to be explored given the lack of skin tone specific data in India. We implemented an experimental survey design to overcome this lack of data. Participants in our study were asked to evaluate job candidates on the basis of unchanging resumes paired with photographs manipulated to vary skin tones. We did not find a statistically significant bias in favor of resumes paired with lighter skinned photographs. Overall participants tended to evaluate both lighter skinned and darker skinned candidates similarly. Our findings suggest that colorism in India cannot be easily linked to direct instances of economic discrimination. Differential outcomes due to preference for skin color though might operate in other social contexts like marriage and family or health outcomes and in situations where beauty ideals are more relevant. Our findings provide an important counter narrative to the skin whitening industry's prolonged efforts expand their consumer base by linking lighter skin to economic success.

Introduction

In this paper we examine whether the prevalence of colorism in India can be linked to discrimination in hiring for people with darker skin shades. Colorism, the preference for lighter skin tones even among nonwhite majority populations, has a long and contested history in India. In the more recent past this preference for lighter skin became amplified by the rapidly growing skin whitening product industries' efforts to expand the association of colorism with a beauty ideal and instead link it to economic success; specifically labor market success. However the existence of such a link is yet to be explored given the lack of skin tone specific data in India. In this study we implemented an experimental survey design to overcome this lack of data. Such experimental studies have yet to be used in the context of colorism in India. Our study included 275 participants who were asked to evaluate job candidates on the basis of unchanging resumes paired with photographs manipulated to vary skin tones. We did not find a statistically significant bias in favor of resumes paired with lighter skinned photographs. Overall participants tended to evaluate both lighter skinned and darker skinned candidates similarly. Our findings provide an important counter narrative to the skin whitening industry's prolonged efforts expand their consumer base by linking lighter skin to economic success.

The relationship between skin shade and economic outcomes has been investigated in the U.S. where colorism co-exists with racism and long standing practices of racial discrimination. Empirical evidence has shown that there is a link between skin shade and outcomes in a range of economic and social contexts in the U.S. However empirical evidence has yet to be examined in the case of outcomes of colorism globally and specifically in India, where there is not a concurrent connection between colorism and historically overt racially discriminatory laws. Our findings suggest that colorism in India cannot be easily linked to direct instances of economic discrimination. Differential outcomes due to preference for skin color though might operate in other social contexts like marriage and family or health outcomes and in situations where beauty ideals are more relevant.

These findings also add context to the discussion about the linkages between colorism and the caste system in Indian. Caste privileges in India are often described as being akin to racism in that it is the source of pervasive differences in nearly all socio-economic outcomes. However unlike the linkages between racism and colorism, the racial or skin color based origins of caste is contested. Many have argued that the caste system predates the racial stratifications derived from colonialism and slavery. Moreover geographical variations in skin color in India cuts across class lines and differences in skin shades are not necessarily the defining feature of caste identify. Our findings presents new data to support this assertion that skin shade in itself is not a stand in for caste and that it might not have the kind of structural economic consequences that it does when combined with a history of racial discrimination.

The next section presents an overview of the history of colorism in India. This is followed by a discussion of the literature on discrimination and the measurement of discrimination in section 3, including a literature review of empirical evidence for skin tone discrimination in the U.S. In

section 4 we describe the experimental survey and data collect method for this study, followed by a discussion of the results in section 5.

II. Colorism in India and the modern skin whitening industry

The renewed global focus on racism following the death of George Floyd and the Black Lives Matter protest movements in the U.S. in May 2020, generated fresh scrutiny on the vast skin whitening products industry in India. Under pressure, the Anglo-Dutch multination Unilever announced that it would change the name of its iconic 'Fair and Lovely' face cream in India[1]; dropping the term 'fair', a common Indian euphemism for lighter skin. There was however much skepticism about whether a mere change of name would actually change entrenched industry practices of promoting light skin given similar cosmetic responses to past advocacy pressures. Skin whitening products is big business in India. According to a 2011 World Health Organization report (WHO 2011), 61 percent of the dermatological market in India consists of skin whitening products. The range of products has only become larger since. According to marketing reports, the skin care products market grew by an annual rate of about 20 percent between 2012 and 2016, nearly double the growth rate for China, the largest market in the region. Valued at close to 2 billion dollars in 2016, the market is dominated by facial care products and as the UN report indicates a majority of these products claim skin whitening benefits. The trends in India were part of a rapidly expanding global market. Before the renewed conversations around racism, a few different market research reports had indicated an even more rapid growth in the near future. For example, a recent market forecast indicates that the global market for skin whitening is projected to reach about $24 billion (US) by 2027 (Future Market Insight, 2017) ; another puts the figure at $ 31.2 billion (US) by the year 2024 (Global Industry Analysts 2018).

Paralleling the rise of this industry there has also been an expanding conversation on colorism (Sadat 2015). Colorism represents a new context to racism, where even among non-white majority populations, power and privilege becomes associated with whiteness (Norwood 2014) in a perpetuating cycle. In India, the origins of light skin preference is much debated. Color preference co-exists within the complex heterogeneities of region, caste and religion in Indian society. The caste hierarchy in particular, originally thought to be derived from occupational categories, is the defining feature of group identities in India. The literal meaning of the Sanskrit language word for the original caste classification- 'varna,' is categories. However as is common in Sanskrit, words can have multiple interpretations and varna is sometimes also interpreted as color. This has led to discussions about the links between caste and skin color. The varna system, in some interpretations, is said to have been introduced by lighter skinned Aryan tribes from central Asia who made incursions into the Indian subcontinent. However, there is considerable disagreement about this supposed link between caste and skin color.

Misra (2015) Deshpande (2011) and Parameswaran and Cardoza (2009) review much of the anthropological and historical literature that affirms that the Indus valley civilization predates Aryan arrival and there is no clear cut evidence of a wholescale replacement of pre-existing cultural configurations by the Aryans. This historical evidence therefore does not rule out the possibility that caste hierarchies might have predated the arrival of the supposedly lighter skinned Aryans. There are also no references to skin color in the original texts that first delineated the varna

[1] https://www.bbc.com/news/business-53178088

or caste system. Moreover in the contemporary expanded social stratification of 'jatis', which are well over 3000 groups derived from the original varna classification, there is a varied and intricate hierarchy that cannot be neatly linked to a linear progression of skin tones. Deshpande (2011) also argues that there is considerable variation in skin color across geographical regions in India and these geographical variations in skin shade transcend caste lines.

Rather than the caste system, the aspiration for white skin can be more directly traced to colonialism much in the way that racism originates with slavery and colonialism. It is with the arrival of the British colonialists that we see specific codified color lines. Unlike previous waves of incursions, the British, with their distinct whiteness, specifically emphasized the separation between themselves and the Indians. A large body of historical, and socio-cultural literature has documented the British emphasis on whiteness as a form of racial superiority and their justification of colonization as a mission to civilize the non-white Asian and African populations (Alatas 1977, Said 1994). Specific demarcation of access to educational institutions, private clubs and restaurants between whites and Indians, the labeling of British versus Indian living spaces as white and black towns and the exclusion of Indians from the colonial power structure solidified the association of white with power, privilege and overall social superiority. The elevation of whiteness in India, became overt and firmly established during the 200 years of British colonialism. In post-Independence India, this transformed into a more generalized aspiration for lighter skin tones.

