

**COLOR COSTS: INTERSECTIONS OF GENDERED SKIN TONE DISCRIMINATION,
RACIAL CONTEXTS, AND WELL-BEING AMONG BLACK AMERICANS.**

by

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ABSTRACT

Skin tone differences among African Americans have been associated with experiences with upward mobility and discrimination. Gender also matters because men and women are not socialized identically, thus, they react to skin tone biases differently. This three-paper dissertation examined dark-, medium-, and light-skinned African American men and women separately in their appraisals of how Blacks and Whites treat them because of their skin tone, its consequences to their self-esteem, and women's health. The three papers compared results from the Detroit Area Study to the nationally representative National Survey of American Life.

In Chapter 2, men's experiences were examined. In their reports of discrimination from Whites, dark-skinned men reported the most discrimination and light-skinned men reported the least. In men's reports of discrimination from Blacks, both dark- and light-skinned men reported substantial discrimination while medium-skinned men reported the least. Additionally, interviewer-rated skin tones were not associated with men's self-esteem, yet discrepancies between self-rated versus interviewer-rated skin tone were associated with lower self-esteem. This challenged previous assumptions that self-esteem was not linked to men's complexions.

Chapter 3 examined women's experiences. Women's reports of skin tone discrimination from Whites were higher as skin tone darkened (Chapter 2). Interviewers' ratings of skin tone were associated with low self-esteem among dark-skinned women. However, discrepancies in self- versus interviewer-rated skin tones were not associated with women's self-esteem. These gender differences were interpreted in light of theories of femininity that suggest that women were vulnerable to self-esteem threats when their communities devalue their appearance.

Chapter 4 examined women's health in light of double burdens of sexism and racism. Using subjectively measured (self-rated) health, there were no differences across skin tones. However, objective measurements of health revealed that dark-skinned women had the poorest health, followed by medium- and light-skinned women; this association was mediated by their beauty. Further, dark-skinned women were also the most obese. Implications for policy interventions were addressed as findings illustrated that lived experiences of oppression differ across skin tones and gender.

CHAPTER I

INTRODUCTION

Sometimes considered the cousin of racism, colorism is a ubiquitous and complex social issue in the lives of African Americans, Latinos, and other people of color (Glenn, 2009).

Researchers define colorism as the “allocation of privilege and disadvantage according to the lightness or darkness of one’s skin” (p. 17) which often favors those of lighter skin tones (Burke & Embrick, 2008). Like other visible physical qualities such as age, gender, and race, people attend to skin tone differences in order to form judgments about others’ backgrounds and identities during social interactions. Although the issue is often swept under the rug, African Americans are aware that colorism can be an important source of social stratification and discrimination inside and outside of their race. For example, research on minorities, particularly African Americans and Latinos, consistently indicates that those of lighter skin tones are privileged socially and economically in outcomes such as educational attainment, income, employment mobility, criminal sentencing, housing, mate selection, discrimination from whites, and beauty judgments (Glenn, 2009; Herring, Keith, & Horton, 2004).

Although many important findings in those life domains were generated from the early 1980 National Survey of Black Americans (NSBA) data (Jackson & Gurin, 1987), there are still gaps in the literature. For example, researchers usually did not carefully examine gender differences in those life outcomes nor investigate whether those social patterns replicate over time. Importantly, much of the research on this topic has narrowly focused on the influence of discrimination from Whites (i.e. the out-group) on colorism rather than explore the complexity of biases and tension from fellow Blacks (i.e. the in-group) on skin tone-related social psychological and well-being outcomes. Because many domains of life are impacted by the

social meanings and potential outcomes attached to skin tones, many disciplines have investigated consequences of colorism, including sociology, psychology, political science, women's studies, public health/medicine, criminal justice and law. Although some of this work has been fruitful, there is a dearth of research that synthesizes findings across these fields.

The goal of this dissertation is to explore the gendered nature of colorism and mechanisms through which it may operate inside and outside of the race for men and women. Specifically, it will examine African Americans' appraisals of social exclusion from out-group and in-group members, preferences for skin hues, and, among African American women, it will explore stress and health outcomes across socioeconomic strata. It is important to note that the goal is not to paint a picture of one gender or skin hue being most disadvantaged or most handicapped by colorism. Rather, an important objective of this dissertation is to better understand the pathways through which skin color biases influence well-being for men and women within the context of contemporary theories of masculinity and femininity. Another goal is to explore whether some psychosocial patterns observed in earlier skin tone research still replicate across two cross-section points in time. This will be accomplished in three papers (Chapters 2, 3, and 4) using the 1995 Detroit Area Study (DAS) (Jackson & Williams, 2002) and the nationally representative 2003 National Survey of American Life (NSAL) (Jackson, Neighbors, Nesse, Trierweiler, & Torres, 2004). The remainder of this chapter reviews the relevant literatures that comprise the basis of the dissertation and inform the study's hypotheses.

Gender, Culture, and the Self

Women and men are socialized differently in the United States (U.S.), and, consequently, their sense of selves varies as well. Furthermore, cultural psychology posits that worldviews (e.g. *independent/individualistic* versus *interdependent/collectivistic*) contribute to a person's sense of

“self” (Markus & Kitayama, 1991). For example, in interdependent cultures (such as those in East Asia), people are “other-oriented” and perceive themselves in relation to relevant others. In contrast, in independent cultures (such as those in the West), people are “self-oriented” and perceive themselves as unique agents that are separate from others.

Although U.S. culture is regarded as “independent” as a whole, there are gender differences along the continuum of independence and interdependence. Specifically, women in the U.S. construe themselves in more *interdependent/collectivistic* terms than men, perhaps because relationships are more central to women’s lives (Cross & Madson, 1997). Women also attend to situational cues (such as the emotional reactions of other people) more than men (Pennebaker & Roberts, 1992). These social skills may have developed because from young ages, girls are often socialized to attune to social relationships more than boys and, as adults, women are expected to serve as nurturers or caregivers. Succinctly, females are raised to be “other” focused rather than “self” focused.

Moreover, research on African American women also supports this “other-oriented” perspective. Various findings from feministic psychology, including some aspects of Black Feministic Thought (Collins, 2000), echo findings that interdependence is important in women’s lives. Many women, including women of color, are also socialized to pay attention to the opinions of others and seek their affirmation. In other words, African American women are also expected to aspire to be “liked” and accepted by their community, consistent with persons in “other-focused” interdependent cultures. For women, being liked or socially accepted is partly achieved through having an admired or beautiful physical appearance that comports with prevailing cultural standards. There is more pressure on women (than men) to look presentable and attractive in society (Bar-Tal & Saxe, 1976) and people desire to form close social bonds and

friendships with attractive women (Lemay, Clark, & Greenberg, 2010). Perhaps because of the *halo effect* (Asch, 1946; Thorndike, 1920), other positive attributes are ascribed to beautiful women that allows them to enjoy many more social and economic benefits, including more marriage offers, higher income, better employment, and higher self-esteem (Eagly, Ashmore, Makhijani, & Longo, 1991). Research revealed that lighter-skinned African American women also enjoy these benefits more than darker-skinned women (Hunter, 2002). Since light-skinned women are considered to be more beautiful (Hill, 2002b), attractiveness probably contributes to these differences in resources.

Other-oriented versus self-oriented: Self-esteem Implications

Human beings are social creatures and their sense of self-esteem and individual worth is, to some degree, connected to their sense of acceptance by others. According to the *sociometer hypothesis*, self-esteem is an internal, subjective index of how highly others regard us, and, thus, how likely we are to be accepted or rejected by others (Leary, Terdal, Tambor, & Downs, 1995). Given that women are typically socialized to be more “other-oriented” or *interdependent*, logically, we can expect women’s self-esteem to be more *dependent* on how other people perceive them. Moreover, since physically attractive women are more highly esteemed by *others*, we can expect them to report higher self-esteem. In contrast, men are socialized to be more “self-oriented”; accordingly, men’s self-esteem might depend more on their own perceptions of whether they reached their own standards of the type of men they desire to become. This sense of self-worth for men may be derived from fulfilling their own goals, for example, the masculine provider role (i.e. the ability to financially provide for family) and exhibiting physical features that meet their own standards (e.g. having strong muscles). Succinctly, among women, we should expect that other people’s evaluations would trump their

own self-evaluations in contributing to women's self-esteem. In contrast, men's self-esteem might be relatively independent of evaluations by others.

However, these predictions should be considered in light of another relevant body of literature—social class and cultural worldviews. Research suggests that persons of low socioeconomic status (SES) are also more collectivistic/interdependent (Kraus, Piff, & Keltner, 2009, 2011). When a person is socially and/or economically disadvantaged, his/her fate typically rests in the hands of more privileged individuals. Thus, persons with lower SES frequently attend to the needs of others (Kraus et al., 2011). For example, given financial limitations, persons of low SES may have to share bedrooms and cramped living spaces with others at home, which prevents them from having privacy or time to be alone (i.e. separated from others). They also carpool (or rely on public transit) with others to commute to work, and share cubicles or work space with other colleagues at their jobs. These daily experiences require them to be frequently alert to the expectations and needs of others in order to negotiate their own needs. Additionally, a low SES person must attune to the needs of his or her boss to maintain an income, and perhaps later distribute that paycheck across many others to meet the diverse needs of disadvantaged, extended family members.

In contrast, a high SES person typically is “self-focused” and more attuned to his or her own individual needs. A higher SES person often has his or her own separate bedroom, office, and spacious living quarters at home, which are all factors that allow them to enjoy individual privacy when they desire to be alone (away from other people). Furthermore, they commute to work separately (alone) in their own private car and have separate/non-shared, private offices at work. This high SES person is likely to be a boss for numerous people at work, and s/he will be mostly concerned that those employees fulfill his/her (i.e. the boss') needs and expectations (not

vice versa). These daily life experiences and circumstances situate higher SES persons to become self-focused and develop more independent worldviews while lower SES persons develop more interdependent worldviews.

Both sets of culture-related literature—that is, gender and social class, have important implications for self-esteem. Since women and low SES persons are regarded as more “other-oriented,” it is plausible that low SES women will be the most vulnerable to self-esteem threats, followed by low SES men. In other words, being physically unattractive (e.g. having an undesirable skin tone) should be most detrimental for low SES women’s self-esteem. Moreover, the manner that self-esteem threats operate may differ for women and men.

Gender, self-evaluation, and culture: Conceptualizing skin tone discrepancies

Research on the connections between gender, self-evaluations, and culture is limited. One study by Thompson and Keith (2001) examined skin tone, prescriptions of masculinity and femininity and two self-evaluation outcomes (i.e. self-esteem versus self-efficacy); they summarized their findings, stating:

The data in this study indicate that gender...socially constructs the importance of skin color evaluations of self-esteem and self-efficacy. Self-efficacy results not primarily from beliefs or attitudes about performance but rather reflects an individual's competency or agency from undertaking challenges and succeeding at overcoming them. Self-esteem consists of feeling good about oneself and being liked and treated favorably by others. However, the effect of skin color on these two domains of self is different for women and men. Skin color is an important predictor of perceived efficacy for Black men but not Black women. And skin color predicts self-esteem for Black women but not Black men.

This pattern conforms to traditional gendered expectations...The traditional definitions of masculinity demand men specialize in achievement outside the home, dominate in interpersonal relationships, and remain rational and self-contained. Women, in contrast, are expected to seek affirmation from others, to be warm and nurturing. Thus, consistent with gendered characteristics of men and women, skin color is important in self-domains that are central to masculinity (i.e., competence) and femininity (i.e., affirmation of the self). (p. 351)

Moreover, the authors noted that self-esteem and self-efficacy outcomes across gender were more pronounced among low SES African Americans (Thompson & Keith, 2001). Although the study did not directly connect their theoretical framework to interdependent and independent self-construal, their findings can be re-interpreted using cultural psychology. For example, since women and persons of low SES, respectively, are more prone to interdependent self-construal, we can expect them to be the most vulnerable to threats to self-esteem (i.e. report the lowest self-esteem). This should occur because women and low SES groups are the most “other-oriented”; therefore, they are likely to attune to (and possibly internalize) the negative judgments of others in their social context, according to the aforementioned literature.

Interpreting Skin Tone Discrepancies

This literature review leads to the question, what do skin tone discrepancies mean? Do judgments of others trump self-judgments (i.e. represented by self ratings of skin tone)? Or do self-judgments trump others’ judgments with respect to self-esteem outcomes? If so, are outcomes consistent across gender? Because the data represented in this study are based upon individual survey responses, we are limited in how we can empirically represent the “judgments of others.” We recognize that external evaluations of a person's skin-tone is a complex issue; thinking about external evaluators may represent gender similarities and differences, in-group and out-groups, SES differences and a host of other factors that might represent the larger community of who could constitute external evaluators of skin-tone. In this study, we used the independent judgments of the interviewers as a proxy for the myriad ways that external evaluation could be interpreted. These interviewers were required to attend a one-week training workshop at the University of Michigan Survey Research Center where they learned how to

conduct the interviews. In the 1995 Detroit Area Study, interviewers used a color palette to code skin tone differences whereas in the 2003 National Survey of American Life, interviewers categorized respondents without a standardized palette during home visits, although their training included a color palette. This methodological approach has strengths and limitations. Because skin tone bias is a social construction, people categorize themselves and others in relation to norms. The norms that respondents used to categorize themselves (whether they were family-, neighborhood-, individual- or community-based standards) represent only one perspective, and that perspective may differ from the norms (e.g. the color palette) that interviewers used to evaluate respondents. While we recognize that this is not ideal, we probably do gain at least a slice of what external evaluations of skin tone may be across a variety of different possible external actors, by having the independent ratings of trained, professional interviewers, who for the most part were drawn from the communities of the respondents.

Possible outcomes for skin tone discrepancies between interviewers and respondents include:

Outcome 1: Discrepancies between self-rated skin tone and interviewer-rated skin tone will not predict self-esteem. Interviewer-ratings alone will significantly predict self-esteem of the respondent.

