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Exploring a Mediational Model of the Relationship Between Skin Color and Mate Selection in Desi Young Adults

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Selection in Desi Young Adults

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Acknowledgements

Abstract

Skin color bias is present in South Asia and is especially apparent within the Desi (i.e., South Asian) marriage market, where explicit preferences for fair-skinned marital partners are made and lighter skin is perceived as more attractive. It is also known that, through the halo effect, attractive people are perceived to possess positive personality traits. The present study aimed to determine if skin color is associated with long-term mate preference among U.S.-based Desi adults as it is among Desi in South Asia, and if so, if that relationship is mediated by perceived attractiveness. It also aimed to determine if, in addition to a direct effect on partner desirability, attractiveness also exerts an indirect effect as mediated by personality judgment. A total of 78 CUNY students of Desi background were asked to rate visual stimuli of the opposite sex in different skin tones on attractiveness, personality, and partner desirability. Findings revealed that skin tone did not predict partner desirability for Desis, but attractiveness did exert a strong direct effect: those rated as more attractive were also rated more desirable as a longer-term romantic partner. Attractive individuals were also generally judged to possess more positive personality traits relative to those rated as less attractive; however, the relationship between attractiveness and partner desirability was not mediated by perceived personality. Results contribute to understanding the partner preferences of Desi-Americans.

Keywords: Skin color bias, halo effect, attractiveness stereotype, south asian, desi, attractiveness, personality, mate selection, mate preference

Table of Contents

List of Tables

Exploring a Mediational Model of the Relationship Between Skin Color and Mate

Selection in Desi Young Adults

Skin color bias refers to the attitudes and treatment of individuals in which skin color or skin tone is used as a way to discriminate against persons outside or within one's racial or ethnic group (Marira & Mitra, 2013). This phenomenon is also known as colorism (Russell et al., 1992), perceptual prejudice (Livingston & Brewer, 2002), and racial phenotypicality bias (Maddox, 2004). Research has shown that lighter skinned individuals generally exercise more privilege than darker skinned individuals within and between various racial and ethnic groups (Hunter, 2007; Sahay & Piran, 1997), with lighter skin enabling both greater social and economic success. As a result, some individuals may choose to alter their skin color as a perceived means of obtaining these advantages (Hunter, 2013).

Skin color bias is prevalent in Desi countries (Aizura, 2009; Jha & Adelman, 2009; Jones, 2013). Desi is a term used to "claim a cultural belonging, affiliation, and ancestry to one or more of the countries in South Asia" (Mallapragada, 2014, p.117) including, India, Bangladesh, Sri Lanka and Pakistan. Within Desi countries, darker-skinned individuals face more limited job opportunities relative to their lighter-skinned counterparts (Sims and Hirudayaraj, 2016; Khalid, 2013; Wang, Mclean, & Alagaraja, 2016), and the personal grooming practices of both males and females reflect a clear preference for lighter skin tones (Jones, 2013; Mishra, 2015). For example, a study assessing the prevalence of skin lightening product use in India found that 54.4 percent of participants reported using such products in their lifetime, and 37.9 percent reported current use of such products (Shroff, Diedrichs, & Craddock, 2017). The same study found that men and women alike used skin lightening products because they believed that others (family and peers) deemed fair skin to be more desirable. Indeed, recent decades have

seen an increase in the consumption of skin lightening products within Desi countries (Dadzie & Petit, 2009). In India alone, skin lightening products comprise 61 percent of the country's dermatological market (Shome, 2012) and generate 450 million USD in annual spending (Banerji, 2016).

Although increased use of skin lightening products within Desi countries is a relatively recent trend, the underlying preference for fair skin is not a recent phenomenon. Rather, it is one that is rooted in a deep historical context which extends into current social forces. The history and colonization of Asia must therefore be considered in understanding the existence of skin color bias and its contemporary ramifications.

Origins and Social Consequences of Skin Color Bias

Historical Context and Contemporary Globalization in the Development of Skin Color Bias

The origins of skin color bias in South Asia likely date back to agrarian societies, where land workers were darker-skinned than landowners (Russell-Cole, Wilson, & Hall, 2013). Research has also indicated that conquerors such as the Moguls and colonizers from Europe established that light skin was more powerful, and thus, more attractive (Sims & Hirudayaraj, 2016). In the case of India, the British ignored the existing caste system and other cultural beliefs and practices for determining status. Instead, English colonizers referenced their own cultural values to have light-skinned Indians as regent leaders (Russell-Colle, Wilson, & Hall, 2013). This led to the association of lighter skin with the upper class and dark-skinned Indians with the lower-class.

Others attribute the rise of colorism to modern social forces. Some scholars believe the globalization of media, available methods of body modification, and race hierarchies around the world have had a major impact in the way in which skin color bias currently operates (Hunter,

2013). It is believed that the social and political dominance of Europe and the U.S. has led

Asians to associate whiteness with beauty and success (Aizura, 2009). Moreover, given the

unprecedented level of access to images and trends from around the world, it is easier than ever

for Asians to have access to – and ultimately, to emulate – such standards. This includes

everything from styles of dress to one's physical features, which can be altered via cosmetic

surgery (on the extreme end) to the aforementioned use of skin lightening products.

In sum, both historical and current social forces have converged to promote the idea that

lighter skin is preferable to darker skin, and it is now more possible than ever for individuals to

alter their appearance to fit this ideal. The idea that lighter skin is preferable to darker skin has

implications for many aspects of Desi life. One of the most prominent among them is the way in

which skin color influences the type of person desired as a long-term romantic partner.

Skin Color Bias and Mate Preference in Desi Culture

The importance of skin color is reflected in many aspects of Desi culture, and is

especially apparent within the Desi marriage market. Single Desi men, women, and/or their

families (e.g., parents) often "sell" the individual as a potential marital partner to attract suitors

(Coupland, 1996; Ramakrishnan, 2012). Whether done by placing matrimonial advertisements in

newspapers or by creating a marital profile online, it is common for these matrimonial

advertisements to emphasize the person's skin color given that it serves as a "visual agent" for

desirability as a partner (Leong, 2006). Similarly, requests for a partner often mention skin color

and specifically list a preference for light skinned individuals (Jha & Aadelman, 2009; Utley &

Dairty, 2016).

References to skin color are common within the Desi marriage market given the notion

that skin color and marriageability are linked. Desis believe that possessing a lighter skin

complexion significantly increases one's chances of marriage, particularly if it is arranged (Bahkshi & Baker, 2011). A recent study (Nagar, 2018) confirms this notion by examining the influence of skin color on marital partner preferences for one's offspring. Marital profiles of men and women from India were shown to participants who had children of marriageable age. The profiles were paired with a photo of an attractive man or woman with either light skin or dark skin. Participants were then asked to rate each profile on competency (e.g. educational qualifications, work experience) and how strongly they would recommend the individual in the photo as a potential partner for their children. The study found that even though all of the profiles received high ratings for competency, profiles that were paired with photos of light skinned individuals were more likely to be recommended as a potential partner for the participants' children than profiles paired with photos of dark-skinned individuals.

Some of the preference for lighter-skinned partners could be due to the association between light skin and power and status. As previously noted, in South Asia, lighter skin increases both the quantity and quality of jobs available to the individual (Sims and Hirudayaraj, 2016; Khalid, 2013; Wang et al., 2016). As such, the desire for a lighter-skinned long-term romantic partner may be viewed as a practical option that increases the odds of having a stable financial future. However, it is also likely that the preference is based on an even simpler factor: aesthetics. More specifically, it is possible that the relationship between skin color and long-term mate preference is mediated, either in some or in part, by perceived attractiveness.

Skin Color and Perceived Attractiveness in Desi Culture

Light skin is viewed as more attractive than dark skin in various parts of the world, including Asia (Jones, 2013; Rodilla & Spickard, 2007). In India, colorism is often apparent in language, with words such as "beautiful" or "lovely" used interchangeably with terms for light

skin (Frost, 2005). Similarly, it is common for Desi matrimonial advertisements to combine

"pretty" and "very fair" in describing the prospective marital candidate (Chattopadhyay &

Chattopadhyay, 2019), while advertisements for dermatological products describe "good skin" as

bright and white (Li et al., 2007), thereby reinforcing the idea that lighter skin is more attractive.

The association between light skin and beauty also has implications for individuals' behavior and

emotions. A study looking at the relationship between internalized white ideal, hair and skin tone

surveillance and dissatisfaction, and the use of hair and skin cosmetic products among Black

women in the U.S. and Indian women in India found that, among Indian women, those who

believed that light skin was more attractive than dark skin were more self-conscious about their

skin tone, and also expressed more dissatisfaction with the skin tone that they possessed (Harper

& Choma, 2018).

The idea that lighter skin is more attractive than darker skin is not limited to Desis

residing in South Asia. Research has found that the South Asian diaspora living in the West also

prefers lighter skin, as notions of beauty are brought with them from their countries of origin. In

a qualitative study regarding perceptions of Indian beauty ideals among British Indians, Bahkshi

& Baker (2011) found that there was a focus on fair skin, with one participant stating, "There is

so much emphasis on looks in India, especially about being fair. If you are dark then… you're

put in the ugly group automatically" (p. 472). Furthermore, participants believed that lighter skin

was more attractive compared to dark skin – a notion that has also been found to be held by the

Desi diaspora in New Zealand (Pettit, 2008). In an earlier study, Sahay and Piran (1997)

examined skin color preferences and body satisfaction among South Asian Canadian and

European Canadian female university students. The investigators found that, compared to

European Canadians, South Asian Canadian females had lower body dissatisfaction and desired

to have a lighter skin tone than they actually possessed. Taken together, these findings suggest that the belief that lighter skin is more beautiful or attractive is found across the Desi diaspora.