This aligns with much of the literature where the origins of colorism is traced to the same myths of Caucasian, white superiority that came about as a result of slavery and European colonialism. Washington (1990) describes colorism as a legacy of the continued economic and cultural hegemony of the west in the post-colonial world, where non-white, brown individuals internalize the Western world view of superiority of the Caucasian/white race. They therefore experience a psychological need to distance themselves from the blacks as they aspire to the higher status accorded to the 'lighter-skinned' individuals in the hierarchy. Similarly, Hall (2018) further adds that even as modern laws have deemed discrimination on the basis of race illegal, colonial ideology about racial superiority persists through the globalization of lighter skin presence. The lighter skin tone in different populations is seen as a proxy for the Caucasian race. Wells therefore calls for critical skin theory (CST) instead of critical race theory (CRT) to spotlight the continued impact of racial hierarchies stemming from colonialism.

In India, the end of colonial rule dissolved the segregation of spaces based on color lines unlike in the U.S. where the legal structures of racial segregation persisted till the civil rights movement and became embedded in the institutional structure of society. In India, though such legal and institutional racism ended with the disbanding of colonialism, the aspiration for lighter skin persisted. As Wells suggests

The original market for skin whitening products included various bleaching products. In 1975, Unilever introduced the 'Fair and Lovely' fairness cream, touting its melanin blocking properties as a first of its kind safe alternative to bleaching[i]. Fair and Lovely quickly became a mainstay of the Indian cosmetic market. The initial marketing was primarily aimed at women and propagated 'fairness' as a beauty ideal for women, particularly younger women on the cusp of entering the marriage market (Dhillon-Jamerson 2019).

Beginning in the 1990s, new economic forces of open markets, relaxation of government controls and greater global integration, drove an explosive growth in the variety and range of skin whitening products led primary by multinational corporations like Unilever and the French multinational L'Oreal (Vijaya 2019). This expanded market was also defined by aggressive marketing efforts to move beyond the beauty ideal aspect of skin shade. Beginning with a controversial Unilever TV commercial in the early 2000s, the use of skin whitening products began to be tied explicitly to outcomes of socio-economic success such as getting jobs, acquiring greater confidence and social acceptance. The newer marketing strategies not only suggested that whiteness equaled success and social mobility but also explicitly linked darker skin to a lesser status and socio-economic stagnation. Unilever withdrew its first ad linking lighter skin to employment due to protests by women's organizations about its racist imagery (BBC 2003). However this did not change the general trajectory in the new marketing tactics. Skincare commercials continued to portray lighter skin as a requisite for socio-economic mobility and success. This aggressive marketing of skin whitening was also accompanied by an increased use of harmful bleaching and steroid products, causing periodic public health alerts by medical professionals (Hogade and Fatima 2017).

However even as perceptions of success associated with lighter skin became more widespread over the years, empirical evaluation of such links have been scarce. It is also not clear to what extent preference for white skin translates into skin shade discrimination against those with darker skin tones. Though skin preference may not have derived from the caste system and did not originally represent a group identity among the non-white Indian population, did the colonial era associations of light skin with power and prestige evolve into group privileges for lighter skinned individuals and discrimination against darker skinned individuals overtime? In the absence of ingrained legal and institutional segregation based on skin color, the mechanisms through which lighter skin could translate into specific economic outcomes of advantage and discrimination needs to be examined and evaluated. In the following section we explore the literature on group identity based discriminations and the measurement of such discrimination in other contexts.

III. The mechanism of discrimination and measurement of Colorism

Theoretical models of discrimination in the economics literature center broadly on two modes originally described in the work of Gary Becker – a taste for discrimination and statistical discrimination (Neumark 2018, Small and Pager 2020). In the first case, employers are willing to pay a price to reduce association with a group against whom they are prejudiced. In this case discrimination is conscious and overt and results in inferior outcomes such as reduced employment options for the groups that are discriminated against. It also results in a cost for the discriminating employer, who will have to pay more to hire persons exclusively from the preferred or privileged group. So if employers have a preference for lighter skinned individuals, we will see higher wages and employment rates for this group in comparison to similarly qualified darker skinned individuals. Such discrimination based on overt taste or preferences is thought to be short lived since in the long run competitive employers who take advantage of lower labor costs of the discriminated group are expected to outcompete employers with a taste for discrimination. Such overt discrimination is also less likely and harder to measure in the context of anti-discrimination laws and in cases where group identities are less binary (Black and White or Male, Female) and more on a continuum of skin tones.

In the case of statistical discrimination, employers or others in positions of power make judgements based on perceptions about group characteristics when they have limited information about individuals. For example in hiring decisions, employers often lack full information about a candidate's productive capacity. They might therefore resort to making decisions based on their perceptions about group characteristics. In this case statistical discrimination is viewed as a way to hedge the higher cost of hiring a potentially less productive employee. In the case of white skin preference, skin tone might act as a proxy for unobserved data about potential employees if lighter skin is generally associated with superior capabilities and higher productivity.

More recently, Bertrand, Chugh and Millainathan (2005) discussed a third model of discrimination - implicit discrimination. In implicit discrimination, discrimination is unintentional and occurs outside of the conscious awareness of the discriminator. It often occurs in situations where there is ambiguity about a decision, for example in the case of deciding who among equally qualified candidates will make a good employee. Bertrand et. al. describe the use of Implicit Association Test (IAT) that measures implicit attitudes about social groups. IAT test scores can in turn predict discriminatory choices that result from unconscious or implicit biases against social groups based on for example race or gender.

Goldsmith, Darity and Hamilton (2006) described discrimination based on white skin preference to social categorizations of in and out groups. According to the social identity theory (Tajfel & Turner, 1979), individuals tend to mentally categorize people as belonging to an in-group of an out-group, based on their similarities or differences with them, respectively. Individuals then tend to identify with their ingroup members and conform with this identity. This is followed by social comparison, where people compare their ingroup to the outgroups and to maintain and boost their self-esteem, favor their own group and discriminate against the out-group. However, when a low-status group accepts the superiority of a high-status group, the members of the low-status group may in fact show preference for the high-status group, even when it is an out-group. So while generally, ingroup privilege might generally distribution across society since most people will belong to both ingroups and outgroups, particular ingroups might have more power and resources than other groups. The long colonial associations of light skin with higher status therefore could lead even those in non-white populations to view lighter skin as higher status and more trustworthy or deserving.