Outcome 2: Interviewer ratings alone will not predict self-esteem. However, discrepancies in self-versus interviewer-ratings will significantly predict self-esteem of the respondent.

Outcome 3: Interviewer ratings will not predict self-esteem. Discrepancies also will not predict self-esteem of the respondent.

Outcome 4: Discrepancies between self-rated skin tone and interviewer-rated skin tone will predict self-esteem. Interviewer-ratings will also significantly predict self-esteem of the respondent.

Possible interpretations of these outcomes include:

Outcome 1: Conceptually, this would indicate that interviewer/society judgments trump self-judgments in contributing to self-esteem. In other words, when people choose to perceive themselves as more light-skinned or more dark-skinned than the interviewers' assessment of their skin tone, those self-judgments do not matter for self-esteem. Succinctly, this result would imply that self-judgments neither “protect” self-esteem nor “expose” the person to self-esteem problems. Instead, it suggests that the most important factor that determines self-esteem is how *other* people in society or their community perceive and treat them. This reaction is, thus, consistent with an “other-focused” *interdependent* worldview because the perceptions of and treatment from others (i.e. community/society as interpreted through the interviewer) fuel their sense of worth (self-esteem). This also implies that groups with the most devalued skin tone according to their community (e.g. dark-skinned persons) should consistently report the lowest self-esteem.

Outcome 2: Conceptually, this outcome would suggest that self-esteem differences are largely self-driven or motivated by internal/individual perceptions (as opposed to external perceptions of observers such as Outcome 1). Since interviewers' assessments, by

themselves, do not predict self-esteem but the discrepancies between self-ratings and interviewer ratings do significantly predict self-esteem, this implies that self-esteem is associated with dissatisfaction with one's own appearance (since discrepancies incorporated self-judgments). This reaction is more consistent with an independent/individualistic worldview because the individuals' own perceptions fuel their sense of worth (self-esteem). For example, being judged by the community (represented by the interviewer's judgment) as "dark" or "light" will not predict low or high self-esteem of the respondent unless the respondents judge themselves differently, which may illustrate insecurity or dissatisfaction about one's complexion.

Outcome 3: Conceptually, this outcome would indicate that neither self-ratings nor observer-Ratings are connected to self-esteem. This would suggest that self-esteem is probably not derived from skin tone perceptions.

Outcome 4: Like Outcome 1, conceptually, Outcome 4 suggests that the community's perception of the respondent is important in predicting self-esteem. However, since skin tone discrepancies simultaneously predict self-esteem, respondents may be able to exercise some control over self-esteem if their self-esteem was "protected" by their tendency to self-rate their complexion closer to a more esteemed color.

In light of the reviewed literature on influences of culture on gender and social class, we can expect certain outcomes for men and women. It is hypothesized that Outcome 1 will be more likely among African American women (interdependent self-construal) while Outcome 2 will be more likely among African American men (independent self-construal).

Masculinity and Skin Tone Outcomes -- African American Men

The first paper (Chapter 2) investigates an understudied topic—skin tone influences on African American men. Previous research has largely neglected to examine the role of skin tone and masculinity among African American men because scholars often assume that colorism is mostly a “female issue,” perhaps because of its strong association with beauty. The analyses in Chapter 2 challenge previously held assumptions of gender and psychological consequences of colorism by examining only men. This chapter uses Pleck’s (1995) masculinity theoretical framework—the Gender Role Strain Paradigm—to investigate mechanisms through which self-worth may be linked to skin tone for African American men.

First, men’s appraisals of social exclusion from out-groups (the “out-group appraisal”) and in-groups/fellow Blacks (the “in-group appraisal”) are examined. Using the 1995 DAS and 2003 NSAL, the same analyses were conducted and examined to determine whether patterns replicate across the two time points while adjusting for demographic characteristics of the respondents and interviewers. Additionally, Chapter 2 challenges the assumption that men’s self-esteem is not associated with skin tone by applying a unique method of analysis in this line of research: examining skin tone discrepancies between self-rated and interviewer-rated skin tone for African American men and examining the association of these discrepancies with self-worth across social classes. Since the reviewed literature indicated that men are more self-focused and

exhibit independent self-construal, this type of analysis (i.e. investigating skin tone discrepancies) is appropriate.

Chapter 2 contributes to the body of colorism literature on African American men by highlighting consistent disparities in perceptions of discrimination from men of varying shades. This is also an important contribution to the broader literature on masculinity and mental health for men of color because it delineates the possibility that men of certain hues could be at greater risk for perceiving discrimination than others; thus, these groups of men could also be at greater risk for mental health outcomes, such as depression. Moreover, the study illustrates another characteristic (i.e. phenotype) that researchers could benefit from paying more attention to better understand the heterogeneity of lived experiences of African American men.

Femininity and Skin Tone Outcomes -- African American Women

Colorism research has long assumed that among women of color, those of darker-skin complexion are always worse off in social, psychological, and economic outcomes. Chapter 3 focuses specifically on African American women in the 1995 DAS and 2003 NSAL, and investigates whether earlier psychosocial and economic findings generated from the older 1980 NSBA literature (Keith & Herring, 1991; Thompson & Keith, 2001) still replicate in these two samples. Finally, like the previous chapter, Chapter 3 also explores self-esteem outcomes for African American women in light of feminist theory.

Chapter 3 examines the same out-group and in-group appraisals of skin tone discrimination as the chapter on men. Previous research found evidence that darker-toned women experience more discrimination from racial out-groups (Klonoff & Landrine, 2000) but has not carefully examined their perceptions of discrimination from racial in-group members.

This chapter first examines the out-group appraisal across the two datasets (as well as SES outcomes) to determine whether trends replicate. Next, this chapter explores appraisals of exclusion from in-group members (i.e. Black-on-Black *intragroup* discrimination). We can expect to find gender differences in experiences *inside* the race since sociologists have indicated that although light skin tone may be an asset for African American women, darker-toned women can “reclaim” some power by priding themselves on being more “legitimate and authentic” members of their race than light-skinned women (Hunter, 2008). This chapter explores whether dark-skinned women are advantaged in some aspects of perceived skin tone discrimination.

Finally, women’s self-esteem outcomes will be examined in Chapter 3. Using the “other-focused” self-construal literature as a framework, interviewer-rated skin tone will be examined as a predictor of self-esteem. In addition, while some may intuitively expect discrepancies in self-rated versus interviewer-rated skin tone to “protect” women’s self-esteem, the “other-focused” framework predicts otherwise because society’s perceptions could trump women’s perceptions. These analyses explore whether interviewer-rated skin tone (an outside observer’s perception) trumps measures that incorporate women’s perceptions (i.e. skin tone discrepancies) in predicting self-esteem. This chapter builds on previous studies that extended skin tone’s role in objectification of African American women (Buchanan, Fischer, Tokar, & Yoder, 2008; Thompson & Keith, 2001). Analyses in this study make a unique contribution because they investigate experiences of skin tone discrimination across two social contexts (i.e. racially homogenous in-group settings versus racially diverse out-group settings) and has important implications for women who inhabit those respective environments.

Skin Tone, Stress and Health Outcomes -- Women

The third paper (Chapter 4) investigates women's skin tone outcomes further. Since previous research found inconsistent results regarding skin tone's association with health outcomes, this paper explores the possibility that the method of measurement of health and stress may influence the possible associations (Borrell, Kiefe, Williams, Diez-Roux, & Gordon-Larsen, 2006; Sweet, McDade, Kiefe, & Liu, 2007). Therefore, in the 1995 DAS and 2003 NSAL, associations of skin tone with subjective measures of health (i.e. self-rated health) and objective measures (i.e. summary score of diagnosed chronic illnesses) are compared; similarly skin tone associations with subjective stress (e.g. Cohen's stress scale score/goal-striving stress) and more objective reports of stressful life events are also compared. These differences in results of reports of objective conditions, compared to subjective statuses will be addressed in the context of research on "positive illusions" (Taylor & Brown, 1988) which posits that people are motivated to perceive themselves in a flattering or favorable manner to maintain positive self-views.

This paper is unique because previous studies have not carefully investigated the possibility that different measures might have influenced results of skin tone and health studies. Another contribution of the chapter is that it extends research that has suggested that high SES African Americans suffer additional health and stress-related risks that low SES African Americans do not experience—the "*diminishing returns*" hypothesis (Farmer & Ferraro, 2005); in this chapter, skin tone is investigated as another potential social determinant of health for African American women.

Together, these three papers attempt to understand within-group social psychological differences among African Americans that may vary by phenotype—namely, skin tone. Men and women are explored separately because they are socialized differently; thus, their forms of self-construal (e.g. interdependent versus independent) and reactions to skin tone discrimination

should differ. The thesis provides some insight into the heterogeneity of their life experiences, which may also play a role in their levels of exposure to, and perceptions of, racial discrimination. Finally, since colorism is an understudied topic, these findings could be particularly useful to clinicians who desire to better understand mental health needs of populations of color, and it could inform interventions that mitigate negative emotional and health-related consequences of colorism.

CHAPTER II

AFRICAN AMERICAN MEN AND SKIN TONE DISCRIMINATION

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Abstract. This study investigated perceptions of skin tone discrimination among adult African American men. Research suggests that through negative African American stereotypes, out-group members (Whites) perceive light-skinned African Americans favorably and dark-skinned African Americans unfavorably. However, it is unclear how treatment by in-group members (other African Americans) uniquely affects men. Using data from the 1995 Detroit Area Study and the 2003 National Survey of American Life, we investigated these relationships among African American men representing a wide range of socioeconomic groups. We found that African American men's perceptions of out-group and in-group treatment, respectively, were similar across time. Light-skinned men perceived the least out-group discrimination while dark-skinned men perceived the most out-group discrimination. In appraisals of skin tone discrimination from in-group members, medium-skinned men perceived the least discrimination while both light- and dark-skinned men perceived more in-group discrimination. Additionally, men of lower social economic groups were more affected by skin tone bias than others. Future research should explore the influence of these out- and in-group experiences of skin tone discrimination on social and psychological functioning of African American men.

Among African Americans, skin tone is an important physical characteristic that creates divisions in the community and affects quality of life. Like gender, a person's skin tone is a visible physical trait that others immediately notice during social interactions and use to form judgments (Maddox & Gray, 2002). Throughout American history, variations in skin tone have contributed to socioeconomic status (SES) differences among African Americans (Herring et al., 2004; Keith & Herring, 1991). Furthermore, African Americans use skin tone variations to distinguish themselves from each other, reflecting social status hierarchies (Celious & Oyserman, 2001; Hill, 2002b). Given the importance of gender in colorism (Hunter, 2002), it is possible that African American men could be affected by skin tone bias in ways that are not yet clearly understood. Importantly, reflecting different social prescriptions of masculinity, African American men's perceptions of skin tone discrimination may vary across social classes. In this paper, we explored this possibility for men in their perceptions of skin tone discrimination from both within and outside of their racial group.

Historical context and empirical findings on skin tone

In American history, slavery constituted a strict caste system that distinguished Black slaves by their skin tones. Lighter-skinned slaves were often mixed-raced and favored by White slave-owners. These lighter-skinned slaves were frequently fathered by White slave-owners (typically from nonconsensual sexual relations with female slaves) and were, therefore, privileged (Brown, Ward, Lightbourn, & Jackson, 1999; Keith & Herring, 1991); unlike dark slaves, lighter-skinned slaves were spared physically strenuous, outdoor work and instead held domestic indoor jobs like housekeeping in closer contact to Whites. Over time, these privileges in the antebellum period allowed lighter-skinned Blacks to become more educated (Wirth &

Goldhamer, 1944) and to own more property (Frazier, 1957). Furthermore, to maintain their elite status and privileges, some lighter-skinned Blacks engaged in social practices to exclude darker-skinned Blacks from entering their social circles. These practices included the “Paper Bag Test,” (which banned Blacks from joining social fraternities if their skin tones were darker than a brown paper bag), the “Comb test,” (which banned Blacks with coarse, nappy African hair if combs could not glide through it) and the “Blue veins” society (which banned Blacks whose skin tones were too dark to see the blue veins on their arms) (Bond & Cash, 1992). These findings consistently indicated that light skin tone resulted in clear social and economic advantages.

It is not surprising that early research conducted following the emancipation of slaves found that African Americans of both genders were influenced by colorism. Later research suggested that African Americans usually preferred skin tones that were similar to their own shade (Hall, 1992) while other studies indicated that they strongly preferred lighter skin tones regardless of their own shade (Porter, 1991). For the most part, psychologically, African Americans who physically appeared close to the average, medium-brown skin tone (i.e. a “prototypical” shade) seemed to be protected in their racial identity (e.g. closeness to other Blacks) and were the least stigmatized by other African Americans (Hall, 1992; Holtzman, 1973).

In contrast, men and women with skin tones on the extreme ends of the spectrum (i.e., very dark and very light) experienced a lowered sense of mastery (Holtzman, 1973; Thompson & Keith, 2001) or felt less attached to other African Americans (Celious & Oyserman, 2001; Parrish, 1946). Overall, results of those studies were mixed; although light skin tone may have been idealized, they experienced discrimination from Blacks because they were perceived as superior and snobby. Medium-skinned persons may have been more protected in their identity

and attachment to African Americans since they had the fewest negative stereotypes associated with their complexion in intra-racial settings. Thus, skin tone bias can be complex—simultaneously serving as advantageous or disadvantageous depending on the social context.

Theoretical framework: African American masculinity and desires to belong

Although past studies have contributed to understanding skin tone influences on African Americans generally, they have overlooked the unique ways that skin tone may have affected African American men and masculinity. Culture plays an important role in constructing masculinity expectations (Kimmel & Messner, 1992) and it is these expectations that serve to shape the role of skin tone in African American men's self-concept. Cultural psychology suggests that the thoughts and perceptions of groups are primarily oriented as either interdependent/collectivistic, emphasizing connectedness and similarity to their group, or independent/individualistic, emphasizing attention to the individual self and uniqueness from others (Markus & Kitayama, 1991).