The Role of Perceived Attractiveness in Mate Preference and Personality Judgments

Perceived Attractiveness and Mate Preference

As described above, in Desi culture, a fair-complexioned person is considered attractive. Perceptions of attractiveness may in turn directly influence one's preferences regarding romantic partners, with those considered more attractive also judged as being desirable as a potential mate. Indeed, the relationship between perceived attractiveness and mate preference has been established in Western samples for decades (e.g., Feingold, 1990; Regan & Berscheid, 1997). In a relatively more recent study, Eastwick and colleagues (2011) used the Implicit Association Test with a sample of U.S. undergraduate students and found that participants were much quicker at associating physical attractiveness with an ideal partner compared to a non-ideal partner. Similarly, Fletcher and colleagues (2014) found that, among New Zealand adults, attractiveness emerged as the most dominant factor in developing romantic interest in another person during the initial stages of mate selection, even above factors such as being financially successful or having a warm personality (i.e., kind, considerate, sensitive, good listener). Given that attractiveness is easier to judge quickly than personality, it may be an important initial cue as to whether or not one wants to continue contact with a potential mate. As for attractiveness itself, several theories have helped to explain why it plays such a significant role in mate selection.

Previous research has established evolutionary reasons concerning the preference for attractive partners. One reason that attractiveness is such an important criterion in mate selection is that physical appearance conveys information about health, and certain physical features may serve as a fertility cue (Rhodes, 2006). For women, this can signal the ability to conceive and

have healthy children. For example, men tend to be attracted to women who display features of youthfulness, such as a small nose and feet and hairless skin (Barber, 1995; Berry, 2000). Youth and its attendant features are desirable to the extent that they indicate a woman's odds for reproductive success. Attractive men, on the other hand, tend to be those who communicate social dominance – a feature that it desirable to women given that it suggests ability to intimidate rivals and thereby protect offspring (Barber, 1995). In general, facial attractiveness is also a cue to overall health and reproductive value for both males and females (Barber, 1995; Berry, 2000).

Social factors also play a role in attraction. It has been found that people tend to be attracted to others who are similar to themselves on several factors like religion, political attitudes (Botwin et al. 1997), height, and age (Stulp et al., 2017; Neyt, 2019). This phenomenon is known as assortative mating and applies to physical attractiveness as well, meaning that people generally want to be with those whom they believe to be comparable in attractiveness (Feingold, 1988). Interestingly, regardless of one's own level of attractiveness, people also desire an attractive partner for reasons associated with social status. Given that attractive people are ascribed more positive characteristics (Griffin & Langlois, 2006) and are even more likely to be offered jobs (Dubois & Pansu, 2004), being associated with an attractive person can bolster one's social status. In a recent study that explored whether romantic partners functioned as signals of status, Winegard et al. (2017) had participants rate the status between a man described to be attending a party with an attractive romantic partner, and also the status of another man described as being with an unattractive romantic partner. Results indicated that a man with an attractive partner was judged to have higher social status than a man with an unattractive partner.

As outlined above, individuals prefer to have attractive romantic partners, and the reasons for this preference extend from the evolutionary to the social/sociological. While there is ample

literature concerning the relationship between perceived attractiveness and mate preference within Western samples, complementary literature within the Desi populations is relatively scant, and that which does exist focuses almost exclusively on the Indian population. For example, in a multinational study of mate preferences among men and women from 36 nations, India was the only Desi nation included in the data collection (Zhang, Lee, DeBruine, & Jones, 2019). Results indicated that, similar to other countries, both Indian men and women deemed physical attractiveness to be important in mate selection, although it was much more important to men than to women, and outweighed factors such as earning potential and domestic ability. Kamble et al. (2014) similarly found that "mutual attraction" was a leading factor in mate selection among present-day Indians, this despite the country's long history of arranged marriages, and in agreement with findings from data collected 25 years prior.

Given the dearth of studies on the relationship between attractiveness and mate selection across the various Desi nationalities, such research would help to fill an important gap in the extant literature. More specifically, it is important to establish if the attractiveness – mate selection relationship does, in fact, generalize to Desis. If not, then it would call into question evolutionary theories regarding why individuals desire attractive mates, and would necessitate exploration of other factors that might be more important in mate selection among Desis and the associated reason(s) why. . At the same time, there is reason to believe that findings from Western populations will generalize to the Desi population. For example, adjectives such as "good-looking", "handsome", and "beautiful" are often used in Desi marital advertisements when describing ideal mates (Plakhina & Belyakova, 2020; Ramakrishnan, 2012; Ramasubramanian & Jain, 2009). The use of such terms demonstrates the importance of attractiveness as a criterion not just for a general romantic partner or for short-term mating, but

also in the context of all things considered and valued in choosing a life partner, which often

includes consideration of the individual's personality.

Impact of Perceived Physical Attractiveness on Personality Judgments

Physical attractiveness may not only have a direct impact on one's desirability as a

romantic partner, but may also have an indirect impact through its influence on personality

judgments. Decades of social psychological research has provided evidence that physical

attractiveness affects impressions and personality judgements of others. The "what is beautiful is

good" stereotype (Dion, Berscheid, & Walster, 1972) – also known as the halo effect (Thorndike,

1920) and attractiveness stereotype (Standing, 2004) – suggests that physically attractive

individuals are thought to possess many more desired qualities than unattractive individuals,

though they are frequently deemed less modest than those who are less attractive. An early study

by Dion, Berscheid, and Walster (1972) found that attractive people are thought to be more

successful economically and are believed to make better spouses. A more recent study (Segal-

Caspi, Roccas, & Sagiv, 2012) looked at the discrepancy between how physical attractiveness

impacts perceived personality and how it relates to actual personality. Participants watched

videos of different women and were asked to assess each woman's personality and

attractiveness. The investigators found that participants rated attractive women higher on

agreeableness, openness to experience, extraversion, conscientiousness, and emotional stability

relative to less attractive women. However, when the women who appeared in the videos were

asked to rate themselves on the same personality traits, results showed that ratings between

attractive and less attractive women did not differ significantly. The findings of this study

indicate that attractive individuals do not necessarily possess more positive traits compared to

less attractive people; rather, these characteristics are in fact granted to them by others.

Research on the "what is beautiful is good" stereotype specifically within the Desi

population is lacking, thereby representing another gap in the literature that should be addressed.

Given that most of the research has been conducted with Western samples, it is unclear if this

finding generalizes to other populations and if perceptions of beauty indeed influence personality

judgments in other cultures, including among Desis. If not, then it might mean that the mere

aesthetics of an attractive individual plays a large role in any advantages that they might enjoy.

In other words, people might enjoy the sight of an attractive person so much so that the his/her

personal characteristics might be rendered unimportant. Such possibilities would tend to support

evolutionary explanations regarding attractiveness in mate selection, and social/sociological

theories regarding why one might choose to be associated with attractive persons. In doing so, it

will be important to also take into consideration the specific traits that might be conferred upon

attractive individuals given that said traits might differ by culture. For example, Wheeler and

Kim (1997) argued that the physical attractiveness stereotype differs in content between

individualist and collectivist cultures. Specifically, because identity is connected to group

acceptance and family in collectivist cultures, it is suggested that people from those cultures

would place more value on traits that promote harmonious relationships (e.g., empathetic,

modest, trustworthy, honesty) rather than those associated with more personal attributes (e.g.

sexy, competitive, funny). They explored this hypothesis in a Korean sample, asking subjects to

rate personality traits based on photos of men and women varying in levels of attractiveness.

They found that subjects rated more attractive photos higher on dimensions of social

competence, concern for others, integrity, and emotional adjustment relative to dimensions such

as potency (assertive, dominant). Similarly, Shaffer, Crepaz, and Sun (1997; 2000) found that, in

collectivist cultures, communal attributes that demonstrate how well one gets along with others

(e.g. cooperative, reliable, unfaithful [reversed]) are salient traits that are attributed to attractive people. These results provide some insight into what personality characteristics are particularly relevant when looking at the "what is good is beautiful" stereotype in the Desi population.

The Impact of Personality Judgments on Mate Preference

Personality is important to consider when seeking a romantic relationship. Research has shown that, for many, personality is the most important criterion for ideal long-term partners, followed by attractiveness and status (Fletcher, Simpson, Thomas, & Giles, 1999; 2004). Similarly, Regan and colleagues (2000) found that people give preference to internal attributes (i.e. personality traits) over external qualities (sexual desirability, social status) in potential long-term partners. This may be because the success of a long-term relationship to last depends on compatibility between two individuals, which is less relevant to attractiveness than it is to personality.