Measuring the outcomes of the various models of discrimination has a long tradition in economic research. The key to such empirical estimations of outcomes is distinguishing between outcomes that result from discrimination versus outcomes that come about as a result of other kinds of differences amongst individuals. Traditional methods have focused on using large observational data to perform regression decomposition analysis. In this method, observable factors that could influence individual productivity such as level of education, years of experience are controlled for, using a regression equation. This allows the estimation of a residual gaps, a gap in wages for example that cannot be explained by differences in observed productivity factors and therefore can interpreted as evidence of discrimination based on group identity. Such residual gap analysis is common in the gender and racial employment and wage gap literature since such primarily self-reported group identity information is readily available in large scale datasets (Newmark 2018). In the case of colorism, where differences in skin tone are more along a spectrum rather than categorical group identities, data is less readily available.

Due to this data limitation, empirical estimation of discrimination based on colorism comes primarily from the U.S. where a few survey datasets have noted skin shade differences among respondents. Goldsmith, Hamilton and Darity Jr. (2007) used a multicity urban inequality survey data where interviewers noted skin shade of respondents on a graded Likert scale to study the impact of white preference on wages. They found that the interracial or black-white, wage gap was narrower for lighter skinned African American men in comparison to darker skinned African American men. Darker skinned African American men suffered a wage penalty both in comparison to White men as well as lighter skinned African American men. Other studies have also found that lighter skinned African American, Asians and Latin American in the U.S. are able to have greater access to education, employment and wealth creation opportunities, in comparison to darker skinned individuals from the same ethnic group (Monk 2014, Painter, Holmes & Bateman 2016, Hersch 2008). In these studies observational data from national level surveys which recorded skin-tone variations of respondents were the key to the empirical analysis.

Such survey data though is rare in the global context. In the case of India, there are no publicly available survey datasets which record skin tones of respondents. Mishra (2015) examined the impact of colorism on social acceptability among Indians by conducting a survey with male and female college students and a focus-group interview with women from different regions of the country. 74% of the surveyed people agreed that lighter-skinned individuals were more acceptable in society, irrespective of their own skin tone. A majority of these individuals also perceived the lighter-skinned people to have a higher status in society. A larger proportion of females wanted to be of a lighter skin tone compared to the males and a larger proportion of males wanted to go out with lighter-skinned females. Interestingly, lighter skin tone was not perceived to be directly related to education or caste. This study though focuses primarily on self-reported perceptions and therefore does not evaluate outcomes of discrimination based on skin-color preference.

In a more qualitative approach, Sims and Hirudayaraj (2015) interviewed six Indian women to explore the impact of colorism on their career aspirations and opportunities. They used phenomenological inquiry to examine the lived experiences of Indian women who had experienced colorism in their lives. Stifling of career aspirations was reported by the women, especially in professions involving interaction with customers. It impacted the self-confidence of the dark-skinned individuals as they reported feeling inferior to their light-skinned peers. The authors believe that these women may avoid venturing into certain professions, if they feel they would not be hired for it because of their complexion or skin tone. This self-selection would fall within the purview of pre-market discrimination and is not a direct measure whether there is discrimination once individuals do enter a particular labor market similar to studies evaluating wage gap or employment outcomes from survey data.

Though even if traditional survey data was available in the global context, evidence of discrimination from such data also suffers from the potential problem of unmeasurable differences in characteristics between respondents. Even though regression analysis controls for the measured differences, the residual and therefore the measure of discrimination, is skewed by the unmeasured differences. As an alternative, newer experimental approaches aim to create a synthetic pool of identical labor market participants distinguished only by the group identity being tested for discrimination. Outcomes observed as a reaction to such a pool therefore can potentially be attributed solely to discrimination since all other potential heterogeneities normally observed among candidates have been erased. Neumark (2018) reviews several experimental research

projects evaluating discriminatory outcomes based on a range of groups identities such as gender, motherhood, age and obesity status. Participants in these experimental data collection projects are generally presented with hypothetical options about selecting candidates for hiring, promotions and other labor market outcomes where group status (age, sex, skin color) is manipulated for otherwise identical job candidates to explore latent biases.

Harrison and Thomas (2009) use such experimental methods to specifically test the impact of colorism on job selection in the U.S. Participants in that study were undergraduate students who were presented with a resume for a person in the marketing field with one of six photos attached at one time. While the resume remained the same throughout, the six possible photos consisted of three photos of the same man with skin tone manipulated to range from dark, medium and light and similarly three photos of a woman with the three skin tone manipulations. Participants were asked to rate the resume on the overall presentation and their perception of the skill, knowledge and experience levels of the candidate. The study found that for both the male and female photos, the lighter skin-toned photo-resume combinations received statistically significant higher ratings for overall resume quality, experience level and hiring decision, in comparison to the darker skin-tone photo-resume combinations.

In the absence of survey data that identifies skin tone variations in India, such experimental research methods are most suited to examine the impact of white skin preference on labor market outcomes. In this study we follow the example of Harrison and Thomas (2009) in creating a pool of identical resumes matched with photographs manipulated for skin tones. To the best of our knowledge this is the first experimental study designed to evaluate employment outcomes of skin tone preference in India. In the next section we describe the details of the study design.

IV. Experimental Design for White Skin Preference and Hiring bias in India

In this experimental study we aimed to empirically test the impact of white skin preference on hiring outcomes. Guided by the discussion of implicit bias and its impact on discriminatory behavior, the primary objective is to see to whether perceptions of white skin being linked to success leads to a greater propensity to implicitly or unconsciously view lighter skinned job candidates favorably in comparison to equally qualified darker skinned candidates. We also consider white skin preference in terms of the ingroup privilege explained by Goldsmith et. el. That is, did colonial era associations and subsequent marketing of skin whitening reinforce the status of lighter skinned individuals as an ingroup with high status such that they are viewed as being more capable and suitable for employment relative to darker skinned individuals.

Following the Harrison and Thomas 2009 research design we asked primarily student participants to evaluate resume-photo combinations where the photos have been manipulated for three different skin tones. The research participants were drawn from the student cohort of a highly selective graduate-level Business School in Bangalore in Southern India. Given the level of selectivity, students in the program generally have a few years of work experience beyond their undergraduate education before they start the program and are likely to have participated in hiring processes.

For this study we have developed two resumes - one for an early career marketing professional and one for an early career information technology (IT) professional (Appendix I). Since Bangalore is the IT hub of India, often referred to as the silicon valley of India, this was a natural choice for our

study. We also included a marketing resume for comparison with Harrison and Thomas 2009 and also to include a profession which is more client facing and might place a greater or different emphasis on presentability than IT. The resumes were developed in consultation with a marketing and a technology professional in Bangalore who provided us with several prototypes. The resumes we have developed are entirely anonymous, they did not include any names and or information traceable to any one person. The dates and work experience information were been created by us, though the company names are real to keep the resumes believable. We then developed three versions of two photographs – one male and female to be included in the photo resume combinations. The original photographs were given to us by similarly aged volunteers who were fully informed of the intent and goals of this study and had an academic interest in our study. Using the original photo as the medium skin tone, two additional versions, one with a darker skin tone and a lighter skin tone were generated using the photo editor Pixlr. Each photograph therefore had three skin tone variations – Dark, Medium and Light.