Some research has suggested that interdependence and collectivism may be an important part of African American culture (Constantine, Gainor, Ahluwalia, & Berkel, 2003). Indeed this interdependent orientation may extend to African American constructions of masculinity ideals as well. For example, masculinity research suggests that African American manhood is often constructed relationally. Hammond and Mattis (2005) described it as being developed within an interdependent process in connection to others. This paralleled Hunter and Davis' (1992, 1994) findings, Mattis, Hearn, and Jagers' (2002) research on communalism, and Wade's (1998) relational theory of African American masculinity. These relational constructions may extend to men's need to belong to in-groups.

Tied to this desire to “relate” and feel accepted are two theoretical frameworks that may be relevant to understanding skin tone discrimination: a) the “need to belong,” and, b) masculine discrepancy-strain. The first theory, the “need to belong,” was introduced by Baumeister and Sommer (1997) and suggested that men desire to feel connected to social groups in “... a broad group with multiple people, particularly by competing for a good position in a status hierarchy” thus, men will “...care quite seriously about how strangers perceive them” (Baumeister & Sommer, 1997, p. 39) to gauge their status and belonging in the group. Moreover, research on minority men has suggested that ethnic belonging is a robust predictor of endorsement of traditional masculinity ideology (Abreu, Goodyear, Campos, & Newcomb, 2000). Therefore, minority men may be particularly vulnerable to threats related to belonging.

The second theoretical framework, masculine discrepancy strain, is also tied to men’s desire to feel accepted. Masculinity research has suggested that men hold an idealized view of what it means to be a man, as well as features that they believe are possessed by the respected, “ideal men” (Levant & Pollack, 1995; Liu, Rochlen, & Mohr, 2005; O’Neil, Helms, Gable, David, & Wrightsman, 1986). For example, if a man perceives that he has failed to live up to idealized physical appearance standards, according to Pleck’s (1995) gender role strain paradigm, he may experience discrepancy-strain—a stressor that can negatively affect his self-esteem (O’Neil et al., 1986). Since skin tone biases are tied to cultural physical appearance ideals, it is plausible that discrepancy-strain can be applied to understand it. For example, feeling that one is “too dark” or “too light” to “fit in” may threaten an African American man’s sense of belonging, and, consequently, his self-esteem.

Masculinity and skin tone biases: Complexities with income and self-esteem

The discrepancy-strain suggested by Pleck (1995) may be relevant to the unique role of skin tone in African American masculinity in various ways. Some research suggested that among African American males, dark-skinned men may be idealized as “alpha” males, possessing heightened masculine characteristics, such as dominance (Hall, 1995), strength, virility and confidence in their sex appeal (Wade, 1996). Thus, it is possible that African American men may idealize darker skin tone as one indicator of “maleness.”

It has also been found that dark-skinned men have been stereotyped by African Americans and Whites as being “bad boys” and very dangerous (Kahn & Davies, 2011). Dark-skinned men have self-reported more frequent occurrences of racial discrimination than medium- and light-skinned men (Klonoff & Landrine, 2000). Experimental studies have corroborated this finding; dark-skinned men have been the most common targets of racial profiling and police harassment (Eberhardt, Davies, Purdie-Vaughns, & Johnson, 2006). Once arrested, dark-skinned African American men are ordered to serve longer and harsher prison sentences than their lighter-skinned counterparts for similar crimes (Blair, Judd, & Chapleau, 2004; Gyimah-Brempong & Price, 2006). Thus, all aspects of dark skin tone may not be idealized by African American men because of the associations with poor treatment in society.

Research has also found that darker-skinned African American men may receive less endorsement to advance their careers, earn significantly lower wages than light-skinned men (Goldsmith, Hamilton, & Darity, 2006) and consider their complexion as a barrier to career success (Sánchez, Liu, Leathers, Goins, & Vilain, 2011). For example, during the 2008 presidential election season, one study tracked skin tone perceptions of then-Senator Barack

Obama (an African American Democratic candidate) and found that conservatives and persons that did *not* vote for Obama estimated his skin tone to be significantly *darker* than his true complexion (Caruso, Mead, & Balcetis, 2009); in contrast, liberals and persons that voted for Obama estimated that he was significantly more light-skinned than his true complexion.

Dark men may also be disadvantaged during job interviews. One study found that employers were especially reluctant to hire dark-skinned African American men over light-skinned men because they stereotyped dark men as being arrogant and dishonest employees who had poor work ethics (Kirschenman & Neckerman, 1991). In a similar vein, Acura, a major car company, recently apologized for language used in a casting call to hire an African American male actor who was “nice looking, friendly...not too dark” for a 2012 Super Bowl commercial (Duke, 2012). This information leaked after a dark-skinned African American actor, who was rejected for the job, stated that the company feared that clients would feel threatened by his presence in the commercial. These preferences may block darker men’s access to economic rewards and undermine their ability to fulfill masculine breadwinner and protector roles (e.g. father or husband)—a central aspect of demonstrating traditional masculinity (Doyle, 1983; Thébaud, 2010).

Keith and Herring (1991) found that dark-skinned African American men were the most likely to be employed in blue-collar jobs, usually as laborers (in contrast to light-skinned men who were the most likely to be employed in professional white-collar jobs); this mirrored occupational trends since slavery when light-skinned slaves had less physically strenuous occupations. Moreover, among African Americans, dark-skinned men have been the most likely to be unemployed (Brown et al., 1999) and live in low-income, segregated inner-city

neighborhoods (Hochschild & Weaver, 2007). These findings illustrate the SES variations across skin tone that have lingered long after slavery ended.

Some research also suggested that low income environments may place dark-skinned African American men at a psychological disadvantage. Thompson and Keith's (2001) analysis of the 1980 National Survey of Black Americans (NSBA), the first nationally representative sample of African Americans (Jackson & Gurin, 1987), found that among low-income men, interviewer-rated skin tone was not associated with lowered self-esteem but was associated with lowered self-efficacy. They concluded,

Traditional definitions of masculinity demand men specialize in achievement outside the home, dominate in interpersonal relationships, and remain rational...consistent with gendered characteristics...skin color is important in self-domains that are central to masculinity (i.e., competence) (Thompson & Keith, 2001, p.351).

Although they concluded that self-esteem was unrelated to skin tone for men, Thompson and Keith (2001) could not examine self-reported skin tone relationships; this measure was not included in the 1980 NSBA. The NSBA only included interviewer ratings of skin tone, precluding past researchers from exploring the possibility that discrepancies in self- and interviewer-ratings may be linked to self-esteem, as Pleck's (1995) discrepancy-strain predicts.

Furthermore, the relationships of skin tone with income illustrate the importance of social context in shaping perceptions of African Americans. Some research has shown that skin tone can be especially consequential in low income environments because those settings are the most racially segregated (Massey, 2004). Skin tone stigma may be more prevalent in intra-racial contexts (i.e., all Black) rather than in inter-racial (e.g., Black-and-White) contexts because African Americans are particularly motivated to distinguish themselves from each other in the

absence of Whites (Harvey, LaBeach, Pridgen, & Gocial, 2005). Succinctly, African Americans distinguish themselves from Whites in inter-racial settings and distinguish themselves from Blacks (using skin tone) in intra-racial settings.

Additionally, in these low income intra-racial contexts, light-skinned African American males may also be at a psychological disadvantage. Males may be especially concerned about their skin tones in these racially homogenous settings because it can serve as an indicator of “belonging” to their racial group. One study of low income African American adolescent boys found that being light-skinned was a risk factor for perceiving academic success as a non-masculine aspiration (Oyserman, Brickman, Bybee, & Celious, 2006). This study suggested that males “fit in” and identify with racial in-group members through their physical appearance (skin tone); being light-skinned in those low income, intra-racial settings (i.e. standing out/appearing unusual) was a disadvantage for males. Light-skinned boys may have felt threatened, and, thus, motivated to overcompensate for their feelings of physical *dissimilarity* from their racial in-group. They may have attempted to “prove” their “black maleness” through negative behaviors (e.g. receiving poor grades) that could make them appear more masculine/tough, *similarly* to their under-achieving African American male peers.

Self-rated versus interviewer-rated skin tone: Discrepancies and psychological implications

This struggle over real versus ideal skin tone has been examined in children and adolescents (Erkut, Fields, Coll, Szalacha, & Alarcon, 2000). Empirical studies on skin tone usually include only one of the following measures: interviewer-rated skin tone, reflectance meter recordings of skin tone, or self-rated skin tone. Occasionally, some studies include two of these measures and examine them for corroboration. One might intuitively suspect that

misalignment (discrepancy) of self- and interviewer-ratings could possibly be linked to insecurities and self-esteem. Skin tone research on Latino children (males and females) found that discrepancies, where the children perceived themselves as *darker* than the Latino interviewer rated them, was a predictor of poor self-esteem (Erkut et al., 2000). However, research on adult minority groups (such as African American men) has not carefully investigated the possibility that misalignment of skin tone ratings may manifest in low self-esteem or threats of not feeling masculine enough (Pleck, 1995).

Hypotheses

In sum, research on inter-racial (i.e. White-and-Black) social interactions consistently indicated that dark-skinned African American men have been treated poorly by out-groups (namely, Whites) while their light-skinned counterparts have been treated favorably by out-groups historically (Klonoff & Landrine, 2000). Literature on intra-racial (i.e. Black-and-Black) relationships also suggested that both dark-skinned males (Kahn & Davies, 2011) as well as light-skinned males (Oyserman et al., 2006) have been stereotyped negatively by in-group members, particularly in low SES contexts; in contrast, medium-skinned men may be protected from in-group discrimination. Although previous research revealed that interviewer-rated skin tone was not associated with self-esteem for African American men (Thompson & Keith, 2001), discrepancies in self-rated versus interviewer-rated skin tone were not examined and could be related to feelings of strain (Pleck, 1995) and self-esteem (Erkut et al., 2000).

We explore these relationships among African American men across two cross-sectional datasets—an older, regional sample from Detroit and a more recent, nationally representative sample. Our objective in using two samples is twofold: First, we expect to find that general

patterns in African American men's responses to skin tone discrimination will replicate across time because colorism has been deeply ingrained in the culture; second, since research indicates that skin tone bias is more prevalent in intra-racial, low SES contexts, we expect men's responses in the Detroit sample to be more pronounced because Detroit reflects a decidedly impoverished and racially segregated environment (Eisinger, 2003).

First, we hypothesize that African American men of dark-, medium-, and light-skin tone will report skin tone discrimination from their in-group (the "in-group appraisal") and their out-groups (the "out-group appraisal") in consistent patterns at two cross-sectional time points (i.e., 1995 and 2003); this prediction is informed by the aforementioned literature and the ingrained nature of colorism culturally. Moreover, these appraisals should be robust across time because the social factors related to men's "need to belong" (Baumeister & Sommer, 1997) should motivate them to be aware of their position in largely unchanged status hierarchies. Second, when self and interviewer skin tone reports differ, we hypothesize that men will self-rate closer to the skin tone that reported the least discrimination in the in-group appraisal (i.e. medium brown). This is informed by findings on the collectivistic nature of African American masculinity, suggesting that they will desire to appear more similar to the most respected skin tone group. Third, we hypothesize that discrepancies in self and interviewer ratings will be associated with lower self-esteem, as Pleck's (1995) discrepancy-strain construct predicts.

We hypothesize the following associations for African American men:

- H₁: In the out-group appraisal, light-skinned men will report the least discrimination. In the in-group appraisal, medium-skinned men will report the least discrimination.
- H_{2a}: In the comparison of interviewer-rated and self-rated skin tone, when skin tone ratings misalign, men will most often self-rate closer to a medium-brown—the group that will report the least discrimination in the in-group appraisal.

- H_{2b}: Since skin tone bias is most salient and impactful in intra-racial settings (Harvey et al., 2005), there will be more discrepancies in skin tone ratings among men of lower SES since they are more likely to reside in intra-racial settings.
- H₃: Consistent with past research, men's interviewer-rated skin tone alone will not be associated with self-esteem (Thompson & Keith, 2001). But men's skin tone misalignment (self-rating with a darker or lighter bias than the interviewer) will indicate discrepancy-strain (Pleck, 1995) and will be associated with lower self-esteem.

Method

Participants and design

Two data sources were used in this paper: The 1995 Detroit Area Study—Social Influence on Health (1995 DAS) and the 2001-2003 National Survey of American Life: Coping with Stress in the 21st Century (2003 NSAL). Both of these surveys were conducted through the University of Michigan's Institute for Social Research and include similar measures on SES, discrimination, psychosocial influences on well-being, and skin tone.

Specifically, the DAS is a multi-stage, area probability sample that represented the adult population in three Detroit-area counties. The complete 1995 DAS survey sample included 1,139 adults with 586 African Americans (overall response rate 70%). Most interviewers who surveyed the African American sample (90.2%) were Black (i.e. race-matched). These trained interviewers from the Survey Research Center of the University of Michigan completed the fieldwork in respondents' homes in 1995. In this paper, analyses were limited to race-matched African American men of ages 18-95 years ($M_{\text{age}}=41.55$, $SD=16.65$) with complete data on covariates (173 un-weighted). For additional information, see Jackson and Williams (2002) or the study website: <http://dx.doi.org/10.3886/ICPSR03272>.

The 2001-2003 NSAL (commonly referred to as the 2003 NSAL) is the most comprehensive and most recent nationally representative household sample of 5,191 non-institutionalized Black Americans, African Americans, and Black Caribbean's in the United States. The response rate for NSAL African Americans was 70.7%. The full NSAL sample includes 1,217 African American men of which 85.8% were race-matched to Black interviewers. Because of the importance of culture, in our final analysis sample, we excluded Black men that were not African Americans (i.e. Black Caribbean's, West Indians, Africans, and Blacks of other cultural heritages). Analyses in the NSAL were also restricted to race-matched African American men ($M_{age}=41.72$, $SE=.72$, range of 18-91) with complete data on interviewer- and self-rated skin tone and covariates (N=944 un-weighted in final sample). For more information, see <http://www.rcgd.isr.umich.edu/prba/nsal> (Jackson et al., 2004).