With respect to the specific traits deemed important, the Big Five dimensions and their facets (McCrae & Costa, 1987) are often used in research regarding the role that personality traits play in developing romantic interest. For example, Figuerdo, Sefcek, & Jones (2006) found that people are initially attracted to individuals who are highly extraverted, conscientious, agreeable, and less neurotic. In addition to the Big Five, several studies have converged in finding that honesty/trustworthiness and kindness are important in mate preferences and selection (e.g., Fletcher et al., 1999; Regan et al., 2000; Sprecher & Regan, 2002; Stewart, Stinnett, & Rosenfeld, 2000). These traits were also found to be important in a large international study with over 200,000 participants across 53 different nations, including India (Lippa, 2007). For men and women alike, honesty and kindness were among the top 6 traits desired in a mate. Both men and women have also been found to value attributes like friendliness, an

outgoing/sociable personality, warmth, and ambition (Fletcher et al., 1999; Regan et al., 2000), as well as creativity and an easygoing personality (Fletcher et al., 1999).

Similar to the case with research related to perceived attractiveness and mate selection, there is little research concerning the relationship between personality and mate selection within the Desi population. However, one study looking at changes and continuity in mate preference trends in India suggests that, over a period of 25 years, young Indian adults are now reporting greater consideration for personality rather than fertility cues or social status when selecting partners, with an increase in preferences for individuals who are creative and industrious (Kamble, Shackelford, Pham, & Buss, 2014). It will be helpful to understand if these preferences exist not just among Western populations and Indians, but among other Desi populations as well.

The Present Study

As reviewed, skin color bias exists among Desis, among whom lighter skin often makes one more desirable as a long-term romantic partner. Extant research suggests that both attractiveness and personality are important factors in the mate selection process, and that attractiveness itself often informs others' perception of one's personality. Notably, and to the best of my knowledge, none of this research has been conducted within the diverse Desi population of the United States. As a result, there has been limited empirical evidence to help shed light on the extent to which sociocultural patterns found in Desi countries-of-origin persist within the U.S.-based diaspora. While many patterns and practices are in fact likely to persist – particularly among those with more recent immigration status – there is also potential for them to become altered in response to the American context. The findings of this study may inform the widespread colorism in South Asian media, the beauty industry, and marriage market. With the social justice work being done through "dark is beautiful' campaigns, it is possible for this study

to show how skin color bias can be attenuated by different cultural exposure and that being

intentional in the images being presented in media and advertisement can help counter the social

and psychological damages done by skin color bias.

In light of the literature and the need for more research focused on the broad Desi

population, the present study aims to determine if skin color is associated with mate preference

among U.S.-based Desi young adults, and if so, if the relationship is mediated by perceived

attractiveness. Given that attractiveness is also associated with positive personality judgements,

the present study also aims to determine if, in addition to a direct effect on mate preference,

attractiveness also exerts an indirect effect as mediated by personality judgment. Figure 1, below,

details the study's conceptual model.

Figure 1: Mediational model of the relationship between skin color and mate preference
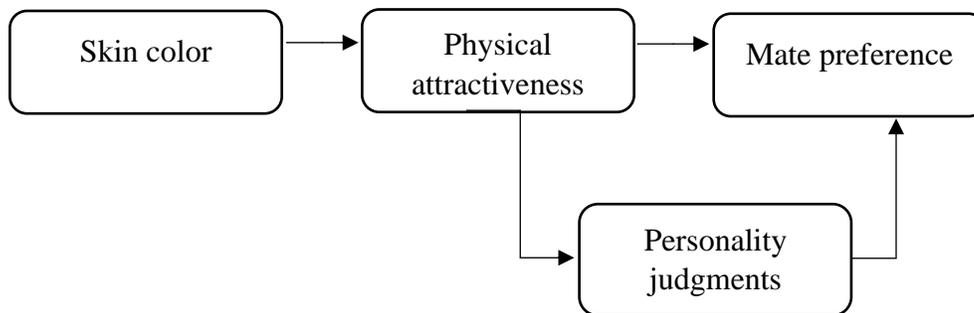
Several specific hypotheses will be tested using a sample of Desis residing in the U.S.:

Hypothesis 1: Skin tone will influence romantic partner preference. Specifically,

individuals with lighter skin tones will be considered more desirable as a long-term romantic

partner than individuals with darker skin tones.

*Hypothesis 2: The relationship between skin tone and romantic partner preference will

be mediated by perceived physical attractiveness.* Specific corollary hypotheses are:

a. Skin color will influence perceptions of attractiveness, with individuals possessing lighter skin tones rated as more attractive than individuals with darker skin tones.

b. Perceived attractiveness will influence desirability as a romantic partner, with more attractive individuals considered more desirable/preferable as a long-term romantic partner compared to less attractive individuals.

Hypothesis 3: *In addition to a direct relationship between attractiveness and partner preference (Hypothesis 2b), the relationship between attractiveness and partner preference will also be mediated by personality judgments.* Specific corollary hypotheses are as follows:

a. Compared to less attractive individuals, those perceived as relatively more attractive will also be considered more likely to possess favorable personality characteristics.

b. Individuals who are considered more likely to possess favorable personality characteristics will also be considered more preferable as a long-term romantic partner compared to those judged to possess less favorable personality characteristics.

In sum, the current study aims to fill important gaps in the literature. While many of the proposed relationships have been generally established in the scientific literature, few have explored the generalizability of these findings to Desis and/or have focused narrowly on individuals of Indian descent, thereby failing to address the larger Desi community. Further, examining these patterns among Desis residing in the U.S. opens the door for helpful descriptive comparisons to be made relative to Desis residing in South Asia.

Methods

Participants

Participants from The City College of New York (CCNY) and Hunter College were recruited through the SONA system, an online platform utilized by the Psychology Department

in each college to run its subject pool. The system allows prospective research participants to browse open research studies in which they can participate in exchange for course credit and/or other incentives. For the present study, prospective participants were informed that it was an online, questionnaire-based study exploring interpersonal judgments and preferences regarding peers of the opposite sex. Inclusion criteria were defined as follows: person attends CCNY or Hunter College, identifies as heterosexual, and is 18- to 24- years of age. Being of Desi descent was originally part of the inclusion criteria but was eventually dropped in order to avoid sample contamination (e.g., non-Desis identifying as such in order to participate).

A total of 289 participants completed the survey. Given the aims of the study, only data from those who identified as being of Desi descent were included in study analyses. This left a total of 79 participants whose data was eligible for analysis. Of those, one participant's data was deemed invalid given the lack of variability in responses (e.g., responded "1" for all ratings). That participant's data was excluded, resulting in the final participant total of N=78.

The final sample had a mean age of 19.1 years (SD = 1.8). The majority of participants were female (67.9%), affiliated with Hunter College (62.8%), and identified their relationship status as single (82.1%). In regard to ethnicity, 36 participants (46.2%) identified as Bangladeshi, 24 (30.8%) as Pakistani, 11 (14.1%) as Indian, and 1 as Nepali (1%). Five (5.3%) indicated that their Desi background was "other". One participant preferred not to disclose their ethnicity. Thirty-three participants (42.3 %) indicated that they were first-generation Desi-American, defined as not having been born in the United States, 43 (55.1%) were second-generation Desi-American, 1 was third-generation Desi-American (1.3%), and 1 (1.3%) indicated "prefer not to answer". Of those not born in the U.S., 4 (5.1%) have resided in the U.S. for 1-5 years, 6 (7.7%)

have resided in the U.S. for 6-10 years, 7 (9%) for 11-15 years, and 17 (21.8%) for 15 or more years. See Table 1 for a complete list of sample demographics.

Measures

Development of Visual Stimuli. In order to test the study's primary hypothesis regarding skin color, visual images (photos) were acquired from the Google image database and stock photo websites such as ShutterStock and Adobe Stock. Specific photos were acquired by using the search terms "Desi man/woman" or "South Asian man/woman." Photo selection criteria included high resolution pictures depicting youthful Desi individuals who were smiling/had a pleasant expression, were pictured alone, from the chest up, and in front of either white or gray backgrounds. The images ultimately used for the study were narrowed down from a selection of approximately 20 photos that met the initial criteria. Photos were then narrowed down further based on the level of success in manipulating the image. Specifically, selected photos were manipulated to produce separate images that presented the individuals in either a fair, medium, or dark skin tone. Several photos that met initial inclusion criteria were ultimately not included in the study because attempts to manipulate the individual's skin tone resulted in coloring that looked unnatural and/or other deficits to the original image (e.g., distorted background coloring). This left a total of 12 images (6 male, 6 female) that were ultimately selected as the study's visual stimuli.

As mentioned described above, for each image, the skin tone in the original picture was manipulated as-needed in order to create 3 different versions of the stimulus person: one depicting him/her with a fair skin complexion, one with a medium skin complexion, and one with a dark skin complexion. These skin tone manipulations were achieved using Adobe Lightroom Classic. The present study referenced the methods used by Ben-Zeev et al. (2014) in

skin tone manipulation. Given that initial photos depicted individuals in varying skin complexions, different values were used to either lighten or darken the stimulus persons. As a result, skin tone had to be manipulated based on eye sight depending on the original complexion in the picture. This resulted in a total of 36 (12 images x 3 skin complexions) discrete images – 18 female and 18 male (see Appendices 1 and 2, respectively).

For analytic purposes, skin tone was created into a categorical variable based on the tone in which the visual image was presented (fair, medium, or dark). The use of unique survey links for each participant made it possible to know exactly which photo was presented when, and in which of the three possible tones.