We first ran a pilot study to test reactions to the resumes and also to test if the manipulated photos were of comparability quality. For the pilot study we drew student participant from the same academic institution as our main study. However these participants were from a Ph.D. program within the same institution whereas our main study consisted of participants from a graduate program in business administration. The two student bodies are fairly separate and therefore the pilot participants are unlikely to reveal details of the study of the main study participants.

In the pilot study each participant was shown both the IT and marketing resumes separately without photo attachments. They were then shown one male and one female photograph independent of the resumes. The male and female photographs were paired according to similar skin tones. That is those shown a darker toned male photograph were also shown a darker toned female photograph and so on. Respondents were asked to rate the quality of both the photos on a five-point scale ranging from quite clear to quite unclear. They were asked to rate the attractiveness of both the male and female photos a five-point scale ranging from very attractive to quite unattractive. Finally they were also asked to estimate the age of the individuals in the two photos. In a first round of pilots each pair of male and female photographs were shown to 11 individuals for a total of 33 participants. For the female photographs, we found that the photo quality ratings for medium and dark skin tones were comparable. The Dark skin tone photo were rated higher than average on the five-point photo quality scale by 92 percent of the respondents. Similarly the medium skin tone photo was rated higher than average by 91 percent of respondents. However the light skin tone female photograph received substantially different quality rating. Only 64 percent of the respondents rated the light skin tone photo as being above average in terms of quality.

This indicated a difference in the photo quality itself and suggested that the three photographs were not of comparable quality. To address this, we created a different version of the light skin tone photo in Pixlr. This new photograph was used in a second round of pilot. An additional 10 participants were shown the female light skin photo paired with the male light skinned photo. With this new version, 100 percent of the participants rated the female light skin photo as being above average in quality. These results gave us confidence that we had been able to fix the photo quality issue. All three male photographs were comparably rated in terms of quality in the initial round of pilots and therefore did not required any further manipulation.

The participants rated the two resumes, independent of the photographs on the overall quality, the perceived skill, knowledge and experience highlighted in the resume. There were no specific trends in these ratings. The IT and marketing resumes received very similar ratings and favorable ratings.

Data and Results

Having addressed the photo quality issue based on the pilot studies, we then moved on to the main study. For the main study, we paired the each of the three skin tone variations of the male and female photograph with the marketing and IT resumes for a total of 12 different resume and photo combinations. A total of 273 students participated in the rating of these resumes. Participants were told that the research was intended to study unconscious biases in the hiring process without revealing that it is the specific unconscious bias of skin color preference that was being studied.

The surveys were implemented through Qualtrics beginning in December 2020. In the initial phase participants were asked to come to the Behavioral Sciences Lab and take the survey on one of the lab computers. This plan however was disrupted due to the COVID-19 pandemic shutdowns that began in March 2020. Thereafter participants were send the Qualtrics link and could take the survey remotely. The Qualtrics link was enabled to effect a random rotation through the 12 different resumes in order to sure that there would be similar number of ratings per resume. After completing an informed consent declaration, participants were able to view one resume-photo combination. They then moved on to the questionnaire where they were asked to rate how favorably they viewed a candidate based on three different criteria – educational background, work experience and overall content and design of resume.

In each case participants rated the candidates on a 5-point Likert Scale, with 1 indicating highly unlikely to view favorably and 5 indicating highly likely to view favorably. Further, participants were also asked to specific the likelihood of their recommending the candidate be invited for an interview on the same 5-point Likert scale. Finally participants were also asked to rate the overall presentability of the candidate on a 5-point scale ranging for poor to excellent. At the end of the ratings, participants were also asked to offer suggestions for improving the resume and provide a description of the photo accompanying the resume. Outside of the rating, participants also had to fill out a survey providing some demographic information about themselves including, their age, gender, employment experience and their prior experience with hiring process. We also asked participants to rate their own skin color on a scale ranging from extremely fair to dark skinned.

Given our sample size, each resume-photo combination was evaluated by about 22 to 23 participants. Table 1 presents a summary of the participant demographics. The average age of participants is about 26 years, with a wide range between the youngest (20) and the oldest (51) participant. A majority of the participants (66%) were men. This reflects the student of the institution which for example was noted as being 70% male for the income class of 2020.[2] As discussed before, given the selective nature of the school, many participants had some prior work experience. The average years of experience was 2.4 with the actual number ranging from 0 to 24 years. Given this background, about 31% of the respondents had participated in a hiring process in their prior working lives.

[2] https://www.iimb.ac.in/programmes/pgp/2020-batch-profile

Table 1: Participant Demographics

	Age	Years of Work Experience
Mean	25.7	2.4
Minimum	20	0
Maximum	51	24
Standard Deviation	3.1	2.8
Total	273	265
	Participated in Hiring	
Yes	31.20%	
No	68.80%	
	Gender	
Female	33.70%	
Male	66.30%	

We began the analysis by looking at some broad trends in the ratings across all the resumes. In Table 2 below we compared the mean scores for the different criteria by Skin tone. We found that the average scores did not vary considerably across the three skin tones. There is no particular preference for resumes paired with light-skin tone photographs or a distinct lack of preference for resumes paired with the two dark skin toned photographs. As seen in the p-values, there were no statistically significant differences (at the 99 percent or 95 percent confidence level) in average ratings for resumes with dark, light or medium skin tones across any of the 5 different evaluation criteria. The average scores tended to fall broadly in the middle of the 5-point Likert scale rating, ranging between 3 and 4. Respondents therefore seemed to have tended to a safe or neutral position in their ratings. The only exception being the ratings for experience, which were uniformly 4 or slightly above, which indicated likely to view favorably.