The DAS was a multi-stage area design based upon the demographics of the greater Detroit area in 1995. Data were statistically weighted to account for the different probabilities of selection and analyses were conducted using IBM SPSS v19.0 (SPSS, 2010). Because of the complex sample design of the NSAL, analyses were conducted using the *svy* commands of STATA 12.0 (StataCorp., 2013) to properly handle the clustering, stratification, and weights.

Measures

Interviewer-rated skin tone. In the DAS and NSAL, interviewers privately rated respondents' skin tone at the end of the interview. Interviewer-rated skin tone was used for the main appraisal analyses, consistent with previous skin tone studies (Hughes & Hertel, 1990; Keith & Herring, 1991; Thompson & Keith, 2001) that attempted to simulate community judgments. In the DAS, trained interviewers were members of the tri-county Detroit community,

and, for the most part, trained interviewers in the NSAL were also drawn from local communities.

One question in the DAS was used to capture how light or dark the interviewer assessed the respondent: “R’s skin color is – 1. Very dark brown (3.6%); 2. Dark brown (29.3%); 3. Medium brown (47.3%); 4. Light brown (15.7%); 5. Very light brown (4.1%).” The responses for this ordinal measure were re-coded into a three-level ordinal measure (Dark, Medium, Light); “Very dark” and “dark” collapsed to “Dark,” medium remained the same, and “light” and “very light” collapsed to “Light.” This three-category measurement scheme is consistent with previous skin tone studies (Bond & Cash, 1992; Hughes & Hertel, 1990; Keith & Herring, 1991) since ratings for skin tone in the United States historically peak at descriptions of “dark,” “medium,” and “light,” perhaps because African Americans have generally categorized each other in those ways. In the NSAL, a similar question was available on a 7-point scale: “1. Very dark (3.8%); 2. Dark (20.1%); 3. Somewhat dark (18.3%); 4. Medium (41.0%); 5. Somewhat light (9.9%); 6. Light (5.5%); 7. Very light (1.4%).” This measure was re-coded to “dark,” “medium,” and “light” by collapsing the darkest three categories as “dark” and the lightest three categories as “light” and leaving “medium” the same.

Self-rated skin tone. Additionally, in both the DAS and NSAL, self-rated skin tone was collected using a 5-point scale, “1. Very dark brown; 2. Dark brown; 3. Medium brown; 4. Light brown; 5. Very light brown.” The percentages in the DAS from “very dark brown” to “very light brown” were 5.1%, 26.7%, 44.0%, 20.2%, and 4.0%, respectively, while the NSAL’s were 7.5%, 30.6%, 45.4%, 13.4%, 3.2%, respectively. Unlike the DAS, the NSAL had two different scales for ratings of skin tone (one 7-point category for interviewers and one 5-point

category for respondents). Self-rated skin tone has generally not been used in this type of research because interviewer judgments of skin tone can be thought of as more “objective” assessments representing community standards of variations in skin tones (Hill, 2002a).

Discrepancy in skin tone reports. Standardized scores (z -scores) were computed for self- and interviewer-rated skin tone, respectively. DAS z -scores of the self-rated (z_{self}) and interviewer-rated (z_{iwr}) skin tones were as follows: 1. Very dark brown ($z_{\text{self}} = -2.13$, $z_{\text{iwr}} = -2.24$); 2. Dark brown ($z_{\text{self}} = -1.02$, $z_{\text{iwr}} = -1.06$); 3. Medium brown ($z_{\text{self}} = .09$, $z_{\text{iwr}} = .11$); 4. Light brown ($z_{\text{self}} = 1.20$, $z_{\text{iwr}} = 1.29$); and 5. Very light brown ($z_{\text{self}} = 2.31$, $z_{\text{iwr}} = 2.47$). NSAL self-rated skin tones (the same 5-point scale) z -scores were as follows: $z = -1.94$, $z = -.82$, $z = .30$, $z = 1.42$, $z = 2.53$, respectively. NSAL interviewer-rated skin tone (7-point scale) z -scores were as follows: 1. Very dark ($z = -2.03$), Dark ($z = -1.24$), Somewhat dark ($z = -.44$), Medium ($z = .36$), Somewhat light ($z = 1.16$), Light ($z = 1.95$), Very light ($z = 2.75$). Discrepancies were calculated by subtracting the z -scores of interviewer ratings from the z -scores of self-ratings for each respondent; these values were then squared, eliminating negative values. In the DAS and NSAL, mean values of these squared standardized units were as follows: $M_{\text{das}} = .68$, $SD_{\text{das}} = 1.18$ (range 0.00-11.73) and $M_{\text{nsal}} = .59$, $SD_{\text{nsal}} = 1.19$ (range 0.01 – 14.21).

In-group and out-group appraisals (perceived skin-tone based discrimination). In the DAS, two questions assessed how respondents appraised their skin tone as either an advantage, a disadvantage, or irrelevant during interactions with African Americans/Blacks (in-group) as well as Whites (out-group). The out-group appraisal read: “Because of the shade of your skin tone do you think White people treat you: 1. A lot better; 2. Somewhat better; 3. No different; 4. Somewhat worse; or 5. A lot worse than other Blacks?” Similarly, they were also asked to

appraise their perception of in-group (other African Americans/Blacks) treatment based on skin tone, using an identically-phrased question replacing “White” with “Black.” In the NSAL, the out-group appraisal was worded differently: “How often would you say that Whites treat you badly because of the shade of your skin color? 1. Very often; 2. Fairly often; 3. Not too often; 4. Hardly ever; 5. Never.” An identical question was asked for their in-group appraisal, replacing “Whites” with “Blacks.” These NSAL appraisals were reverse coded to be consistent with the DAS (higher scores indicate more discrimination).

Self-esteem. Since an important consequence of skin tone bias is its influence on self-evaluations (Thompson & Keith, 2001), self-esteem is investigated. In both samples, the self-esteem measure was taken from items in Rosenberg’s (1965) self-evaluative instrument on a Likert-type scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*). Only 4 items were available for the self-esteem measure for DAS African American men ($M=3.79$, $SD=.37$): "I feel that I am a person of worth, at least on an equal plane with others"; "All in all, I am inclined to feel that I am a failure"; "I am able to do things as well as most other people"; "I feel I do not have much to be proud of." Internal consistency estimates for DAS men in the final sample varied by income: $\alpha= .48$ overall, $\alpha=.64$ for men earning less than \$20,000. In the NSAL, all 10 items of the scale were available ($M=3.62$, $SE=.02$) ($\alpha= .77$ for NSAL men in this final sample).

Respondent characteristics. Age, education, and income were collected. In both the DAS and NSAL, date of birth was used to calculate age, while highest education completed was captured as “1. Kindergarten-11th grade; 2. High school/GED graduate; 3. Some college; 4. Bachelor’s degree or higher.” In the DAS, family income was categorized as “1. Under \$10,000; 2. \$10,000-\$19,999; 3. \$20,000-\$39,999; 4. \$40,000-\$59,999; 5. \$60,000 or higher.” Family

income in the NSAL was categorized as “1. Less than \$16,000; 2. \$16,000-\$24,999; 3. \$25,000-\$34,999; 4. \$35,000-\$49,999; 5. \$50,000-\$74,999; 6. \$75,000-\$99,999; 7. \$100,000 or more.”

Socioeconomic status differences in samples. A premise of some arguments in this paper is that the DAS sample is proportionally more impoverished than the NSAL. Income differences reflect this—the middle 50-60% of this NSAL sample earned between \$25,000 and \$50,000 while DAS men, on average, earned around \$20,000-40,000. NSAL men were more educated—nearly 20% attended college in contrast to 8% of DAS men. Similarly, nearly 30% of DAS men did not complete high school in contrast to 19% of NSAL men.

Interviewer characteristics. Gender (male or female), age, and education level were collected on all interviewers. In both the DAS and NSAL, educational attainment for interviewers was collected on a consistent 7-point scale (1=1st-8th grade, 2=some high school, 3=high school grad, 4=some college, 5=college grad, 6=Master’s degree or equivalent, 7=PhD grad). Race was assessed and used to remove non-race matched pairs.

Results

H₁: In the out-group appraisal, light-skinned men will report the least discrimination; in the in-group appraisal, medium-skinned men will report the least discrimination.

These hypothesized relationships are investigated before and after controlling for respondent characteristics (age, education, income) and interviewer characteristics (age, education, gender). Analysis of variance (ANOVA) and covariance (ANCOVA) were used in DAS analyses while bivariate and multiple regressions were used in NSAL analyses in order to properly handle the complex sample design of the NSAL in STATA software. In the DAS, African American men’s out-group appraisal of skin tone discrimination was significantly related to skin-tone, ANOVA $F(2, 225) = 24.74, p < .0005, \eta_p^2 = .18$ and ANCOVA $F(2, 219)$

=30.78, $p < .0005$, $\eta_p^2 = .22$. Dark-skinned men ($M = 3.29$, $SD = .49$) reported the most out-group skin tone discrimination, followed by medium-skinned men ($M = 3.08$, $SD = .64$), and light-skinned men ($M = 2.51$, $SD = .63$) reported the least (see Figure 1.1). All DAS light-skinned men reported either neutral or *favorable* treatment by Whites (none reported *worse* treatment). Fisher's Least Significant Difference (LSD) post hoc tests indicated that light-skinned men's reports significantly differed from medium-skinned ($p < .000$) and dark-skinned men's ($p < .000$). Medium-skinned men's reports differed from dark-skinned men's reports ($p = .022$).

In-group appraisals in the DAS were also statistically significant before and after controlling for the same covariates, ANOVA $F(2, 225) = 8.63$, $p < .000$, $\eta_p^2 = .07$ and ANCOVA, $F(2, 219) = 4.33$, $p = .014$, $\eta_p^2 = .04$. Dark- ($M = 3.16$, $SD = .62$) and light-skinned men ($M = 3.11$, $SD = .49$) reported the most in-group skin tone discrimination, while medium-skinned men reported the least ($M = 2.86$, $SD = .44$). An LSD post-hoc analysis suggested that medium-skinned men's reports were significantly lower than dark- ($p < .000$) and light-skinned men ($p = .007$); however, dark- and light-skinned men did not differ significantly (see Figure 1.2).

Next, we examined the NSAL sample. The out-group appraisal of skin tone discrimination for African American men in the NSAL followed a similar pattern as the DAS sample. Light-skinned men reported less discrimination than dark-skinned ($b = .40$, $SE_B = .13$, $p = .003$) and medium-skinned men ($b = .28$, $SE_B = .11$, $p = .019$). The association was statistically significant, $F(2, 914.23) = 4.96$, $p = .012$, $R^2 = .012$. Mean reports for each group were as follows: dark-skinned ($M = 2.93$, $SE = .06$), medium-skinned ($M = 2.81$, $SE = .08$) and light-skinned men ($M = 2.53$, $SE = .11$). After adjusting for covariates, the results were similar as dark- ($b = .39$, $SE_B = .14$, $p = .009$) and medium-skinned men ($b = .30$, $SE_B = .12$, $p = .020$) reported worse treatment

than light-skinned men, $F(8, 893.35) = 2.50, p=.031, R^2 = .025$; however, there were no differences between dark- and medium-skinned men ($b=.09, SE_B=.06, p=.17$) (see Figure 1.1).

In-group appraisals of skin tone discrimination of NSAL African American men followed the same pattern as the DAS, although the association did not reach statistical significance: dark- ($M=2.30, SE =.06$), medium- ($M=2.09, SE =.07$), and light-skinned men ($M=2.20, SE =.08$). Medium-skinned men reported less in-group skin tone discrimination than dark-skinned men ($b=.21, SE_B=.09, p=.022$) and slightly less than light-skinned men, although it was not significant ($b=.12, SE_B=.09, p =.231$); the overall association was marginally significant, $F(2, 914.23) = 2.86, p=.069, R^2 = .01$. After adjusting for covariates, medium-skinned men still reported significantly less in-group skin tone discrimination than dark-skinned men ($b=.22, SE_B=.08, p=.014$), but not significantly less than light-skinned men ($b=.02, SE_B=.10, p=.811$), $R^2 = .05$. Across both the DAS and NSAL, the pattern of out-group appraisals suggested that light-skinned men were advantaged (see Figure 1.1) while results of in-group appraisals suggested that medium-skinned men were advantaged (see Figure 1.2).

H_{2a}: When self- and interviewer-skin tone ratings misalign, men will most often self-rate closer to a medium-brown skin tone.

As shown in Table 1.3, interviewer-rated versus self-rated skin tone misalignment (using the 5-category measure) followed a distinct pattern in the DAS. As interviewer-assessed skin tones ratings became lighter, there was greater alignment with self-rated skin tone until a perfect 100% alignment among the “very light” men; specifically, the concordance of ratings across the five skin tones from darkest to lightest were 12.5%, 46.5%, 66.1%, 71.1%, 100% respectively. As predicted, in the DAS, whenever self- and interviewer- skin tone ratings differed, the most typical misaligned shade was located one shade closer to a medium-brown skin tone.

Specifically, 87.5% of “very dark,” 29.6% of “dark,” and 23.7% of “light” men self-rated one shade *closer* to “medium-brown” (see Table 1.3). Since the NSAL’s skin tone ratings were on different scales, consistent descriptive results are not available without compromising (and potentially biasing) the NSAL sample.

H_{2b}: There will be more discrepancies in self versus interviewer skin tone ratings among men of lower social classes (using education level as a proxy for social economic status).