Demographics. Participants were asked to provide their CUNY affiliation, age, sex, relationship status, race and ethnicity/nationality of origin. Participants were also asked to provide information concerning generational status, with first generation defined as individuals who were not born in the United States. Those who identified as first-generation were also asked how long they have resided in the United States.

Attractiveness. Participants rated the attractiveness of each person presented in the stimulus photo by answering the following question: "Based solely on the image above, indicate how attractive do you find this person?". Responses were rated using a 5-point Likert scale ranging from 1 (extremely unattractive) to 5 (extremely attractive).

Personality. Individuals presented in the stimulus photos were judged on 20 different personality traits (see Table 2). Traits were selected for study inclusion in consideration of three factors: (1) characteristics associated with the Big Five (McCrae & Costa, 1987) dimensions of personality, this given their generalizability across cultures and ubiquity in personality-related research, which can enable comparisons with other studies, (2) traits commonly included in

other studies regarding the relationship between attractiveness and personality judgements and/or between personality and mate preference (e.g., Regan et. al, 2000; Lippa, 2007), and (3) traits hypothesized to be of particular relevance in collectivist cultures, such as being trustworthy and considerate (Wheeler & Kim, 1997). Additionally, there was attention paid to including both positive (e.g., supportive, kind) and negative (e.g. selfish, aggressive) valence items.

For each person presented in the stimulus photo, participants were asked, "Based solely on the image above, how likely do you think it is that this person is….", followed by the list of 20 traits (see Table 2). Each personality trait was judged based on a 5-point Likert scale ranging from 1 (extremely unlikely) to 5 (extremely likely).

Desirability as a Long-Term Romantic Partner (Partner Desirability). For each person shown, desirability as a long-term partner was assessed with the following question: "Imagine that you are currently single but are interested in forming a long-term committed relationship. How likely are you to consider the person shown above as a potential long-term partner?". Responses were rated on a 5-point Likert scale ranging from 1 (extremely unlikely) to 5 (extremely likely).

Procedure

 Individuals who signed up for the study on SONA were emailed a personalized link that directed them to the online survey. All study data and information – including informed consent – was collected via Qualtrics, an online survey platform. Participants were informed that it would require approximately 45 minutes to complete all of the questions and that the study had to be completed in one sitting. Participants were compensated with 1 SONA credit upon completion of the survey and were also entered into a raffle to win either a first- ($40) or second-place ($25) monetary prize in the form of an Amazon e-gift card. Participants were also informed that

separate drawings would be held for male and female participants in order to increase their odds

of winning, and that winners would be e-mailed their gift card once data collection concluded.

After consenting to participate and completing the assessment of demographics,

participants were shown images of 6 opposite-sex individuals, each shown one at a time. For

each person shown, participants were asked to judge several aspects of the individual's

personality, their desirability as a romantic partner, and their level of attractiveness. The order of

questions was varied within and across participants to control for order effects, and all ratings

were obtained for one person before proceeding to the next.

All within-sex participants were shown the same 6 opposite-sex faces; however, there

was between-subjects variation in the skin tones in which each specific photo appeared. For

example, whereas one male participant would see "Female X" depicted with a fair skin tone,

another might see her depicted with a dark or medium skin tone. The specific skin-tone in which

each person was presented was based on a pre-determined matrix, and the images were also

presented in a counterbalanced order. For example, "Female X" (in either of the three skin tones)

could be presented anywhere in the sequence of images; that is, she could be the first person

shown to male participant #1 but the fourth person shown to male participant #2, etc. Finally,

each permutation ensured that participants rated two images per skin tone, so there was also

within-subjects variation with respect to the skin tones presented.

Results

Preliminary Analyses

Principal Components Analysis of Personality Characteristics. Prior to running any

inferential statistics, a factor analysis was conducted with each of the 20 personality

characteristics in order to reduce the data into fewer personality constructs capable of capturing

the underlying common factors. Ideally, conducting a PCA would require at least four times the

number of participants as there are items. With 20 items and only 78 participants, the sample size for the present study falls just below this estimate; however, given that each participant provided multiple ratings (i.e., a set of personality rating for each of 6 images), the total number of observations was actually 468, so well beyond the minimum required for the use of data reduction techniques. A Principal Component Analysis (PCA) with Varimax rotation was therefore performed on the personality ratings, with extracted components requiring an eigenvalue of 1 or greater. In addition, factor loadings less than 0.40 were suppressed to optimize orthogonality. This produced a five-factor solution. In cases where items cross-loaded onto more than one component, the item was retained only on the component onto which it loaded most heavily (see Table 2 for the final component solution). Given that the components largely correspond to the Big Five (McCrae & Costa, 1987), they were named as such: Factor 1: Extraversion, Factor 2: Agreeableness, Factor 3: Conscientiousness, Factor 4: Openness, and Factor 5: Neuroticism.

Separate variables were created for each of the five factors by summing their respective constituent items, such that higher scores mean more of that trait. Reverse coding of items was performed as-needed (e.g., the characteristic "selfish" was reverse coded in calculating the variable Agreeableness). Internal consistency reliability for each of the five personality variables was moderate- to high: Extraversion: $\alpha = 0.58$, Agreeableness: $\alpha = 0.63$, Conscientiousness: $\alpha = 0.63$, Openness: $\alpha = 0.67$, and Neuroticism: $\alpha = 0.70$. Bivariate correlations for all of the personality variables, as well as skin tone, attractiveness, and partner desirability, are listed in Table 3.

Descriptive Statistics by Gender. Given evidence that higher value may be placed on skin tone by gender (Utley & Darity, 2016), all analyses – descriptive and inferential – were run

separately for males and females. Means for all dependent variables (i.e., attractiveness, partner desirability, and each of the five personality factors) are provided in Table 4. Prior to testing specific study hypotheses, preliminary analyses were conducted to determine if any participant demographic factors were associated with any of the dependent variables. Analyses were conducted using a variety of statistical methods, including linear regression (age), t-test (CUNY affiliation, relationship status), and Analysis of Variance (ANOVA) (nationality, generation, years in the U.S.). ANOVA was also used to determine any main effects for each male/female image presented, regardless of the skin tone in which they were presented.

Male Sociodemographic Characteristics in Relation to Study Dependent Variables. For men, age significantly predicted partner desirability (Beta= 0.097, $t(23) = 2.74$, p < .05), with older men rating women higher in partner desirability than younger men. Age also predicted judgments of Openness (Beta= - 0.13, $t(23) = -2.48$, p < .05) and of Conscientiousness (Beta = -0.18, $t(23) = 2.74$, p < .05): older men rated women lower on both compared to younger men. No other variables were related to the age of the male participants.

Results for CUNY affiliation indicated that Hunter men found the female visual stimuli more attractive ($t(24) = -2.55$, $p < .05$) and more desirable as potential partners ($t(24) = -.89$, $p < .05$), but also judged the women as being lower on Openness ($t(24) = 2.23$, $p < .05$) and Extraversion ($t(24) = .44$, $p < .05$) compared to CCNY men. With respect to relationship status, compared to single men, men currently in a relationship rated women higher in partner desirability ($t(25) = -2.91$, $p < .05$) but lower in Openness ($t(25) = 2.45$, $p < .05$).

Variables related to race/ethnicity and immigration were only found to be associated with personality judgments. Specifically, nationality was associated with judgments of Openness ($F(3,22) = 4.67$, $p < 0.01$), generational status was associated with judgments of Neuroticism

$(F(2,23) = 3.33, p < .05)$, and years residing in the U.S. was associated with judgments of all five traits: Openness $(F(2,10) = 5.85, p < .01)$, Conscientiousness $(F(2,10) = 13.09, p < .001)$, Extraversion $(F(2,10) = 7.56, p < .05)$, Agreeableness $(F(2,10) = 4.49, p < .05)$, and Neuroticism $(F(2,10) = 4.13, p < .05)$. Bonferroni post-hoc analyses revealed that Indian men rated the female visual stimuli significantly higher on Openness than Bangladeshi and Nepali men, and that first- and second-generation Desi-American men rated photos women higher in Neuroticism than did third generation Desi-American men. Men who have lived in the U.S. for 15 or more years rated photos lower on all personality dimensions than did men who have lived in the U.S. for 1-to-5 years. With respect to the visual stimuli themselves, there were no significant main effects based on the specific female image presented (all p > .05).

Female Sociodemographic Characteristics in Relation to Study Dependent Variables. For women, age significantly predicted ratings of attractiveness (Beta = .10, $t(51) = 2.14, p < .05$) and partner desirability (Beta= .13, $t(51) = 2.80, p < .05$), with older women rating photos of men higher on both measures compared to younger women. There was a significant effect for CUNY affiliation: Hunter women rated the male visual stimuli much higher in Conscientiousness ($t(52) = -2.15, p < .05$), Extraversion ($t(52) = -2.17, p < .05$), and Agreeableness ($t(51) = -4.14, p < .001$) but lower on Neuroticism ($t(52) = 2.25, p < .05$) than did CCNY women. Women's relationship status was not associated with any of the dependent variables (all $p > .05$).