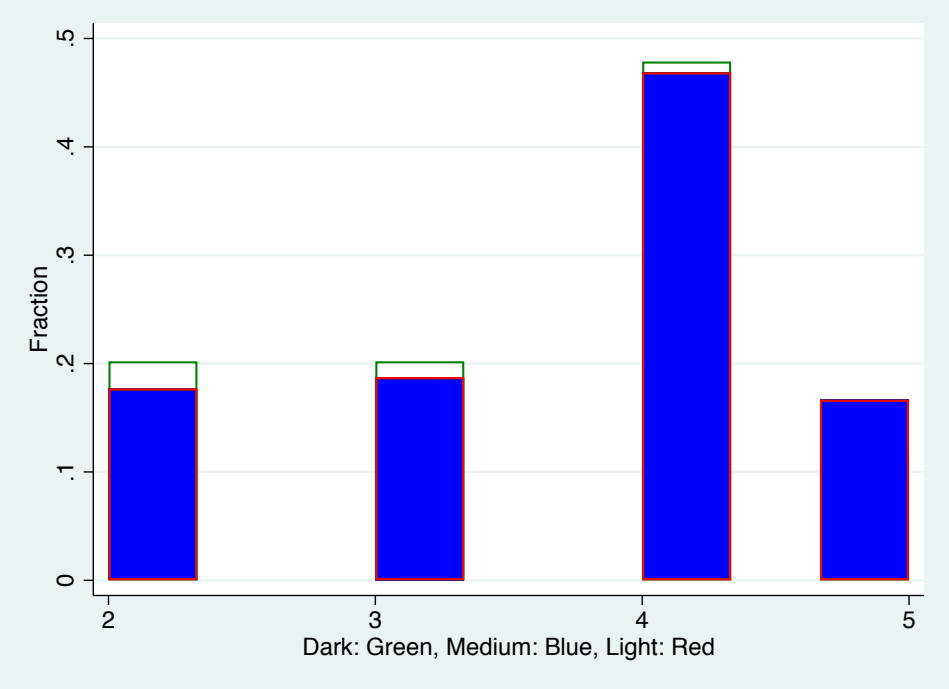
Table 2 Mean Comparison for by Skin Tone; All Resumes

	Skin Tone	Resumes	Average Score	Standard Deviation
Education Rating	Dark	89	3.7	0.96053
	Medium	92	3.8	0.79317
	Light	92	3.6	1.10308
	Mean Comparison F 0.99 P-Value 0.37			
Experience Rating	Dark	89	4.2	0.72335
	Medium	92	4.3	0.84995
	Light	92	4.3	0.79197
	Mean Comparison F 0.12 P-Value 0.89			
Resume Rating	Dark	89	3.4	0.99783
	Medium	92	3.5	1.05346
	Light	92	3.2	1.06502
	Mean Comparison F 2.7 P-Value 0.08			
Interview	Dark	89	3.9	0.9927
	Medium	92	4	0.87015
	Light	92	3.9	0.95196
	Mean Comparison F 0.35 P-Value 0.70			
Presentability	Dark	88	3.4	1.00781
	Medium	92	3.5	0.88323
	Light	92	3.2	0.979
	Mean Comparison F 2.9 P-Value 0.06			

We then compared outcomes for different groupings of resumes based on the two fields of work – marketing and IT and gender. We had expected that given the more direct client facing aspect of marketing positions, perceptions and therefore rating about presentability or other aspects might be different for marketing resumes compared to the IT resumes. We might also expect gendered expectations about appearances and the past associations of whiteness with a beauty ideal to reflect in differences in the ratings of male versus female job candidates.

In histogram in Graph 1 we found that the overall resume rating for the 6 marketing resumes (3 skin tones each for male and female photos) centered around the score of 4 (likely to rate favorably) on the 5-point Likert scale across all the three skin tones. Dark Skin (green bar) tone resumes received slightly more scores of 4 and slightly more scores on the lower end of the scale at 2 and 1. However these differences were not statistically significant when we did the Chi(2) test for independence.

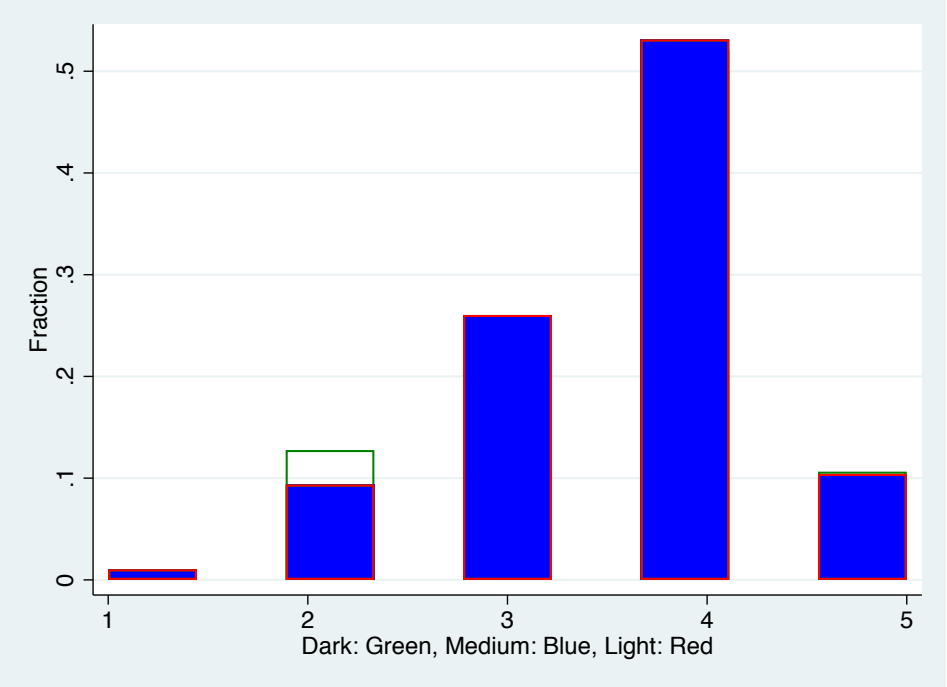
Graph I: Resume Rating For Marketing Resumes



Chi(2) 4.4 P-value 0.62 Total Resumes 143

Similarly in Graph II we found that the presentability of the candidate ratings also tended to center around the score of 4 for the marketing resumes. Here once again we see that the ratings across the three skin tones are very similar. The only discernably difference is in the bar for the rating value of 2 where there seem to be more scores of 2 for the dark skin tone. However as seen from the p-value for the Chi(2) value, these differences are not statistically significant.