In both the DAS and NSAL, there was less overall alignment in self- and interviewer-rated skin tone ratings among the less educated men (see Figure 1.3). Mean standardized discrepancies for the samples were .68 ($SD=1.18$) in the DAS and .59 ($SD=1.19$) in the NSAL. Across the four education levels, the mean standardized discrepancies were as follows: 1. Did not complete high school ($M_{das} = .99$, $SD_{das} = 1.75$; $M_{nsal} = .79$, $SE_{nsal} = .08$); 2. completed high school/GED ($M_{das} = .69$, $SD_{das} = .88$; $M_{nsal} = .59$, $SE_{nsal} = .06$); 3. attended some college ($M_{das} = .40$, $SD_{das} = .61$; $M_{nsal} = .60$, $SE_{nsal} = .09$); and 4. graduated with a Bachelor’s or higher ($M_{das} = .33$, $SD_{das} = .60$; $M_{nsal} = .40$, $SE_{nsal} = .07$). Using bivariate regression, these results were statistically significant in the DAS ($b = -.21$, $SE_B = .08$, $p = .014$), $F(1, 219) = 6.10$, $p = .014$, $R^2 = .03$ as well as NSAL ($b = -.11$, $SE_B = .01$, $p = .012$), design-based $F(2, 914.23) = 83.26$, $p = .012$, $R^2 = .01$.

H₃: Interviewer-rated skin tone will not be associated with self-esteem but standardized discrepancies in self- and interviewer-ratings will be associated with self-esteem.

ANOVA and ANCOVA were used for the DAS sample while bivariate and multiple regressions were used for the NSAL, controlling for respondent age and education as well as interviewers’ gender, age, and education. As predicted, interviewers’ judgment of DAS African American men’s skin tone was not significantly associated with self-esteem for dark- ($M=3.75$, $SD=.36$), medium ($M=3.82$, $SD=.39$), and light-skinned ($M=3.81$, $SD=.35$) men before adjusting for covariates, ANOVA, $F(2,225) = 0.81$, *ns*, and after adjusting, ANCOVA, $F(2, 219) = 1.82$, *ns*.

Among NSAL African American men, self-esteem was also not associated with skin tone (interviewer-reported) for dark ($M=3.61$, $SE=.03$) medium ($M=3.61$, $SE=.02$) and light-skinned men ($M=3.66$, $SE=.04$). The overall relationship was not statistically significant, $F(2, 883.84) = 0.93$, $p = .403$ $R^2 = .002$. Adjusting for covariates improved the model ($R^2 = .09$) but men's skin tone was still not significantly associated with self-esteem.

Although interviewer-rated skin tone alone did not predict self-esteem in the DAS, the standardized discrepancy measures of self- versus interviewer-rated skin tone ($M=.68$, $SD=1.18$) and respondents' income ($M=2.98$, $SD=1.35$) (two between-subject variables) predicted self-esteem ($M=3.79$, $SD=.37$) (dependent variable). Using multiple regression analyses in the DAS, a significant model emerged: $F(2, 218)=7.90$, $p<.000$, $R^2 =.07$. The standardized discrepancy measure was a significant *negative* predictor of self-esteem ($b = -.07$, $SE_B = .021$, $p=.001$) while income was a significant *positive* predictor ($b = .037$, $SE_B=.018$, $p=.040$) of self-esteem. This suggests that larger discrepancies in skin tone ratings were associated with lower self-esteem in the DAS, supporting the hypothesis. Adjusting for covariates improved the model ($R^2 = .14$).

Among African American men in the NSAL, a similar model emerged using multiple regression: design-based $F(2, 883.84) = 1.49$, $p<.00$, $R^2 =.05$. The standardized discrepancy measure of self- versus interviewer-skin tone ratings ($M=.59$, $SE=.00$) and income ($M=3.33$, $SE=.05$) predicted self-esteem ($M=3.62$, $SE=.00$). Consistent with DAS results, the NSAL standardized discrepancy measure was a significant *negative* predictor of self-esteem ($b = -.023$, $SE_B=.005$, $p=.041$) while income was a significant *positive* predictor ($b = .053$, $SE_B=.012$, $p=.045$), indicating that larger discrepancies were associated with lower self-esteem reports in the NSAL, supporting the hypothesis. Adjusting for covariates improved the model ($R^2 = .08$).

Discussion

This paper examined African American adult men in one regional sample and one nationally-representative sample about eight years later. Largely similar patterns were found in both samples in men's reactions to skin tone discrimination. Men's appraisals of negative treatment from in-group and out-group members persisted across both studies. Several key themes were replicated in results from both datasets related to in-group and out-group appraisals and the implications of discrepancies in self versus interviewer-rated skin tone.

First, results suggest that skin tone matters in contexts outside of their racial group. As predicted, light-skinned men consistently perceived the best treatment from Whites, while dark-skinned men consistently perceived the worst treatment, supporting the first hypothesis. These responses are consistent with the ways that Whites have treated lighter and darker African Americans since slavery. This also has contemporary implications for masculinity on various levels in inter-racial settings; economically, if dark-skinned men are less likely to be promoted at work, over time, they may feel emasculated and incapable of fulfilling masculine "provider" roles. Psychologically, dark-skinned men's self-efficacy could suffer if they appraise that their hard work will not "pay off" similarly to their light-skinned counterparts. Additionally, there could be health consequences. Kahn's (2010) experimental research suggested that dark-skinned African Americans are more vulnerable to "stereotype threat" (Steele & Aronson, 1995) than light-skinned counterparts; stereotype threat was shown to increase arterial high blood pressure (Blascovich, Spencer, Quinn, & Steele, 2001) and may account for the higher prevalence of hypertension among dark-skinned African American men (Sweet et al., 2007).

Second, results indicate that skin tone matters within the racial group. In the in-group appraisals, it was hypothesized that medium-skinned men would report the least discrimination;

this was supported in both datasets. The in-group appraisal finding has important implications for African American men who primarily reside in intra-racial settings, such as low SES neighborhoods. Although the psychological impact of racial discrimination from Whites against Blacks has been long researched, among lower SES African American men who have very little contact with Whites in their day-to-day lives, skin tone discrimination from fellow Blacks may be a more relevant source of discrimination and status threats. Medium-skinned men in these contexts may be advantaged over others.

Additionally, the results of both the out-group and in-group appraisals illustrate the complexity of skin tone bias that was alluded to earlier in this paper. As Celious and Oyserman (2001) indicated, a skin tone that is advantageous in one context could be disadvantageous in another. For example, being a light-skinned African American man can be advantageous when interacting with Whites, but disadvantageous when interacting with Blacks (i.e. a win-lose situation) if Blacks perceive him as being “racially impure” or an Uncle Tom (e.g. Herring et al., 2004; Hochschild & Weaver, 2007). Similarly, medium-skinned men may perceive substantial discrimination from Whites but could be protected in interactions with Blacks (i.e. lose-win situation). It is particularly striking that dark-skinned men were the only group that consistently appraised the worst treatment in both appraisals (i.e., a lose-lose situation); this high level of racial discrimination could be detrimental to their mental health as well as increase their endorsement of traditional male gender norms and masculine-typed behaviors, according to a recent experimental study (Goff, Di Leone, & Kahn, 2012). The results suggest that none of the skin tone groups were consistent “winners” in both out-group and in-group appraisals, illustrating that African American men of virtually all skin tones can be vulnerable to perceiving stigma in at least one racial context.

Third, discrepancy in self and interviewer skin tone reports and its variation across social economic groups illustrate how colorism may influence how they perceive themselves. Since medium-skinned men reported the least in-group skin tone discrimination, it was hypothesized that African American men may have internalized that complexion as “ideal.” Although similar descriptive results could not be computed using NSAL skin ratings that were on different scales, results from the DAS sample supported the second hypothesis and theoretical notion of brown skin as idealized. As described earlier, African American masculinity has been shown to be interdependent in its construction; thus, it is logical that interdependently-oriented men may desire to psychologically feel more similar to in-group members by self-rating (perceiving themselves) as more close to a respected, prototypical medium-brown skin tone. Furthermore, since standardized skin tone discrepancy scores across both datasets indicated that the less educated men had the largest discrepancies in ratings, the second hypothesis was supported; it may indicate that the climate of their social contexts may be intricately linked to how salient skin tone discrimination is in their lives.

Fourth, the results may illustrate that those discrepancies may be linked to self-esteem in certain SES levels. As discussed previously, African Americans of low SES are surrounded almost entirely by other low SES African Americans (Massey, 2004) and this is relevant since skin tone bias may be more salient in intra-racial contexts (Harvey et al., 2005). Moreover, the 1995 DAS sample was based in Detroit, one of the most low-resourced cities in the United States; approximately 85% of Detroit residents were Black in the 1990s (i.e. an intra-racial context) (Eisinger, 2003). For these reasons, it was expected that men’s reactions in the DAS sample would be more robust than in the nationally representative NSAL sample, and this was supported by results of these analyses.

The results of this paper extend the literature from the early NSBA sample (Thompson & Keith, 2001) and an earlier analysis of this DAS sample (Brown, 1998) which both found that interviewer-rated skin tone was not associated with African American men's self-esteem. Those analyses, however, did not consider the possibility that discrepancies in skin tone ratings among lower SES men may be associated with self-esteem. Results in this current paper suggest that future studies should explore the possibility that skin tone bias may operate in a more complex manner for African American men than previously thought, challenging past studies that concluded that men's skin tone was not associated with psychological outcomes (e.g. Keith & Herring, 1991).

It is important to consider the various mechanisms that could underlie these associations. Among African American men of lower social economic status groups, Pleck's (1995) discrepancy-strain framework may account for some of the relationships of skin tone with self-esteem. This framework predicts that perceiving that one has failed to live up to an ideal "image" (e.g. as evidenced from large skin tone discrepancies) results in lowered self-esteem in men. Although these analyses are correlational, it is plausible that skin tone discrepancies may manifest dissatisfaction with one's complexion (i.e. skin tone "discrepancy strain") or stress related to not feeling that one "fits in" or "belongs" (Baumeister & Sommer, 1997) to their racial in-group; these outcomes could ultimately threaten men's self-esteem.

Future studies could also explore factors related to why low SES African American men may be particularly influenced by skin tone, as illustrated by larger standardized discrepancies. Possible factors could include findings that low SES African American men may identify more strongly with their ethnic groups (Abreu et al., 2000), endorse more traditional masculinity ideologies (Levant, Majors, & Kelley, 1998), and may be less forgiving of racial discrimination

(Hammond, Banks, & Mattis, 2006). Therefore, since lower SES men may be more ethnically identified and collectivistic/communal (Mattis et al., 2002) than higher SES men, when they perceive intra-racial skin tone discrimination, it is plausible that they could be especially vulnerable to lowered self-esteem. Literature in cultural psychology suggests that collectivistic/interdependent individuals are especially threatened by perceptions of dissimilarity from or rejection by their in-groups (Markus & Kitayama, 1991). Therefore, they may respond with feelings of *shame* (a typical collectivistic reaction) and evaluate their skin tone in a manner biased towards cultural ideals.

This study has a number of strengths, including the use of both self- and interviewer-rated skin tone and intra- and inter-group appraisals of biased treatment. The use of interviewer-reported skin tone measures may be an important predictor of how other in-group members regard the respondents in daily interactions, which may not be properly captured in either self-ratings alone or reflectance meter recordings. The availability of two forms of skin tone reports was beneficial in examining less direct associations (i.e. self-esteem and discrepant ratings).

Limitations and Concluding Thoughts

However, this investigation of the DAS and NSAL has limitations. The most important may be the low internal consistency estimates for self-esteem in the DAS; thus, the results in the third hypothesis may not be valid reflections of DAS men's experiences. Additionally, although the interviewers were trained, it is likely that there was human bias in their skin tone ratings (Hill, 2002a). However, this analysis controlled for important interviewer demographic characteristics in an attempt to account for some of this potential bias. Finally, the DAS and NSAL are cross-sectional, precluding any causal interpretations. Results from these two samples

suggest the need for future research that reliably measures self-esteem and directly measures endorsement of traditional masculinity ideology. Neither the DAS nor NSAL measured masculinity endorsement; therefore, more research is needed to explore the possibility that masculinity independently (or interactively) influenced reactions to skin tone discrimination.

Since colorism is deeply rooted in African American culture, the differences found in many of the associations in the regional, Detroit sample were similar and generally stronger than those in the more recent nationally representative NSAL sample. Findings in the NSAL may be weaker because skin tone may be becoming less important in life outcomes among younger cohorts of African Americans (Gullickson, 2005). Alternatively, findings in the Detroit sample may be more robust because of Detroit's unique history of race and segregation (Eisinger, 2003).

Very few social scientists collect data on skin tone and even fewer have attempted to examine its role in masculinity construction. Since skin tone bias and masculinity are both socially constructed, we can expect ideals of both constructs to change over time. Future research should investigate whether African American men's reactions to skin tone discrimination may be connected to deeper influences of the meanings of manhood. It is also important for researchers to track how these norms evolve as society progresses, and develop more thorough models to understand the heterogeneity of influences on African American masculinity, particularly as they relate to mental health among members of this understudied population.