Nationality had a significant effect on women's ratings of partner desirability ($F(2,48) = 4.01, p < .05$). Bonferroni post hoc analysis showing that Indian women found the male visual stimuli less desirable as a partner than did Bangladeshi and Pakistani women. Generational status was also associated with women's ratings of partner desirability ($F(1,50) = 11.81, p < .01$) and

their judgments of Conscientiousness ($F(1,51) = 6.75$, $p < .05$). Namely, second-generation Desi-American women rated the men higher on both measures compared to first-generation Desi-American women. The number of years lived in the U.S. was associated with judgements of Conscientiousness ($F(3,22) = 3.95$, $p < .05$) and Neuroticism ($F(3,22) = 3.95$, $p < .05$). Post hoc analysis indicated that women who have lived in the U.S. for 6-to-10 years rated the male visual stimuli higher on both dimensions compared to women who have lived in the U.S. for 11-to-15 years. Lastly, there were no significant main effect based on the specific male image presented (all $p > .05$).

Tests of Study Hypotheses

In keeping with the original data analytic plan, hierarchical linear regression was used to determine the relationship between skin tone and desirability as a long-term romantic partner, with age, CUNY affiliation, relationship status, nationality, generational status, and years lived in the U.S. (collectively referred to as "participant demographics" from here onward) entered on the first step and skin tone entered on the second step of the equation. Contrary to hypothesis, skin tone did not predict ratings of partner desirability for either male or female participants (both $p > .05$), although the beta coefficients for both males and females were in the hypothesized direction, with a negative coefficient indicating that partner desirability ratings went done as skin tone increased (i.e., became darker) (see Table 5).

According to hypothesis 2, the relationship between skin tone and desirability as a long-term romantic partner is mediated by perceived attractiveness. The lack of a statistically significant result for hypothesis 1 indicates that there is no effect to mediate; however, it is still possible to test the corollary hypotheses associated with mediation. Specifically, it is possible to test the relationship between skin tone and attractiveness, and between attractiveness and partner

desirability (hypotheses 2a and 2b, respectively). Hierarchical linear regression analysis was

used to test both hypotheses. For hypothesis 2a, participant demographics were entered on the

first step and skin tone entered on the second step of the equation, with attractiveness as the

dependent variable. For hypothesis 3b, attractiveness was entered on the second step of the

equation and partner desirability served as the dependent variable. Results indicated that skin

tone was not associated with attractiveness ratings for either male or female targets (both $p > .05$)

(see Table 6); however, for both sexes, higher ratings of attractiveness were also associated with

higher ratings for partner desirability (both $p < .001$), thus supporting hypothesis 2b (see Table

7).

Given that attractiveness is associated with desirability as a long-term romantic partner, it

is possible to test the mediational pathway proposed in hypothesis 3; namely, that the

relationship between physical attractiveness and partner desirability is mediated by personality

judgments. Mediation was tested using the methods outlined by Baron and Kenny (1986),

Kenny, Kashy, and Bolger (1998), and Shrout and Bolger (2002). Accordingly, it is

recommended to first establish a relationship between the independent and the dependent

variable, as accomplished with the test of hypothesis 2b. The second step is to show that there is

a relationship between the independent variable (i.e., attractiveness) and the mediator (i.e.,

personality), which is the test of hypothesis 3a. The third step involves showing that the mediator

is associated with the dependent variable (i.e., partner desirability) while holding the independent

variable constant. In order to establish mediation, the relationship between the independent

variable and the dependent variable must also be less in the third equation, with the mediator

controlled, than in the first equation.

In order to establish a relationship between the independent variable (attractiveness) and the proposed mediator (personality) – i.e., hypothesis 3a and step 2 in testing mediation – separate hierarchical regressions were conducted for each of the five personality dimensions. Participant demographics were entered on the first step of the equation and the personality dimension was entered on the second step. Among male participants, ratings of females' attractiveness were associated with judgments regarding three dimensions of personality. Specifically, female visual stimuli rated higher in attractiveness were also rated higher in Openness (Beta= 0.52, $t(16) = 3.146$, p < .05) and Agreeableness (Beta= 1.48, $t(15) = 2.56$, p < .05) and lower in Neuroticism (Beta= -0.48, $t(15) = -2.23$, p < .05) relative to less attractive females. Among female participants, male visual stimuli whom they rated higher in attractiveness were also rated higher in Openness (Beta= 0.27, $t(42) = 2.29$, p < .05), Extraversion (Beta= 0.54, $t(42) = 2.35$, p < .05), and Agreeableness (Beta= 1.61, $t(42) = 4.55$, p < .05) and lower in Neuroticism (Beta= -0.50, $t(42) = -4.03$, p < .05). These findings offer support for hypothesis 3a, but only with respect to some personality variables – most consistently, Openness, Agreeableness, and Neuroticism.

In the next set of analyses, partner desirability served as the dependent variable and the same set of participants demographics were entered on the first step of the equation. Separate analyses were again run for each relevant personality variable, which was initially entered alone on the second step in order to test hypothesis 3b. Among male participants, none of the five personality variables were associated with their ratings of females' desirability as a long-term romantic partner (all p > .05). For female participants, only judgments of Neuroticism predicted partner desirability ratings: male visual stimuli rated higher in neuroticism were considered less desirable as a long-term romantic partner (Beta= -0.17, $t(20) = -2.30$, p < .05).

In the final set of equations, and to provide a proper test of mediation, participant demographics were entered on the first step and both attractiveness and personality were entered on the second step. Once again, separate equations were run for each personality variable (excluding Conscientiousness, which was not statistically significant in any of the prior models). Attractiveness remained highly statistically significant in the final equations for both male and female participants (all $p < .001$), and the change in R^2 from Model 1 to Model 2 was not statistically significant in any of the equations. Thus, contrary to hypothesis 3, personality judgments did not mediate the relationship between attractiveness and partner desirability.

Alternate Tests of Study Hypotheses

The original data analytic plan involved use of hierarchical regression analyses; however, given the small sample size that was obtained, the data were re-analyzed using methods that would yield greater statistical power. Specifically, mean differences between groups were assessed via ANOVAs, and combining data from both male and female participants. In addition, the skin tone variable was recoded into a bivariate variable of fair and dark. Fair was categorized as it was in the initial set of analyses, and dark was a combination of both medium and dark skin tones. The generation variable was also recoded into a bivariate variable and denoted either U.S.-(i.e., first generation) or non-U.S. born (i.e., second or third generation). Finally, generational status was the only personal characteristic variable maintained as a potential covariate, this given the study's interest in better understanding if skin color bias is as prevalent among Desis outside of South Asia. Not having been raised abroad, Desi born in the U.S. might have a different standard of beauty than their South-Asian born counterparts.

A 2 X 2 ANOVA was performed to determine the effect of skin tone and generational status on ratings of partner desirability. Results indicated that being born in the U.S. has a

significant effect on partner desirability ($F(1, 75) = 6.58$, $p < .05$), with U.S.-born Desis rating

visual stimuli higher in partner desirability (M = 2.42) compared to non-U.S. born Desis (M =

2.14). There was not a significant impact of skin tone on ratings of partner desirability, nor was

there a significant interaction effects between skin tone and generational status (all $p > .05$).

Therefore, consistent with regression analysis and contrary to hypothesis 1, skin tone did not

affect ratings of partner desirability.

An ANOVA testing corollary hypothesis 2a showed no effect of skin tone on

attractiveness ($p > .05$); however, attractiveness did have a significant effect on partner

desirability ($F(4, 74) = 105.26$, $p < .001$). Consistent with the results from the regression analysis

and with hypothesis 2b, people rated higher in attractiveness were also rated higher in partner

desirability.

Finally, a multivariate Analysis of Variance (MANOVA) was conducted to determine if

attractiveness influences ratings on any of the five personality variables. Findings indicated that

attractiveness had an effect on ratings of Extraversion ($F(4, 74) = 13.65$, $p < .001$),

Agreeableness ($F(4, 74) = 11.20$, $p < .001$), Openness ($F(4, 74) = 7.97$, $p < .001$), and

Conscientiousness ($F(4, 74) = 4.65$, $p < .01$) : in all cases, higher ratings on attractiveness were

associated with higher ratings on the given personality dimension. Attractiveness ratings were

not, however, associated with ratings for Neuroticism ($F(4, 74) = 1.66$, $p > .05$). In a separate

MANOVA using all five personality constructs as independent variables, none were found to

influence ratings of partner desirability (all $p > .05$).

Discussion

Preference for fair skinned long-term partners is prevalent and explicit in South Asia.

Little is known, however, regarding the extent to which these preferences exist throughout the

South Asian (i.e., Desi) diaspora. The present study was therefore interested in exploring the issue of skin color bias and mate preferences among Desi young adults living in the United States. In addition, perceived attractiveness and personality were explored as potential mediators of this relationship.

The study's main hypothesis – namely, that lighter skin tones would be associated with greater desirability as a long-term romantic partner – was ultimately not supported. More specifically, the skin tone (fair, medium, or dark) in which pictured individuals were presented did not influence how highly they were rated as a potential long-term romantic partner. Although unexpected, the finding is perhaps due to skin tone being less of a marker of potential prosperity for Desis in America compared to Desis in South Asia. One of the reasons that fair skin is considered so desirable in South Asia is that it affords more economic and vocational opportunity: Individuals with lighter skin tones have access to more and better jobs and can therefore achieve greater socioeconomic stability and success. As such, skin tone is in some ways a proxy for socioeconomic status – or at least socioeconomic potential. This contributes to individuals with lighter skin tone being considered particularly desirable as long-term romantic partners. In the U.S., however, subtle gradations in skin tone may be less relevant to socioeconomic promise, and less potent indicators of overall status, compared to broader categories such as race and ethnicity. As such, for Desis in America, skin tone might be less of a factor in long-term mate selection and other factors – such as race, ethnicity, and educational background – might be considered more consequential.