Graph II: Presentability Rating Marketing Resumes

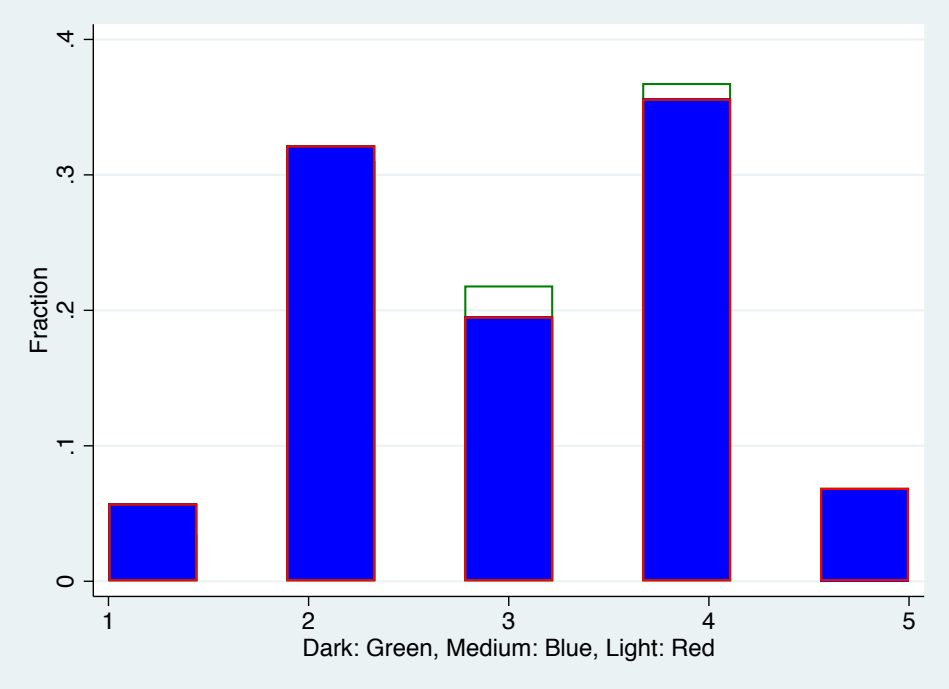


Chi(2) 9.3 P-value 0.30 Total Resumes 143

In Graphs III and IV we see the spread of scores for all the IT resumes combines. For the overall resume ratings we see more variability in scores, compared to the Marketing resumes. There are higher concentration on scores at the lower end of the 5-point scale indicating a more critical evaluation of the IT resumes compared to the marketing resumes. However the scores across the three skin tones are similar. Though there seems to a slightly larger concentration at the score of 3 and 4 for the dark skin tones, the differences overall are not statistically significant.

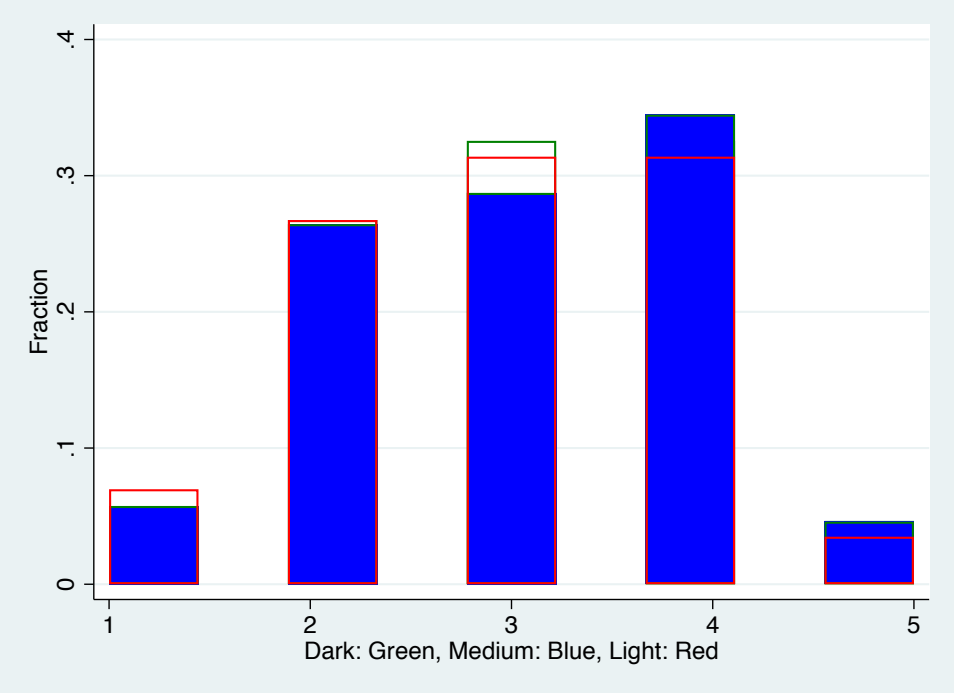
Similarly the ratings for the overall presentability of the candidates for the IT resumes are also more varied than the marketing ratings in Graph IV. Though once again the ratings are consistent across the three skin tones. Though the ratings for the light skin (red bar) tone appears to be somewhat lower at the score of 4 and higher at the score of 3 compared to the dark and medium tones, there small differences are not statistically significant.

Graph III: Resume Rating IT Resumes



Chi(2) 7.3 P-value 0.50 Total Resumes 130

Graph IV: Presentability IT Resumes

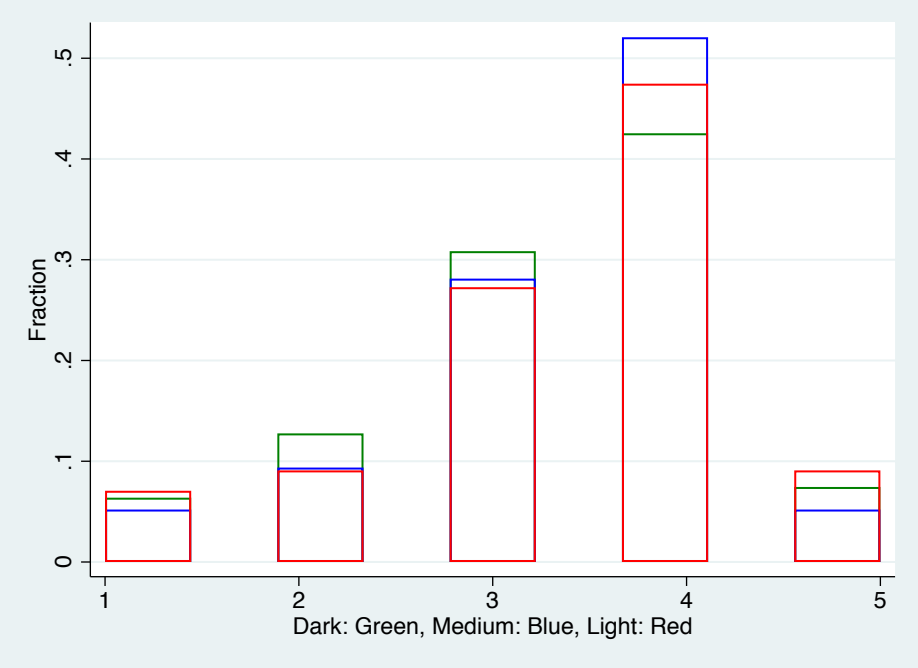


Chi(2) 6.5 P-value 0.59 Total Resumes 129

The overall picture emerging seemed to indicate that implicit bias against darker skin is not emerging as a factor in the rating of these resumes. We also do not see ingroup privilege working in favor of resumes paired with the lighter skin tone photos. There are no statistically significant differences in the ratings of the resumes based on the skin tone of the photos paired with these resumes. Though we did see differences in the overall rating of the IT resumes compared to the marketing resumes, within these categories, skin tone variations did not lead to significant differences in the overall ratings of the resumes.

To complete the analysis we also compared the ratings across the three specific evaluative criteria of education, experience and the likelihood of recommending for an interview. There were no statistically significant differences in the ratings for experience or likelihood of interview selection. For the education rating we did find the first statistically significant difference. In graph we see that education ratings for darker skin tone photo and marketing resume combinations tend to be lower at the higher end of the scale scores of 4 and 5 and higher at scores of 3 and 2. When we look at the chi(2) p-value we do see that this difference is statistically significant at the 95 percent confidence level. Therefore in the case of the marketing resumes we find that darker skin tone photo-resume combinations have been rated lower in their educational background compared to the medium or light skin tone-resume combinations.