Table 1.1 ¹*African American men's socio-demographic characteristics—1995 DAS*

	Total	Dark skin	Medium skin	Light skin	<i>p</i> -value
N (% of sample)	243 (100%)	80 (32.9%)	115 (47.3%)	48 (19.7%)	
Age, mean (SD)	41.55 (16.7)	43.57 (15.9)	42.55 (17.6)	35.79 (14.5)	.075
Income scaled score, mean (SD) ^a	2.98 (1.4)	3.48 (1.4)	2.78 (1.3)	2.95 (1.2)	.001 ^{†,‡}
Income, percentages					
<\$10,000, %	17.5%	12.5%	22.6%	14.6%	
\$10,000-\$19,999, %	16.2%	13.8%	17.4%	16.7%	
\$20,000-\$39,999, %	29.9%	22.5%	31.3%	39.6%	
\$40,000-\$59,999, %	16.8%	15.0%	17.4%	16.7%	
\$60,000+, %	19.5%	36.3%	11.3%	12.5%	
Education scaled score, mean (SD) ^b	2.16 (.94)	2.09 (.96)	2.18 (.98)	2.25 (.84)	<i>ns</i>
Education, percentages					
Did not complete high school, %	29.1%	32.5%	30.4%	20.4%	
High school graduate/GED, %	33.7%	36.3%	31.3%	36.7%	
Some college, %	28.8%	22.5%	28.7%	38.8%	
College graduate, %	8.4%	8.8%	9.6%	4.1%	
In-group appraisal, mean (SD)	3.01 (.55)	3.17 (.62)	2.87 (.48)	3.07 (.53)	.001 ^{†,‡}
% appraising worse in-group treatment	11.5%	17.5%	5.2%	16.7%	
Out-group appraisal, mean (SD)	3.03 (.66)	3.30 (.49)	3.06 (.65)	2.51 (.63)	<.000 ^{*,†,‡}
% appraising worse out-group treatment	16.7%	28.8%	15.6%	0.0%	
Self-esteem, ^c mean (SD)	3.79 (.37)	3.75 (.36)	3.83 (.37)	3.79 (.40)	<i>ns</i>

Note. These measures above are statistically weighted.

a. Income is on a five-point scale with higher scores indicating higher household income

b. Education is on a four-point scale with higher scores indicating higher education

c. Self-esteem is on a four-point scale with higher scores indicating greater self-esteem

Superscripts indicate that there were statistically significant differences between the following pairs: * Light-skinned and dark-skinned. † Light-skinned and medium-skinned. ‡ Medium-skinned and dark-skinned.

¹ See Appendix A for two additional measures: attractiveness and (non-squared) skin tone discrepancy for a comparison with the analyses on women.

Table 1.2²*African American men's socio-demographic characteristics —2003 NSAL*

	Total	Dark skin	Medium skin	Light skin	<i>p-value</i>
N (% of sample)	944	399 (41.7%)	387 (41.8%)	158 (16.5%)	
Age, mean (SE)	41.7 (.72)	43.0 (.88)	41.0 (1.1)	40.2 (1.7)	.090
Income scaled score, mean (SE) ^a	3.33 (.09)	3.26 (.15)	3.32 (.12)	3.53 (.21)	<i>ns</i>
<\$16,000, (%)	22.7%	23.0%	24.1%	18.5%	
\$16,000-\$24,999, (%)	11.9%	11.5%	11.7%	13.4%	
\$25,000-\$34,999, (%)	16.7%	21.0%	15.4%	8.8%	
\$35,000-\$49,999, (%)	22.3%	21.8%	21.0%	27.1%	
\$50,000-\$74,999, (%)	16.1%	11.9%	17.4%	23.2%	
\$75,000-\$99,999, (%)	5.8%	5.2%	6.0%	6.5%	
\$100,000 or more, (%)	4.6%	5.5%	4.4%	2.7%	
Education scaled score, mean (SE) ^b	2.38 (.05)	2.22 (.07)	2.46 (.06)	2.59 (.10)	.000*
Education					
Did not complete high school, %	19.0%	23.1%	17.0%	13.8%	
High school graduate/GED, %	44.7%	48.3%	43.0%	39.7%	
Some college, %	15.8%	12.5%	17.2%	20.7%	
College graduate, %	20.5%	16.1%	22.9%	25.8%	
In-group appraisal, mean (SE)	2.19 (.04)	2.30 (.06)	2.09 (.07)	2.20 (.08)	<i>ns</i>
% appraising worse in-group treatment	13.6%	17.0%	10.5%	13.2%	
Out-group appraisal, mean (SE)	2.81 (.05)	2.93 (.06)	2.81 (.08)	2.53 (.11)	.012* [†]
% appraising worse out-group treatment	29.0%	32.7%	28.4%	21.4%	
Self-esteem, ^c mean (SE)	3.62 (.02)	3.61 (.03)	3.61 (.02)	3.66 (.04)	<i>ns</i>

Note. These measures above are statistically weighted in the NSAL but the frequencies (N=944) are un-weighted.

a. Income is on a seven-point scale with higher scores indicating higher household income

b. Education is on a four-point scale with higher scores indicating higher education

c. Self-esteem is on a four-point scale with higher scores indicating greater self-esteem

Superscripts indicate significant differences: * Light-skinned and dark-skinned. † Light-skinned and medium-skinned. ‡ Medium-skinned and dark-skinned.

² See Appendix A for two additional measures: attractiveness and (non-squared) skin tone discrepancy for a comparison with the analyses on women.

Table 1.3³*Overlap of men's interviewer- versus respondent-rated skin tone—1995 DAS*

	Very dark	Dark	Medium	Light	Very light	Total
Very dark	1	10	0	1	0	12
	12.5%	14.1%	0.0%	2.6%	0.0%	5.0%
Dark	7	33	23	1	0	64
	87.5%	46.5%	20.0%	2.6%	0.0%	26.4%
Medium	0	21	76	9	0	106
	0.0%	29.6%	66.1%	23.7%	0.0%	43.8%
Light	0	7	16	27	0	50
	0.0%	9.9%	13.9%	71.1%	0.0%	20.7%
Very light	0	0	0	0	10	10
	0.0%	0.0%	0.0%	0.0%	100.0%	4.1%
Total	8	71	115	38	10	242
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note. The horizontal line is interviewer-rated skin tone and vertical line is self-rated skin tone (counts are statistically weighted).

³ See Appendix B for the results of skin tone overlaps for African American women.

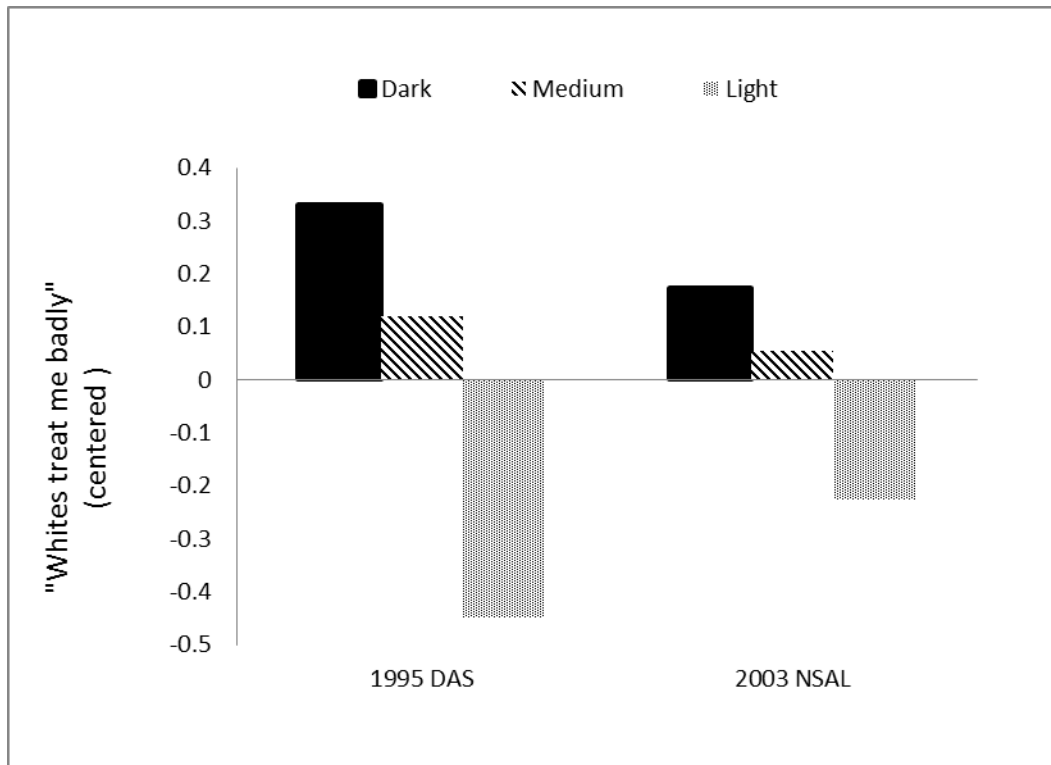


Figure 1.1 Out-group appraisal of African American men in the DAS and NSAL*.

*In general, scores above 0 indicate perceived *discrimination* while scores below 0 indicate perceived *favorable* treatment.

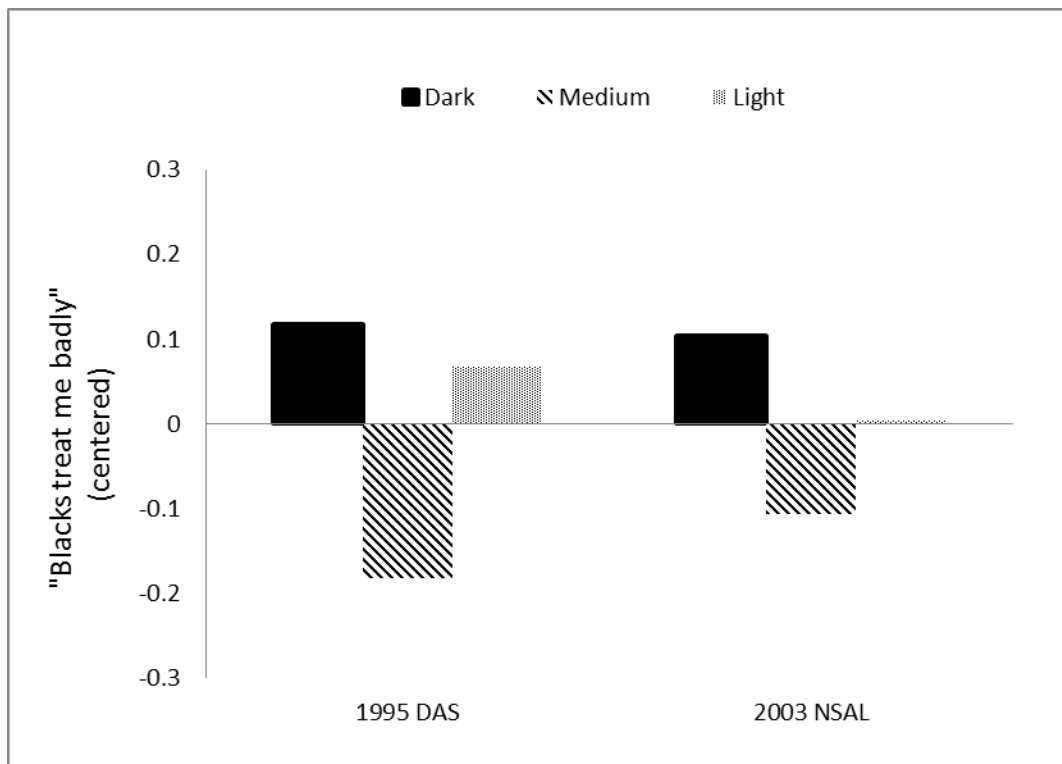
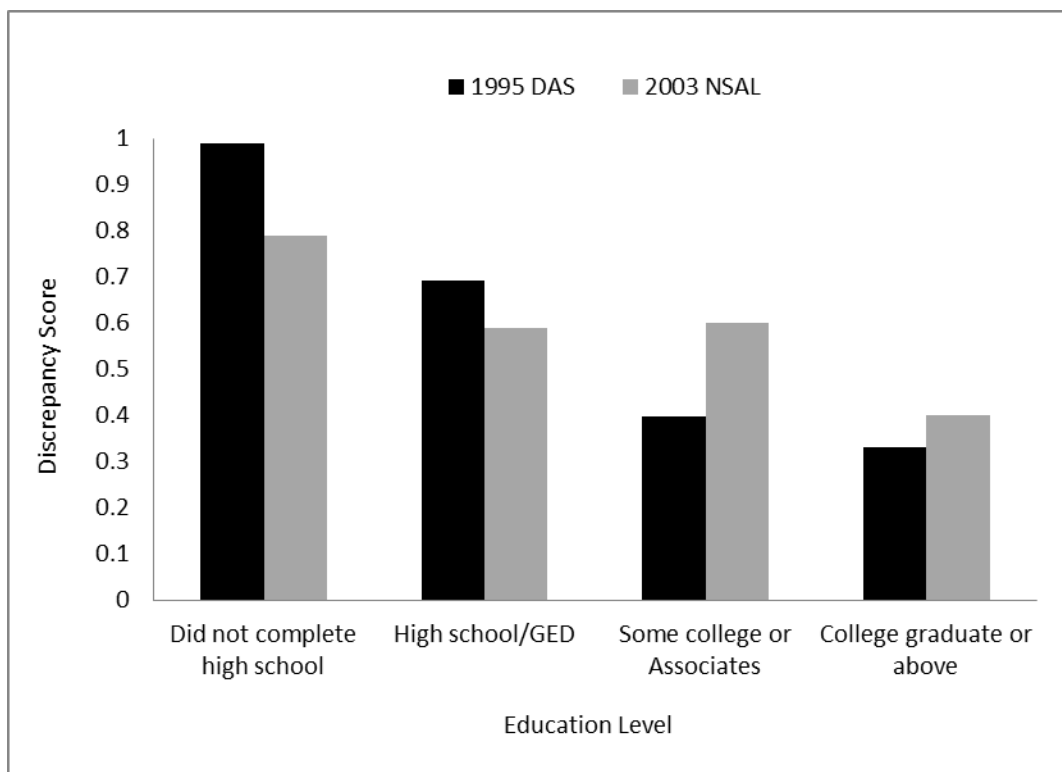


Figure 1.2. In-group appraisal of African American men in DAS and NSAL*.

*Scores in out-group and in-group appraisals were centered at the respective means for the DAS and NSAL samples (0 = mean score for the respective sample). In general, scores above 0 indicate perceived *discrimination* while scores below 0 indicate perceived *favorable* treatment.