Although there was no relationship between skin tone and partner preference to mediate – as was suggested in hypothesis 2 – the associated corollary hypotheses did yield several interesting findings. For example, contrary to hypothesis 2a, skin tone was not associated with

perceived attractiveness for either males or females. This finding is noteworthy given that light skin and beauty are still heavily equated in South Asia. That the present study found no support for such a relationship suggests that Desi-Americans have adopted different standards of beauty relative to their countries of origin. It is possible that exposure to the more inclusive standards of beauty currently promoted in American culture – such as through beauty pageants and add campaigns stressing diversity – has played a significant role in this outcome. Television and print advertisements, movies, TV series, social campaigns, and every other form of American media includes individuals of various backgrounds and skin tones. Moreover, there is greater diversity than ever with respect to whom American society considers attractive, including individuals with darker complexions (e.g., actors Lupito N'yongo and Idris Elba) and individuals from Desi backgrounds (e.g., actors Sendhil Ramamurthy and Mindy Kaling). For Desi Americans, the opportunity to see darker complexions celebrated has potentially opened up new perspectives regarding how they view members of their own community.

Another plausible explanation for finding no association between skin tone and attractiveness or partner desirability is that participants may have answered questions inquiring about these variables in a socially desirable way. Specifically, given that participants were shown images in different skin tones, it is possible that they were reluctant to rate darker-toned images 0as less attractive for fear of demonstrating skin tone bias. However, several attempts were made to minimize this possibility, including the fact that neither recruitment material nor the study description during the consent process mentioned that the study was interested in the influence of skin tone. Moreover, skin tones of visual stimuli were presented in random order to minimize salience of that factor, and participants were shown images with a mix of skin tones (i.e., rather than just one) to mimic the variety within the Desi population and to also address the potential of

participants conversing with one another about the study. Given that all participants were Desi

students at one of two CUNY colleges, it was possible that some would know one another and

converse about participation in the study. Had participants all been shown images of a single skin

tone, then conversing with another participant who had perhaps been shown images of a different

skin tone could have revealed the nature of the study and thus contaminated future data. By

including various skin tones for all participants, those who discussed the study with other

participants would describe essentially the same experience.

Despite the lack of statistical significance for skin tone in predicting partner desirability,

it is still noted that the means for attractiveness did trend slightly in the hypothesized direction.

As seen in Table 4, on a scale from 1 (extremely unattractive) to 5 (extremely attractive), men

gave fair-complexioned women an average rating of 3.33 compared to an average rating of 3.02

for dark women. Similarly, the mean attractiveness rating for fair-complexioned men was 2.42

compared to 2.30 for dark-complexed men. These findings suggest that traces of skin color bias

do still exist among Desi-Americans, much as they do in America itself, but that the impact

might be attenuated in the context of American society.

Study results did offer strong support for hypothesis 2b; namely, that higher ratings of

attractiveness would be associated with higher ratings of partner desirability for both males and

females. This finding is consistent with previous studies that have suggested that people prefer

partners higher in attractiveness (Fisman et al.,2006; Kursban & Weeden, 2005). Importantly, to

the best of my knowledge, this is the only study to document this relationship among Desi-

Americans. This provides a meaningful contribution to the knowledge base given that it helps to

establish the generalizability of the relationship between attractiveness and partner preference to

members of the Desi diaspora. It is also noteworthy that such a strong statistically significant

relationship (p < .001 for both males and females) was found despite the study's relatively small sample size, which was particularly true for men. Moreover, it demonstrates that, even in cultures in which long-term partners are often heavily-vetted and arranged by families – both of which do occur among Desis living in the U.S. – singles themselves still place a high value on attractiveness in choosing a life partner.

Hypothesis 3 suggested that the relationship between attractiveness and partner desirability would be mediated by personality judgments. Results indicated that none of the five personality variables – Extraversion, Agreeableness, Conscientiousness, Openness, or Neuroticism – mediated the relationship as hypothesized, and this was the case among both male and female participants. The finding suggests that young Desi-Americans might be much more concerned with looks alone when it comes to selecting a long-term partner. This conclusion is further supported when considering the outcomes for the corollary hypotheses. Consistent with hypothesis 3a, more attractive people were ascribed more favorable personality characteristics than less attractive people. Specifically, attractive women were judged as more open and agreeable and less neurotic, and attractive men were judged to have these same characteristics as well as higher levels of extraversion. This was largely replicated in the alternate analyses (i.e., ANOVAs) in which male and female data were combined; however, in the ANOVAs, all but Neuroticism was associated with attractiveness (i.e., images rated higher in attractiveness were also rated higher in Extraversion, Agreeableness, Conscientiousness, and Neuroticism). None of these favorable characteristics, however, made a difference in terms of men's interest in a long-term romantic partner (hypothesis 3b), and for females, the regression analysis indicated that their only preference was for men lower in neuroticism. Combined, the findings do offer some

support for the halo effect among Desi-Americans, but also suggest that said halo does little to make one more appealing as a long-term partner.

The seemingly-minimal impact of personality on partner preference may have been due to the sample being comprised of young, college aged students. Although people at this age are interested in relationships - even long-term ones – they are not necessarily seeking to be married to their partners. Thus, attractiveness may have outweighed personality in considering how desirable each person was as a partner. Furthermore, the use of the phrase "long-term romantic partner" could have meant different things to different people, especially given the youth of the sample (e.g., for some, long-term could mean as little as one year). As a result, when inquiring about the desirability of stimuli persons as a potential romantic partner, the use of an alternative term such as "marriageable" instead of "long term" might have made the intent of the question clearer. Findings may have also been different if the sample were older. In the United States, people tend to get married during their late 20's (29.8 years of age for men and 28 years of age for women) (U.S. Census Bureau, 2020). For the participants in this study – all of whom were in their late teens- to – early twenties – the thought of what one actually wants in a long-term romantic partner/spouse could be too remote to fully engage with or consider. Had the sample include older Desis with presumably more life and dating experience, they might have expressed a clearer sense of what personality characteristics they desire in a mate.

The general lack of support for an effect of personality on desirability as a long-term partner could be due to several factors. The most important issue is that personality judgments were made based on static images alone, without any context for how or why the photo was taken (e.g.., did the individual's appearance reflect their personal choices, or were these selected for them?) and without an opportunity for interpersonal interaction. Had judgements been based

on better quantity and/or quality of data – such as an opportunity to interact directly with the

rated individuals – then it is possible that more associations between personality and partner

desirability would have emerged.

It is also possible that there were more fundamental issues regarding the traits that were

judged. Despite the use of theory- and research-informed traits for the personality ratings, the list

still might not have been not entirely relevant for a young-adult Desi population. For example,

among Desis, there is a preference for female partners who demonstrate homemaking skills such

as being a good housekeeper (Kamble, Shackelford, Pham, & Buss, 2014). Such descriptive

characteristics were not included in this study given that it focused on trait terms rather than

contextual descriptions; however, it is possible that more contextual descriptions are needed

when assessing personality and/or mate preferences among persons from collectivist cultures. It

is also possible that the limited number of negative valence items could explain the lack of a

significant relationship between personality and partner preference. It may be that when selecting

potential romantic partners, Desi Americans place more emphasis on who they do not want

relative to whom they do want. More negative personality characteristics should be included in

future studies. To the extent that list of traits lacked content validity regarding the partner

preferences of Desi-Americans, the factor solution and any associated analyses will have

suffered. This might explain why personality was not relevant to the partner desirability ratings

that men provided for women, and why only neuroticism was a factor in women's ratings of men

in the regression analyses. In the alternate ANOVA, none of the personality factors were relevant

to partner desirability – another potential artifact of measurement, as well as of the analytic

procedure given that male and female data were combined for the ANOVAs. It is therefore

possible that the impact of females' judgment of male neuroticism was suppressed when the data

from male participants were included in the analysis. This suggests that's sex is important in understanding how personality judgments may influence desirability as a long-term romantic partner.

Potential measurement issues notwithstanding, the finding that neuroticism was the only personality trait associated with partner preferences in the regression analyses among women is noteworthy. Specifically, the more neurotic a man was judged to be, the less desirable he was as a long-term romantic partner. This finding may have emerged as a result of women feeling especially cautious about engaging with a neurotic male. A man who is too emotionally unstable may make her feel unsafe, especially if he is perceived as aggressive. As such, signs of neuroticism in a man might make women leery of his suitability as a long-term romantic partner. Women may also shy away from more neurotic males due to gender stereotypes regarding neuroticism and what it would mean to have a neurotic male partner, and/or due to concerns regarding a man's ability to successfully take on a leader/provider role if high in neuroticism.