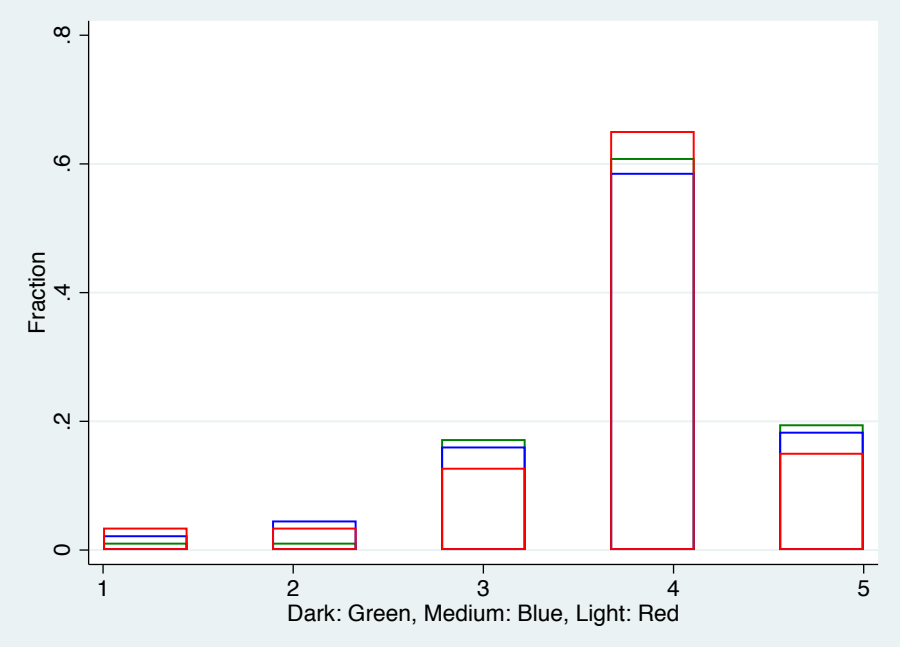
Graph V: Education Rating Marketing Resumes



Chi(2) 18.3 P-Value 0.02* (*significant at the 95% confidence level)

This finding is unique to the education ratings for marketing resumes. The education ratings for the IT resumes do not have statistical significant differences across skin tones.

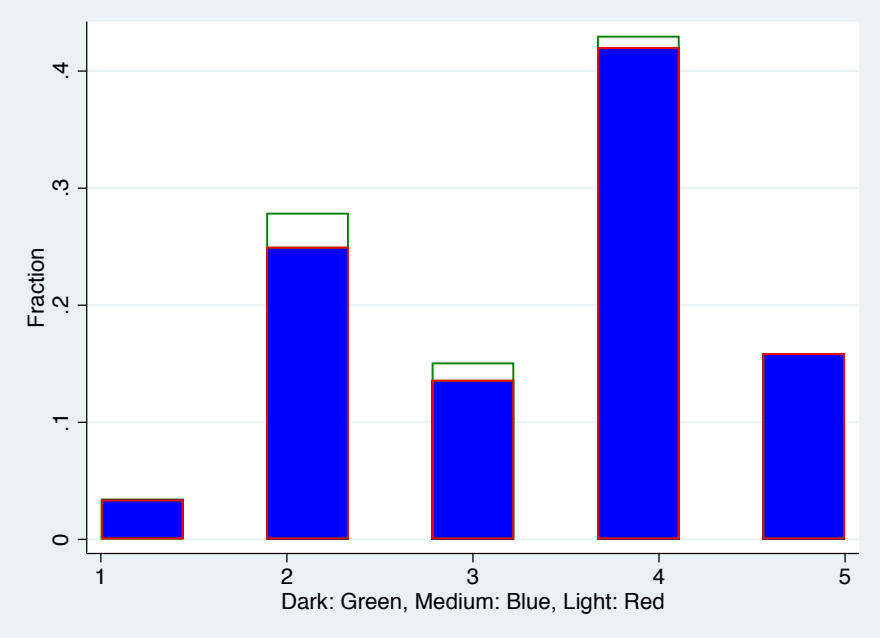
Graph VI: Education Rating IT Resumes



Chi(2) 9.8 P-value 0.28

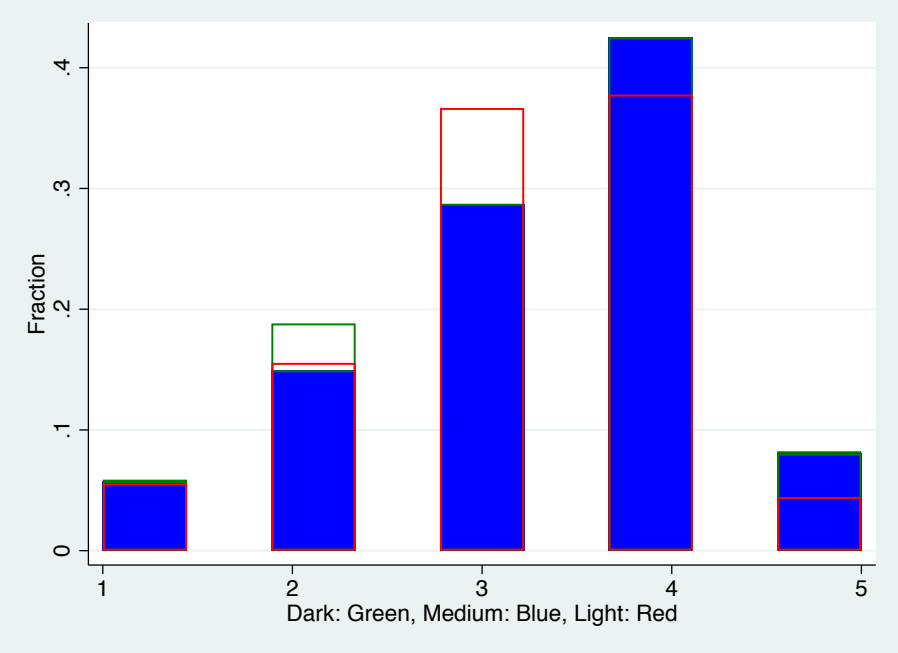
We then turned to examining differences in ratings when resumes are grouped by gender. Since white skin-preference has in the past been seen as a beauty ideal, particularly for women, gender differences might continue to play a role in the way implicit biases operate. In the graphs below we see that there are no statistically significant differences in resume or presentability rating across skin tones when we group together the three marketing and three IT resumes attached with female photographs.