*Figure 1.3*⁴. Mean standardized discrepancies of interviewer vs. respondent skin tone ratings across education level for African American men in DAS and NSAL.

⁴ See Appendix C for these results using African American women.

CHAPTER III

AFRICAN AMERICAN WOMEN AND SKIN TONE DISCRIMINATION

Abstract. Skin tone discrimination and biases affect a variety of social, economic, and psychological outcomes for African American women. These discriminatory experiences occur during their social interactions with racial out-group members (e.g. Whites) as well as in-group members. In the present study, skin tone appraisals of discrimination from in-groups and out-groups were compared and patterns of discrepancies in self-rated skin tone versus observer-rated (i.e. trained interviewers) skin tone were investigated. We analyzed two data sources that represent dark-, medium-, and light-skinned African American women of diverse socioeconomic backgrounds—the regional Detroit Area Study ($n = 290$) and the nationally representative National Survey of American Life ($n = 1653$). Among African American women in both datasets, dark-skinned women reported the lowest self-esteem, light-skinned women reported the least discrimination from Whites, and medium-skinned women reported the least discrimination from Blacks. Medium-skinned women also exhibited low discrepancies in their self-rated versus observer-rated skin tones unlike dark- and light-skinned women whose self-ratings differed more strongly from observer judgments. Implications of these findings include health challenges from perceived discrimination and skin tone body image dissatisfaction as well as the significance of within-race stigmatization.

The presence of Oscar winner and *People Magazine*'s 2014 Most Beautiful Woman, Lupita Nyong'o, has sparked serious conversations about the shade of beauty in the United States. With very dark skin and natural, short African hair, she is conspicuous in Hollywood. Nyong'o (2014) recently stated, "I remember a time when I too felt unbeautiful. I put on the TV and only saw pale skin. I got teased and taunted about my night-shaded skin. And my one prayer to God, the miracle worker, was that I would wake up lighter-skinned...And every day I experienced the same disappointment of being just as dark as I had been the day before" (p. 93). That shocking revelation resonated with many other women of color that have been voicing their similar and painful experiences with colorism.

Among African American women, skin tone has historically been an important source of social capital and determinant of a variety of life outcomes including self-esteem, education attainment, wages, mate selection, and incarceration. A derivative of racism, colorism has been defined as discrimination on and allocation of status and resources based on skin tone (Herring et al., 2004). Importantly, this complexion-based discrimination can occur both outside the race (i.e. from out-groups such as Whites) and inside the African American community (i.e. from fellow Blacks). Although colorism is an important part of understanding the psychology of African American women and racial social processes, there is a dearth of research that directly investigate gendered reports of skin tone-based discrimination. This paper is intended to bridge this gap in the literature and examine whether findings from qualitative studies about African American women's skin tone experiences replicate in diverse samples.

Before addressing the unique experiences of African American women, it is important to review the associations of fair skin with femininity among women globally. As the classic

German fairy tale *Snow White* illustrated, the evil queen regularly sought affirmation of her beauty and lighter skin tone above other women by asking, “magic mirror in my hand, who is the fairest in the land?” Threatened by the mirror’s response that Snow White had fairer skin and upstaged the queen’s beauty, she resolved to kill Snow White. Historically, across many cultures and ethnicities, fair/light skin has been connected to beauty and women’s value (Glenn, 2009).

Biologically, human and many primate females are disproportionately lighter-skinned than their male counterparts because women have lower hemoglobin and melanin levels (Aoki, 2002; Frost, 2007). One line of research suggests that this resulted from sexual selection—our male ancestors selected for lighter skinned females because they could signal sexual interest more visibly (i.e. blushing) and could not conceal health problems easily (e.g. skin diseases and illnesses) (Etcoff, 1999). After puberty, girls’ skin tones *lighten* and their breasts enlarge to signal fertility for males; whereas as females age or lose fertility, their skin tones gradually *darken*, particularly while pregnant or on birth control pills (Lewis, 2011; van den Berghe & Frost, 1986). Women’s skin tones also lighten or emit a reddish-brown glow (e.g. among Africans/Blacks) during ovulation—their most physically attractive and fertile period of the menstrual cycle (Pazda, Elliot, & Greitemeyer, 2012). These findings, though not universally accepted, suggest that there may be important biological reasons that lighter-skinned women are valued.

Historical Legacy of Slavery and Oppression of Darker Women

Although biology may have played some role in color preferences, most research on skin tone, however, has focused on consequences of social constructions of skin tone. Preferences for light skin tone have been most pronounced among ethnic groups whose members reflect a wide

spectrum of skin color distributions (e.g. Blacks, Indians, and Latinos). Among African Americans, skin tone stratification was established by practices during slavery that differentiated light-skinned slaves from their darker counterparts. Dark slaves (the “field slaves”) were assigned physically strenuous field work in the plantations and considered inferior, barbaric, and ugly (Bond & Cash, 1992; Herring et al., 2004); the “house slaves” or lighter-skinned slaves (who were frequently mixed-race and fathered by White slave masters) were favored, regarded as more aesthetically pleasing, and assigned less stressful work indoors such as housekeeping and cooking (Hall, 2010). It is noteworthy that this did not necessarily mean that indoor work was a more desirable option; working inside slave owners’ homes had drawbacks for light-skinned slaves because they were monitored more closely than field slaves, felt alienated from their peers, and could be abused easily (Herring et al., 2004). According to historical records, light-skinned female slaves were particularly at risk for exploitation because White men found them to be the most sexually appealing; therefore, slave masters sometimes supplemented their incomes by trafficking light-skinned female slaves into concubine roles or prostitution (Hallam, 2004). Despite these disadvantages, many of the privileges extended to lighter-skinned slaves allowed them to accumulate wealth, own property, and further their education after slaves were freed (Frazier, 1957; Wirth & Goldhamer, 1944). It is not surprising that light-skinned African Americans today are still the most upwardly mobile in the community (Glenn, 2009), particularly light women (Keith, 2009).

Across virtually all societies, women are judged more critically than men for their physical appearance (Etcoff, 1999); thus, consequences of not fitting the beauty standards of communities are serious. Dark skin is associated with masculinity among African Americans (Hall, 1995), and, therefore, darkness is regarded as “unfeminine” and undesirable for African

American women. Perhaps this is illustrated best by the dark-skinned, obese “Mammy” stereotype of African American women (i.e. a non-sexual and non-attractive mother figure) (West, 1995). While dark-skinned women are socially penalized for their hue compared to light-skinned counterparts, the experiences of medium-skinned women can be quite different. Some medium-toned women have expressed a sense of strong protection from derogatory stereotypes within the race (Wilder, 2010).

In diverse and multiracial societies, economically dominant groups typically set beauty standards that reflect their own ethnicity’s physical features (Etoff, 1999). The United States is a good example of this since Whites (the dominant racial group) accord *higher* status to women with the most Eurocentric physical features (e.g. lighter skin tones, narrow nose, and straighter hair). In contrast, women with more Afrocentric features (e.g. darker skin tones, broad nose, nappy or tight curly/kinky hair) are accorded *lower* status by Whites (Keith, 2009). It is not surprising that many of the most successful African American female celebrities, such as Beyoncé or Halle Berry, are light-skinned and largely have Eurocentric features; they are also among the few Black women that previously won *People Magazine*’s Most Beautiful Award. The beauty of their darker-skinned counterparts with Afrocentric features historically is not celebrated for long by the media. There is evidence that African American women internalize media messages that Eurocentric beauty is both superior (Gordon, 2008) and attainable because some heavily invest money in skin bleaching creams to lighten their skin tone (Hunter, 2011), expensive hair weaves to simulate straight, flowing hair (Tate, 2007), and rhinoplasty cosmetic surgery to narrow their nose (Patel & Kridel, 2010). Moreover, this endorsement of Eurocentric ideals has been linked to increased substance use (Wallace, Townsend, Glasgow, & Ojie, 2011).

For African American women, the costs of living in a social world where they are evaluated on a Eurocentric beauty ideal are high and begin early in life. Recent research suggests that within African American families, parents favor and invest more resources in their light-skinned daughters (Landor et al., 2013). Margaret Hunter's (2005) qualitative interviews on colorism found that most dark-skinned African American women had desired to be lighter-skinned at various points in their past and other research illustrated that skin tone is an important source of their body image dissatisfaction (Buchanan et al., 2008; Mucherah & Frazier, 2013). Darker-skinned women have reported lower self-esteem (Thompson & Keith, 2001) and have been less likely to attract romantic partners or husbands (Hunter, 2002). Dark women also earn lower incomes and complete fewer years of schooling than their lighter-skinned contemporaries do (Goldsmith, Hamilton, & Darity, 2007; Herring et al., 2004)—variables that strongly influence a variety of long-term economic life outcomes.

Self-esteem and Dark Skin Tone

Although some researchers believe that skin tone is no longer associated with self-esteem outcomes for African Americans (Wade, 2008), those scholars usually do not carefully examine gender differences. A recent article found that among African American men, an observer's evaluation of skin tone (i.e. interviewers' skin tone assessments of respondents) was not associated with men's self-esteem reports (Uzogara, Lee, Abdou, & Jackson, 2014), however, discrepancies in respondent-rated versus interviewer-rated skin tone were associated with lower self-esteem. Because social processes that involve colorism are often gendered, it is possible that this finding was unique to men and may not replicate in a sample of African American women.

For example, various findings in feministic psychology suggests that women are socialized to seek affirmation and please others in order to be likable (Collins, 2000). Being physically attractive allows women to be more “liked” (Lemay et al., 2010) and it is therefore plausible that being judged by observers as “light skinned,” which is virtually synonymous with “pretty” (Hunter, 2005; Wilder, 2010), could correlate with higher self-esteem since beautiful people are treated better in society, according to the literature on “what is beautiful is good” (Dion, Berscheid, & Walster, 1972).

Psychological Consequences of Colorism for Light Skinned Women

Light skin tone connotes superiority within African American communities (Hall, 2010). Inside and outside of the race, light-skinned women are perceived as more intelligent, polite, and clean (Wilder, 2010); unlike dark women, they report less discrimination from Whites (Klonoff & Landrine, 2000), less rejection during online social networking encounters (Hebl, Williams, Sundermann, Kell, & Davies, 2012) and better relationships with the criminal justice system (Viglione, Hannon, & DeFina, 2011). Perhaps one of the most important advantages of light skin tone is its function as a source of currency. As Etoff (1999) indicated, good looks can be “a woman’s most fungible asset, exchangeable for social position, money, even love...” and beauty is important to men because “being with a good-looking woman ups a man’s status” (p. 66). Since light-skinned African American women are regarded as the prettiest and most “marriageable” (Hamilton, Goldsmith, & Darity, 2009), this translates to greater negotiating power when competing for resources. An upwardly mobile Black man can “marry up” and improve his social status by securing a lovely light-skinned wife, while a light-skinned woman can improve her economic status by attracting a wealthy husband in exchange for her beauty.

Despite the numerous disadvantages of having darker skin in society, there can be disadvantages to having light skin as well. Colorism is complex and there are certain disadvantages of having lighter skin tones during social interactions within the African American community. For example, light-skinned African American women in the media are portrayed as promiscuous or excessively sexually available (Gordon, 2008), consistent with the light-skinned “Jezebel” stereotype (West, 1995).

Although lighter-toned women are considered the most desirable as romantic partners (e.g. Hamilton et al., 2009), they may be objectified more. For example, there is some anecdotal evidence of this. One light-skinned woman expressed disappointment after blind dates with Black men because they admitted that they felt “relieved” when they saw that she was the “right color” and even added that her complexion enhanced their own image (Harris, 2012). That implied that those men would not have courted her at all if not for her light skin tone. Although some women may find it flattering to be objectified, it is likely that many others may take offense for being treated like a commodity or “eye candy.” These messages imply that a light-skinned woman’s suitors may pursue her solely for superficial or sexual motives rather than because of a deeper, genuine interest in who she is as a full person with thoughts and feelings. Feminist literature indicates that feeling objectified is detrimental as it increases women’s risk for depression, body shame, and illness (Calogero, 2004; Muehlenkamp, Swanson, & Brausch, 2005). Therefore, light-skinned women may be simultaneously harmed and rewarded for their beauty when dealing with men.

Strained Female-Female Friendships and Exclusion of Biracial Women

There are additional penalties for light-skinned women during interactions with darker African American women. Since women across many societies are socialized to compete for males' affection (Etcoff, 1999), the most "beautiful" women can be a source of envy and resentment for the others because of the power pretty women wield in the dating market. The ability to attract good romantic partners and husbands is very important—women gain resources and emotional security through such partnerships. Among African American women, light-skinned women are stereotyped by darker counterparts as snobby, entitled, or worse, "racially impure" (Hunter, 2008). Since some darker women may automatically assume that their light-skinned contemporaries do not share the same lived experiences of racism, darker women sometimes "punish" them (Hunter, 2005); this occurs through social exclusion tactics or messages that imply that light-skinned women are not welcome to be part of the Black "sisterhood" in the community. This female-female tension was first brought to national attention in the famous 1989 lawsuit, *Walker v. Secretary of Treasury, Internal Revenue Service (IRS)* in Atlanta (Walker, 1989). In that case, Ms. Walker, an IRS typist who was a light-skinned African American woman claimed that she was unfairly terminated from her employment by her dark-skinned African American female boss, Ms. Lewis, because she resented Ms. Walker's light skin tone.

Hunter's (2008) research addressed consequences of these strained female-female relationships for light-skinned African American women, asserting:

...there is a notable cost to light skin, and that is ethnic authenticity. The task of 'proving' oneself to be a legitimate or authentic member of an ethnic community is a significant burden for the light-skinned....Darker-skinned people, especially women,

often feel put down by the light-skinned. One common way they regain their sense of power and pride is to accuse light-skinned Blacks of not being “Black enough.” This tactic has particular power against those light-skinned people who are from racially mixed backgrounds (p. 70).