Another personality-related finding of note was that, in the regression analyses, conscientiousness was the only factor unrelated to attractiveness or partner desirability for either males or females. It is unclear why this was the case, but it may be due to the measurement considerations described above (i.e., the study's list of traits potentially lacking in content validity). Indeed, of the four traits subsumed under the Conscientiousness factor – reliable, self-disciplined, ambitious, and supportive – none speaks very directly to characteristics such as being a good cook or housekeeper, which are valued in Desi wives. That said, it is still also possible that the finding is not a measurement artifact at all, and that conscientiousness simply does not weigh into Desis' consideration of long-term romantic partners. More research should be done to help tease apart these and other possible explanations.

Strengths of Study

A major strength of the study is the fact that it included a diverse sample of Desis. Previous research has primarily been interested in Indian Desis or has only conducted studies focusing on one ethnic group. By including Desis from various countries of origin, it has allowed for a broader analysis of mate selection trends of South Asians as a whole. Furthermore, the present study also included both American born and non-American born participants in the sample. This provided insight into how partner preferences may differ generationally within American-Desis, and between those who grew up within the country and those who did not.

Limitations of study

A significant limitation of the present study is the small sample size, which was especially true for men (n=25), and contributed to a low powered study. The reasons for the low rate of participation among Desi men is unclear. Despite roughly comparable numbers of prospective participants, far fewer men than women sought to participate in the current study. Participants were recruited via the SONA system, which is primarily used by students enrolled in psychology courses, and for whom participation in research studies is typically a factor in their grade. It is possible that, despite appreciable enrollment of Desi men within CCNY and Hunter, a relatively small percent are psychology majors/actively taking psychology courses. Attempts were made to also recruit via Desi-affiliated student organizations but yielded no results. It is likely that extra efforts are needed to attract Desi men into research studies, one of the first of which might be an exploratory investigation to better understand why participation rates are low. The current study was also conducted when the COVID-19 pandemic was at its height in the United States, which also stymied recruitment and lead to a small sample. Recruitment could not be done in person, which may have attracted more potential participants.

Another limitation is that there was no manipulation check conducted to confirm the intended perception of fair, medium, and dark skin tones. As a result, it is not entirely clear if the skin tone variable was sufficiently salient to produce an effect, which might have contributed to the lack of support found for the associated hypotheses. Potential study replications would benefit from a manipulation check using a separate sample of Desi-American young adults to confirm that the manipulation was successful.

Additionally, there were limitations in creating visual stimuli. Because all visual stimuli possessed different skin tones in initial photos, it was difficult to have a set value based off which to manipulate skin tone. Ideally, photos of visual stimuli persons would be taken myself of either all light-skinned or dark-skinned individuals. This way, a standard value could be used to digitally alter skin tone.

Despite these limitations, the present study has provided insight to how personality influences attraction and mate selection in Desis, a relationship that has not been considered in previous research. The finding that higher ratings for attractiveness were associated with higher ratings for partner desirability among Desis, just as they are in Western populations, offers support for evolutionary hypotheses that proffer that this relationship is universally generalizable. The study is also one of the first to use a diverse sample of diasporic Desis living within the U.S. By doing this, the current study contributes to efforts to understand the extent to which norms within one's culture-of-origin tend to persist outside of that culture/among immigrants. The present study did not find that skin color predicts partner desirability, so there is the potential that seemingly-ingrained norms and beliefs – such as the common perspective in South Asia that fair skin is more attractive than dark skin – can be altered relatively soon with prolonged exposure to new norms, as is the case in immigration. Unfortunately, this seems to be

the true whether the new norms are considered positive or negative. Hispanic immigrants, for

example, are found to adopt poorer dietary habits and concomitant health problems upon

immigrating to U.S., both of which worsen as length of U.S. residency increases (Akresh, 2007,

Van Hook et al., 2018). This suggests that immigrating persons and families might need to

carefully consider what norms from their culture-of-origin they would like to maintain and which

they are willing to see modified. With respect to the former, significant effort might be required

in order to override the prevailing norms of the new environment. Moreover, deciding which

norms to steadfastly hold onto is likely to be a challenging process requiring a fair amount of

time, discussion, and introspection – all of which might be in limited supply and/or reduce

motivation. It is likely that later generations (i.e., beyond first generation immigrants) will be in a

better position than more recent immigrants to consider the pros and cons of both the familial

culture-of-origin and the current cultural environment.

　　　　With respect to future research, investigators should create a comparison study using a

sample of Desis from the United States and Desis in their country of origin. Replicating the

present study and comparing Desis in South Asia to those living in the U.S. may provide insight

as to whether there is a difference between samples in how skin tone, attractiveness and

personality may factor into preferences for a long-term romantic partner. Prospective studies

should further investigate Desi-Americans' desired qualities in potential partners. This may

capture relevant traits which were not included in the current study but that may be vital to mate

selection in this population. Preliminary analyses yielded results which indicated that

generational status and ethnicity are significantly associated with personality judgments and

partner desirability ratings. It is possible that differences in religiosity between Desi

nationalities may influence judgments of Openness. It has been found that there is a negative

relationship between religiosity and Openness in secular countries (Gebauer et al., 2014). It is also known that Muslim immigrants are more likely to preserve their religious practices once migrating compared to other religious groups (Salam, 2014). Since Bangladesh is a Muslim Majority country, Bangladeshis may find people to be more conventional and traditional compared to people from India, where Hinduism is the predominant religion. Researching going forward should look into why partner desirability differed between Desi ethnic groups and understand why personality judgments are affected by whether individuals were born in the U.S. or born in South Asia.

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Table 1: Sample Characteristics

	Females (n=53)	Males (n=25)	Total (N=78)
Mean Age in Years	18.7 (SD=1.2)	19.9 (SD=2.3)	19.1 (SD=1.8)
% CCNY	37.7%	36.0%	37.2%
Nationality			
Indian	n= 8	n= 3	n= 11
Bangladeshi	n= 25	n= 11	n= 36
Pakistani	n= 17	n= 7	n= 24
Nepali	n= 0	n= 1	n= 1
Other	n= 2	n= 3	n= 5
Not specified	n= 1	n= 0	n= 1
Generation			
1st	n= 22	n= 11	n= 33
2nd	n= 30	n= 13	n= 43
3rd	n= 0	n= 1	n= 1
Prefer not to answer	n= 1	n= 0	n= 1
Year in the US			
1 to 5 years	n= 2	n= 2	n= 4
6 to 10 years	n= 6	n= 0	n= 6
11 to 15 years	n= 5	n= 2	n= 7
15 or more years	n= 10	n= 7	n= 17
Relationship Status			
Single	n= 42	n= 22	n= 64
In a relationship /unmarried	n= 9	n= 3	n= 12
Not specified	n= 2	n= 0	n= 2

Table 2: Principal Components Analysis of Personality Traits

	Factor 1 (E)	Factor 2 (A)	Factor 3 (C)	Factor 4 (O)	Factor 5 (N)
Warm	.76				
Friendly	.86				
Kind	.73				
Sociable	.65				
Trustworthy	.44				
Reliable			.48		
Self-disciplined			.68		
Ambitious			.87		
Supportive			.45		
Considerate	.44				
Selfish		-.76			
Shy					.75
Easygoing				.48	
Anxious					.83
Aggressive		-.80			
Assertive		-.53			
Dominant					-.43
Creative				.72	
Clever				.68	
Modest		.44			

E=Extraversion, A=Agreeableness, C=Conscientiousness, O=Openness, N=Neuroticism.

Table 3: Bivariate Correlations for Skin Tone and Dependent Variables

Measures	1	2	3	4	5	6	7	8
1. Skin tone	--	-.05	-.06	.01	-.04	.01	.01	.02
2. Attractiveness		--	.68**	.21**	.20**	.32**	.24**	-.01
3.Partner desirability			--	.11*	.17**	.24**	.17**	.01
4. Openness				--	.40**	.48**	.17**	.07
5. Conscientiousness					--	.57**	.26**	.12**
6. Extraversion						--	.44**	.21**
7. Agreeableness							--	.47**
8. Neuroticism								--

Notes: * $p < .05$, ** $p < .01$, .001 level.