Graph VII: Resume Rating Female Resumes



Chi(2) 10.2 P-value 0.26

Graph VIII: Presentability Rating Female Resumes



Chi(2)11.4 P-value 0.18

To verify the gender differences further we also focused specifically on the female resumes within the two categories of Marketing and IT. However in the summary ratings in Tables 3 and 4, we see that there are no statistically significant differences at the 95 percent confidence level across skin tones for the female marketing resumes or the female IT resumes.

Table 3 Mean Comparison for by Skin Tone; Female Resumes Marketing

Resume Rating	Dark	21	3.5	1.00
	Medium	23	4.0	0.97
	Light	26	3.6	0.89
	Mean Comparison F 1.68 P-Value 0.19			
Presentability Rating	Dark	21	3.8	1.00
	Medium	23	3.9	0.79
	Light	26	3.4	0.76
	Mean Comparison F 2.08 P-Value 0.13			

Table 4 Mean Comparison for by Skin Tone; Female Resumes IT

Resume Rating	Dark	22	3.5	0.96
	Medium	22	3.3	1.24
	Light	21	2.8	0.99
	Mean Comparison F 2.93 P-Value 0.06			
Presentability Rating	Dark	22	3.3	0.84
	Medium	22	3.2	1.09
	Light	21	2.9	1.06
	Mean Comparison F 1.03 P-Value 0.36			

In summary, after comparing differences in ratings across various categories, we did not find a consistent pattern of bias against resumes paired with darker skin tone photos. In only one instance, in the case of marketing resumes, did we find a statistically significant lower ratings for resumes with darker skin photos compared to the medium or lighter skin tone resume-photo pairings. This result has to be viewed amidst the several other comparisons that did not yield statistically significant differences. We also did not find a consistent bias in favor of lighter-skinned photo-resume combinations.

Finally we looked to see if there were any differences in the way the resumes were rated based on the demographic characteristics of the study participants. In Table 5 we present the results of an ordered probit regressions with the different ratings criteria as the dependent variables. Independent variables based on the demographics characteristics include the respondents gender, years of work experience and whether they have been part of an hiring committee before. We also included the two dummy variables for the resume-photo type – whether the resume being evaluated had a light or medium skin tone photo. This allowed us to see if the bias in skin tone would be evident in this multivariate analysis, once some of participant demographics are controlled for. We did not find any significant gender differences in the ratings. The only statistically significant demographic variable was the years of work experience. We found that those with more years of work experience tended to have a higher likelihood of rating more favorably in terms of the overall resume and presentability. There were no statistically significant gender differences in the ratings. Once again we do not find any evidence difference in ratings based on the skin-tone of the photograph in the resume. In Table 5 we find that the coefficients for light or medium skin tone photos are not statistically significant, indicating no difference when compared to the ratings for the dark skin tone photos.

Table 5. Ordered Probit Model

	Resume Rating	Presentability	Experience Rating	Education Rating
Coefficients (P-Value)				
Gender	-0.21(0.14)	-0.13(0.36)	-0.19 (0.19)	-0.09(0.55)
Hiring Experience	-0.24(0.12)	-0.09(0.54)	-0.34(0.03)*	-0.13(0.38)
Years of Work Experience	0.08(0.00)*	0.11(0.00)*	0.03(0.35)	0.13(0.00)*
Photo-Light	-0.23(0.16)	-0.23(0.15)	0.15(0.37)	-0.11(0.51)
Photo-Medium	0.11(0.52)	0.16(0.32)	0.11(0.53)	0.05(0.74)
N	264	264	265	265

** Statistically Significant at the 95% significance level*

V. Conclusion

These results do not provide evidence for the kind of impact that colorism or skin color preference has been shown to have on labor market outcomes the U.S. While colorism is prevalent in India in the social context, this study offered no consistent evidence for linking light skin preference to instances of implicit bias in the specific economic context of hiring. These findings offer some new directions for thinking about colorism in the global context. Without the historical context of racism and the associated overt legal and institutional segregation and discrimination, colorism might operate more indirectly through social norms and outcomes rather than direct economic outcomes. Though the skin whitening industry has put considerable resources to market the notion, the fact that this link to economic outcomes might not exist is worth emphasizing.

It is also likely that unlike in the U.S. where the impact of racism and colorism transcends economic class, in India colorism might be overridden by other more powerful hierarchies of class and caste. The class hierarchy has direct implications for this study conducted at an elite, highly selective graduate level academic institution. The resumes we developed also suggested candidates with graduate degrees in the fields of marketing and IT, both of which have considerable class privilege in India. It is possible that this class privilege overrides the barriers to entry that might exist due to colorism outside of this elite setting or fields of work. It is also worth emphasizing that this study is also not intended to measure success in a field or even earnings but only the implicit barriers to entry that might exist at the point of hiring. It would be useful to replicate the study in a different, relatively non-elite setting with different choice of fields to explore this relationship between class and colorism.

Our findings once again emphasize the distinction between caste and colorism in India. As mentioned before, many scholars have argued that the two cannot be equated. Colorism is derived from colonial era associations, whereas caste predates such associations. It is also not possible to link the many layers of caste categories with a linear progression of skin tone. The substantial geographical variation in skin tone across India also makes the association of caste with color untenable (Desphande 2011). This geographical variation is particularly relevant for this study. Darker skin shades tend to be more prevalent in Southern India and this is also the common

perception about skin tone variation in India. Our study was conducted in Bangalore, the IT hub in Southern India. It is therefore likely that though there might be a generalized preference for lighter skin, prejudice against darker skin tones might be less pronounced here relative to the north at least in the economic sphere. Indication of this geographical distinction also emerged in the qualitative comments from the survey. After the likert-scale ranking of the resumes, respondents were also asked to provide a description of the individual in the photograph. While we found no consistent pattern in the description of the photographs or differences between descriptions of the darker and lighter skin tone photos, the most often used descriptor was that the photograph was that of a "South Indian" man or woman. The term "South Indian" was indicated 5 times across the male and female photographs. This association with geographical region with more dark skin prevalence might be reflected in the outcome of this study. It would therefore also be useful to replicate the study in a different geographical setting to compare the regional differences in skin shade bias.

Finally, though participants in the survey did not exhibit implicit bias against darker skin toned applicants, a majority perceived of themselves as not being dark skinned. Asked to report their skin tone on a 5-point scale ranging from extremely fair/light skinned to dark skinned, only 9 individuals or less than 3 percent of respondents indicated that they were dark skinned. A majority, about 65 percent, indicated medium skin tone. About 29 percent choose to describe themselves as fair or light skinned. So while the implicit bias against dark skin tone may not manifest, at least in Southern India, there is an indication that white skin is at least the aspirational preference for individuals themselves. It is this preference that is the target of the skin whitening industry as they seek to expand it and promote what Hall (2018) described as the globalization of lighter skin presence. As a counter to this narrative more attention to highlighting and studying the mechanism of colorism is required. In this study we have highlighted the tenuous nature of the relationship between lighter skin and economics success.

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