Table 4: Means for Dependent Variables by Image Skin Tone

Male Ratings of Female Images

	Fair	Medium	Dark	Total
Attractiveness (Range: 1-5)	3.33 (SD=1.02)	3.36 (SD=0.99)	3.02 (SD=1.02)	3.22 (SD=1.02)
Partner Desirability (Range: 1-5)	3.02 (SD=1.04)	3.00 (SD=1.04)	2.85 (SD=1.06)	2.95 (SD=1.04)
Personality				
Extraversion (Range: 6-30)	21.06 (SD=3.60)	23.06 (SD=4.31)	23.32 (SD=4.09)	22.83 (SD=4.02)
Agreeableness (Range: 4-20)	12.36 (SD=2.56)	12.74 (SD=2.20)	13.05 (SD=2.10)	12.72 (SD=2.30)
Conscientiousness (Range: 4-20)	11.12 (SD=1.91)	11.02 (SD=2.15)	11.23 (SD=2.08)	11.13 (SD=2.03)
Openness (Range: 3-15)	10.54 (SD=1.74)	10.60 (SD=1.58)	10.63 (SD=1.88)	10.59 (SD=1.74)
Neuroticism (Range: 3-15)	8.54 (SD=2.15)	8.77 (SD=2.13)	8.90 (SD=2.02)	8.74 (SD=2.09)

Female Ratings of Male Images

	Fair	Medium	Dark	Total
Attractiveness (Range: 1-5)	2.42 (SD=1.04)	2.48 (SD=1.05)	2.30 (SD=1.17)	2.40 (SD=1.08)
Partner Desirability (Range: 1-5)	2.07 (SD=0.96)	1.82 (SD=0.93)	1.85 (SD=1.06)	1.92 (SD=0.98)
Personality				
Extraversion (Range: 6-30)	22.23 (SD=3.84)	22.68 (SD=3.84)	21.72 (SD=3.92)	22.21 (SD=3.87)
Agreeableness (Range: 4-20)	12.17 (SD=2.62)	12.43 (SD=2.28)	11.90 (SD=2.98)	12.16 (SD=2.65)
Conscientiousness (Range: 4-20)	10.64 (SD=1.95)	10.67 (SD=2.31)	10.23 (SD=2.12)	10.52 (SD=2.13)
Openness (Range: 3-15)	10.62 (SD=1.83)	10.62 (SD=1.87)	10.63 (SD=1.88)	10.62 (SD=1.85)
Neuroticism (Range: 3-15)	8.96 (SD=2.40)	9.00 (SD=2.26)	9.01 (SD=2.27)	8.99 (SD=2.30)

Table 5: Hierarchical Regression Analysis for Skin Tone Predicting Partner Desirability

Males Ratings of Female Images

Variables	B	SE	β	t	p	95.0% CI for B LL	UL	sr^2	R^2	ΔR^2
Step 1									.34	.34
CUNY	.00	.41	.00	-.00	.99	-.82	.82	.00		
Age	.28	.08	.84	3.50	.00	.12	.44	.43		
Relationship	-1.00	.96	-.30	-1.04	.30	-2.95	.93	-.14		
Nationality	-.12	.15	-.12	-.84	.40	.45	.18	-.11		
Years in U.S.	.26	.14	.30	1.87	.06	-.01	.54	.24		
Step 2									.34	.00
CUNY	.00	.41	.00	.00	.99	-.82	.82	.00		
Age	.28	.08	.85	3.50	.00	.12	.44	.43		
Relationship	-1.01	.97	-.30	-1.04	.30	-2.96	.94	-.14		
Nationality	-.13	.15	-.12	-.84	.40	-.45	.18	-.11		
Years in U.S.	.26	.14	.30	1.89	.06	-.01	.54	.25		
Skin tone	-.08	.13	-.07	-.66	.50	-.35	.17	-.09		

Notes: Step 1 $F(5, 20) = 5.65$, p = .000, Step 2 $F(6,19) = 4.74$, p = .001

Female Ratings of Male Images

Variables						95.0% CI for B				
	B	SE	β	t	p	LL	UL	sr^2	R^2	ΔR^2
Step 1									.13	.13
CUNY	.40	.18	.22	2.19	.03	.04	.77	.19		
Age	.23	.06	.36	3.43	.00	.10	.37	.29		
Relationship	-.32	.26	- .12	- 1.22	.22	-.84	.19	- .10		
Nationality	-.54	.17	- .37	-3.09	.00	-.89	-.19	-.26		
Years in U.S.	-.01	.09	-.02	-.21	.83	-.20	.16	.01		
Step 2									.15	.01
CUNY	.36	.18	.20	1.97	.05	- .00	.73	.17		
Age	.23	.06	.35	3.35	.00	.09	.36	.28		
Relationship	-.30	.26	- .115	-1.17	.24	-.82	.21	.10		
Nationality	-.53	.17	-.36	-3.02	.00	.88	-.18	-.26		
Years in U.S.	-.02	.09	-.02	-.27	.78	.20	.15	-.02		
Skin tone	- .13	.09	- .12	-1.14	.13	-.32	.04	-.13		

Notes: Step 1 $F(5, 48) = 4.03$, p $= .002$, Step 2 $F(6,47) = 3.77$, p $= 002$

Table 6: Hierarchical Regression Analysis for Skin Tone Predicting Ratings of Attractiveness

Male Ratings of Females

Variables						95.0% CI for B				
	B	SE	β	t	p	LL	UL	sr^2	R^2	ΔR^2
Step 1									.15	.15
CUNY	.23	.45	.10	.52	.60	-.66	1.14	.07		
Age	.13	.08	.43	1.56	.12	-.03	.31	.21		
Relationship	-.00	1.06	-.00	-.00	.99	-2.13	2.12	-.00		
Nationality	-.09	.17	-.08	-.84	-.59	-.44	.25	-.07		
Years in U.S.	.14	.15	.17	.93	.35	-.16	.45	.12		
Step 2									.18	.03
CUNY	.25	.44	.10	.56	.57	-.64	1.15	.07		
Age	.14	.08	.44	1.60	.11	-.03	.31	.22		
Relationship	-.01	1.05	-.00	-.01	.99	-2.12	2.10	-.00		
Nationality	-.10	.17	-.10	-.61	.54	-.45	.24	-.08		
Years in U.S.	.15	.15	.19	1.03	.30	-.14	.46	.14		
Skin tone	-.20	.14	-.17	-1.40	.16	-.49	.08	-.19		

Notes: Step 1 $F(5, 20) = 1.83$, p = .12, Step 2 $F(6,19) = 1.88$, p = .102

Female Ratings of Male Images

Variables	B	SE	β	t	p	95.0% CI for B LL	UL	sr²	R²	ΔR²
Step 1									.12	.12
CUNY	.44	.22	.19	1.95	.05	-.00	.90	.17		
Age	.27	.08	.35	3.28	.00	.11	.44	.28		
Relationship	.00	.32	.00	.02	.97	-.63	.65	.00		
Nationality	-.54	.21	-.30	-2.49	.01	-.97	-.11	-.21		
Years in U.S.	.00	.11	.00	.04	.96	-.21	.22	.00		
Step 2									.12	.00
CUNY	.44	.23	.19	1.90	.05	-.01	.90	.16		
Age	.27	.08	.35	3.25	.00	.10	.44	.28		
Relationship	.01	.32	.00	.03	.97	-.63	.66	.00		
Nationality	-.54	.22	-.30	-2.47	.01	-.97	-.10	-.21		
Years in U.S.	.00	.11	.00	.03	.97	-.21	.22	.00		
Skin tone	-.01	.11	-.01	-.15	.88	-.24	.21	-.01		

Notes: Step 1 $F(5, 48) = 3.48$, $p = .006$, Step 2 $F(6, 47) = 2.88$, $p = .012$

Table 7: Hierarchical Regression Analysis for Attractiveness Predicting Ratings of Partner Desirability

Male Ratings of Female Images

Variables						95.0% CI for B				
	B	SE	β	t	p	LL	UL	sr²	R^2	ΔR^2
Step 1									.33	.33
CUNY	.03	.41	.01	.08	.92	-.80	.87	.01		
Age	.27	.08	.83	3.3	.00	-.8	.11	.44		
Relationship	-.98	.98	-.29	-1.0	.32	-2.9	.98	-.13		
Nationality	-.14	.16	-.12	-.87	.38	-.46	.18	-.12		
Years in U.S.	.27	.14	.31	1.9	.06	-.01	.55	.25		
Step 2									.70	.36
CUNY	-.12	.28	-.05	-.44	.65	-.69	.44	-.06		
Age	.18	.05	.55	3.2	.00	.07	.29	.41		
Relationship	-.97	.66	-.29	-1.4	.14	-2.3	.35	-.20		
Nationality	-.07	.10	-.12	-.07	.48	-.29	.14	-.09		
Years in U.S.	.17	.09	.20	1.7	.07	-.02	.36	.24		
Attractiveness	.68	.08	.65	7.9	.00	.51	.86	.74		

Notes: Step 1 $F(5, 20) = 5.22$, p = .001, Step 2 $F(6,19) = 20.02$, p = .000

Female Ratings of Male Images

Variables						95.0% CI for B				
	B	SE	β	t	p	LL	UL	sr^2	R^2	ΔR^2
Step 1									.13	.13
CUNY	.40	.18	.22	2.19	.03	.04	.77	.19		
Age	.23	.06	.36	3.43	.00	.10	.37	.29		
Relationship	-.32	.26	-.12	-1.22	.22	-.84	.19	-.10		
Nationality	-.54	.17	-.37	-3.09	.00	-.89	-.19	-.26		
Years in U.S.	-.01	.09	-.02	-.21	.83	-.20	.16	-.01		
Step 2									.30	.16
CUNY	.24	.17	.13	1.44	.15	-.09	.58	.12		
Age	.13	.06	.20	2.05	.04	.00	.26	.18		
Relationship	-.32	.23	-.12	-1.37	.17	.79	.14	-.12		
Nationality	-.36	.16	-.24	-2.22	.02	-.68	-.04	-.19		
Years in U.S.	-.01	.08	-.01	-.17	.86	-.17	.14	-.01		
Attractiveness	.35	.06	.43	5.39	.00	.22	.48	.43		

Notes: Step 1 $F(5, 48) = 4.03$, p = .002, Step 2 $F(6,47) = 5.57$, p = .000

Appendix 1: Visual stimuli – Female Images

	Fair	Medium	Dark

F1

F2

F3

F4

F5

F6

Appendix 2: Visual Stimuli – Male Images

	Fair	Medium	Dark

M6