This finding has important implications for experiences of discrimination in the community. Although dark-skinned women may be the most disadvantaged economically and socially during interactions with Whites, they may benefit from some additional protection in interactions with African Americans (i.e. in-group members) compared to lighter-toned women. Moreover, Wilder’s (2010) qualitative studies suggest that medium-skinned women may be the most protected during social interactions with African Americans since there are no derogatory terms or stereotypes associated with their appearance and personality; however, medium-skinned women expressed feeling less privileged than light-skinned women when interacting with Whites.

Hunter’s (2008) other assertion regarding mixed-race African American women suggests that biracial women may be vulnerable to the worst skin tone discrimination from in-group members (Blacks). According to the one-drop rule, mixed-race African Americans are not accepted as “White”—they are simply categorized as belonging to the Black race (Hall, 2010). Similarly, some African American women also exclude and reject mixed-race women because they are regarded as “not black enough”; this scenario could leave mixed-race, light-skinned women feeling lonely or unattached to any racial group since neither Whites nor Blacks fully accept them as legitimate members of either race. Research even indicated that this condition is so painful for some light-skinned, mixed-race women that they expressed a strong preference to marry dark-skinned Black men (Dalmage, 2000). This strategy was intended to produce

offspring that had darker, more “ethnic” features so that their children could be protected from that rejection. Because of the changing color landscape of the United States through interracial unions and offspring (Qian & Lichter, 2011), it is important to examine the perceptions of this growing population of mixed-race women.

The Present Study Overview and Theoretical Underpinnings

Because gendered skin tone discrimination is an understudied topic, this paper examining life experiences of African American women using survey data has several goals. First, one goal is to explore whether conclusions about out-group and in-group experiences of discrimination drawn from previous small qualitative studies (e.g. Hunter, 2005; Wilder, 2010) are supported by quantitative survey data from larger and more diverse samples of African American women. The aforementioned literature review found that light-skinned women benefit from the best treatment from Whites (e.g. Klonoff & Landrine, 2000), while medium-skinned women experience the best treatment from Blacks (Wilder, 2010). Dark-skinned women may be more protected than light-skinned women during interactions with Blacks (Hunter, 2008). However, dark women experience the worst economic outcomes overall and report the most skin tone dissatisfaction (Keith, 2009).

Second, two data sources that were collected nearly one decade apart were used to examine whether skin tone discrimination outcomes replicated over time. Third, in light of consequences of objectification to African American women’s skin tone experiences (Buchanan et al., 2008), we examined whether an observer’s assessment of skin tone (i.e. interviewer-rated skin tone) was a better predictor of self-esteem than measures that incorporated women’s own assessments of their skin tone (i.e. discrepancies in self-rated versus observer-rated skin tone).

Moreover, this prediction challenges research on positive illusions (Taylor & Brown, 1988) which posits that thinking of ourselves in a more flattering light that we actually are serves to enhance or protect well-being and self-esteem among North Americans. In other words, according to positive illusions, if African American women, for example, think of themselves as being more light-skinned than they truly are (i.e. a more flattering and less stigmatized color, as evidenced by their skin tone discrepancies) it could buffer their self-esteem. Contrary to positive illusions research, this current paper contends that women's skin tone discrepancies will not be associated with self-esteem because women's self-worth may be derived considerably from how other people value them since they were socialized to be affirmed by others, according to findings from feministic psychology. Therefore, the community's perception of women's skin tone (represented by a Black interviewer's rating of her skin tone) should trump measurements that incorporate her own self-ratings (i.e. skin tone discrepancies).

The following outcomes for dark-, medium-, and light-skinned women are predicted in their appraisal of skin tone discrimination from Whites/out-group members (i.e. the "out-group appraisal"), Blacks/in-group members (i.e. the "in-group appraisal"), and self-esteem.

H₁: For the out-group appraisal, light-skinned women will report the least discrimination.

The pattern will be pronounced among mixed-race women.

H₂: For the in-group appraisal, medium-skinned women will report the least discrimination.

The pattern will be pronounced among mixed-race women.

H₃: Using observer-rated skin tone, light-skinned women will report the highest self-esteem.

H_{4a}: Across the three skin tones, dark-skinned women will have the largest discrepancies in self-rated versus observer-rated skin tones, suggesting greater skin tone dissatisfaction.

H_{4b}: Discrepancies in self-rated versus observer-rated skin tone will not associate with higher self-esteem.

Method

Participants and Design

The first survey used for analyses in this paper was the 1995 Detroit Area Study—Social Influence on Health (1995 DAS), a multi-stage area probability sample that simulated the population of adults in three counties of Detroit, Michigan. We examined similar outcomes using the second dataset, the 2001-2003 National Survey of American Life: Coping with Stress in the 21st Century (2003 NSAL). In both surveys, household interviews were conducted through the University of Michigan’s Institute for Social Research and Survey Research Center (SRC). The trained interviewers at the SRC finished fieldwork in homes of respondents in 1995 for the DAS and in 2003 for the national NSAL sample. These home interviews were mainly “race-matched”—meaning that Black interviewers visited homes of (same-race) Black/African American respondents in 90.2% and 85.7% of households in the DAS and NSAL, respectively.

Analyses in this paper were restricted to race-matched African American women in the DAS who were at least 18 years old ($M_{age}= 44.22$, $SD=17.14$, range: 18-88 years) and had complete data on covariates (N=290 un-weighted). More descriptions of the 1995 DAS are available on this website: <http://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/3272>. Consistent with the DAS, we restricted the NSAL sample to race-matched, adult African American women that had complete data on covariates (N=1653 un-weighted) and were at least 18 years old ($M_{age}= 41.83$,

$SE=.70$, range: 18-90 years). This final NSAL sample excluded all non-African American Black women (e.g. Black Caribbean's and Black Africans) because of the relevance of culture.

Additional information on the NSAL is available on this website:

<http://www.rcgd.isr.umich.edu/prba/nsal.htm>.

IBM SPSS Version 21.0 (SPSS, 2012) software was used to conduct DAS analyses. The DAS data were statistically weighted to account for probability of selection. NSAL analyses were conducted using STATA Version 13.0 (StataCorp., 2013) to handle the weights, stratification and clustering of the complex sample design.

Measures

Observer-rated skin tone. Trained interviewers privately rated respondents' skin tones using a color palette at the conclusion of household visits for both surveys. Since the interviewers were mainly drawn from the same local communities as respondents in the DAS and NSAL, their assessments are assumed to reflect community judgments of skin tones. Observer-rated skin tone was also used in previous skin tone studies that examined African American women (Hunter, 2002; Keith & Herring, 1991; Thompson & Keith, 2001; Uzogara et al., 2014).

In the DAS, interviewers categorized respondents' skin tones using five options: 1. "Very dark brown" (2.2%), 2. "Dark" (24.2%), 3. "Medium" (48.0%) 4. "Light" (21.4%) and 5. "Very light" (4.1%). This measure was collapsed to three categories (Dark, Medium, and Light) by recoding all shades *lighter* than "medium" to "Light" and all shades *darker* than "medium" to "Dark" while keeping the original "medium" group the same. The three-category measure was consistent with previous skin tone studies (Thompson & Keith, 2001; Uzogara et al., 2014) and the color distribution of women (26.4% Dark, 48.0% Medium and 25.6% Light) was comparable

to distributions in other major skin tone studies that used interviewer ratings (Keith & Herring, 1991) or objective machine (e.g. reflectometer) ratings (Sweet et al., 2007).

NSAL interviewers also coded respondents' skin tones privately. However, a 7-point scale was used in the NSAL: 1. "Very dark" (2.24%), 2. "Dark" (13.91%), 3. "Somewhat dark" (16.52%), 4. Medium (41.50%), 5. "Somewhat light" (14.40%), 6. "Light" (8.47%), and 7. "Very light" (2.96%). Similarly to the DAS, this measure was collapsed to three shades (Dark, Medium, and Light). All shades *lighter* than "medium" were re-coded to "Light," all shades *darker* than "medium" were re-coded to "Dark," and the original "medium" group remained the same. The final distribution was comparable to the DAS (32.67% Dark, 41.50% Medium, and 25.83% Light).

Self-rated skin tone. Both data sources solicited self-assessments of skin tone in a question that asked, "compared to most Black people, what shade of skin color do you have? Would you say very dark brown, dark brown, medium brown, light brown or very light brown." The distributions from "very dark brown" to "very light brown" in the DAS were 1.9%, 27.1%, 51.9%, 14.5%, and 4.6%; in the NSAL, self-ratings were 4.49%, 23.77%, 48.76%, 17.59%, and 5.09%. Self-rated skin tone was only used for descriptive purposes and used in the skin tone discrepancy calculations (see below). It is widely known that self-assessments of skin tone are more biased and less objective than the ratings of trained interviewers (Hill, 2002a).

Observer- and self-rated skin tone discrepancy. Since all skin tone measures were not on consistent scales (i.e. 5-point versus 7-point scales), standardized z -scores were calculated to assess discrepancies in observer-rated versus self-rated skin tones. DAS z -scores of self-rated (z_{self}) and observer-rated (z_{obs}) skin tones were computed: 1. Very dark brown ($z_{\text{self}} = -2.35$, $z_{\text{obs}} =$

-2.38); 2. Dark brown ($z_{\text{self}} = -1.13$, $z_{\text{obs}} = -1.20$); 3. Medium brown ($z_{\text{self}} = .09$, $z_{\text{obs}} = -.01$); 4. Light brown ($z_{\text{self}} = 1.31$, $z_{\text{obs}} = 1.17$); and 5. Very light brown ($z_{\text{self}} = 2.53$, $z_{\text{obs}} = 2.36$).

The z -scores for NSAL self-rated skin tones (5-point scale) from “very dark” to “very light” were as follows: $z = -2.18$, $z = -1.06$, $z = .06$, $z = 1.18$, $z = 2.30$, respectively. Observer-rated skin tones (7-point scale) z -scores in the NSAL were as follows: 1. Very dark ($z = -2.24$), Dark ($z = -1.47$), Somewhat dark ($z = -.69$), Medium ($z = .08$), Somewhat light ($z = .86$), Light ($z = 1.64$), Very light ($z = 2.41$). The discrepancies were calculated by subtracting observer-rated skin tone from self-rated skin tone (i.e. z_{self} minus z_{obs}). In the data sources, mean values of these discrepancies were as follows: $M_{\text{das}} = .00$, $SD_{\text{das}} = .74$, DAS range: -2.27 to 2.54; $M_{\text{nsal}} = .00$, $SD_{\text{nsal}} = .73$, range: -4.60 to 2.64.

Beauty. Physical attractiveness was assessed with a question in the DAS and NSAL that asked interviewers, “where would you place the respondent along the following scale [of physical attractiveness]? Please enter a number 1 to 7 with 4 being Neutral.” The options provided were 1= “Most attractive,” 2., 3., 4=“Neither attractive nor unattractive,” 5., 6., and 7=“Most unattractive” ($M_{\text{das}} = 3.64$, $SD_{\text{das}} = 1.23$, range: 1-7; $M_{\text{nsal}} = 3.28$, $SE_{\text{nsal}} = .08$, range: 1-7). Furthermore, a binary measure of physical attractiveness was created for descriptive purposes in the tables by re-coding ratings of 1-3 as “beautiful” and 4-7 as “non-beautiful.” Using this measure, 40.6% of this DAS sample and 55.60% of this NSAL sample were judged as “beautiful” women. Since studies have found that attractiveness is associated with skin tone and discrimination outcomes for women (Hersch, 2011; Hill, 2002b), this variable will be controlled.

Self-esteem. Rosenberg’s (1965) self-evaluative instrument was available in both data sources on a Likert-type scale (DAS $\alpha = .53$ and NSAL $\alpha = .77$). Responses ranged from 1 (*strongly agree*) to 4 (*strongly disagree*). Although the NSAL included all 10 items of this

instrument, the DAS only included the following 4 items: "I feel that I am a person of worth, at least on an equal plane with others"; "All in all, I am inclined to feel that I am a failure"; "I am able to do things as well as most other people"; "I feel I do not have much to be proud of." Means for the DAS and NSAL, respectively, were as follows: $M_{das}=3.75$, $SD_{das}=.37$, range: 2.25-4.00; $M_{nsal}=3.61$, $SE_{nsal}=.02$, range: 1.20-4.00.

Perceived skin-tone discrimination (out-group and in-group appraisal). Two questions solicited respondents' appraisals of whether their skin tone helped or harmed them during interactions with Whites (i.e. out-group appraisal) and Blacks (i.e. in-group appraisal) in both data sets. The out-group appraisal question in the DAS asked: "Because of the shade of your skin tone do you think White people treat you: 1. A lot better; 2. Somewhat better; 3. No different; 4. Somewhat worse; or 5. A lot worse than other Blacks?" In-group appraisal was assessed by an identically phrased question that replaced "White people" with "Black people." Wording of these questions in the NSAL were slightly different; the out-group appraisal question asked, "How often would you say that Whites treat you badly because of the shade of your skin color? 1. Very often; 2. Fairly often; 3. Not too often; 4. Hardly ever; 5. Never." Consistent with the DAS, an identical question was asked for the in-group appraisal that replaced "Whites" with "Blacks." To be consistent with the DAS, these NSAL responses were reverse coded so that higher scores reflected higher appraisals of discrimination.

Respondent characteristics. Both surveys asked for income and education. Age was calculated through respondents' date of birth. In both the DAS and NSAL, education attainment was captured as follows: 1. Did not complete high school, 2. High school graduate/GED [General Education Development], 3. Some college, and 4. College graduate. Education levels ranged from 1 to 4 in both data sets ($M_{das}=2.15$, $SD_{das}=.94$; $M_{nsal}=2.25$, $SE_{nsal}=.05$). Annual

household income in the DAS was captured in the following ranges: 1. Earns less than \$10,000, 2. \$10,000-\$19,999, 3. \$20,000-\$39,999, 4. \$40,000-\$59,999, 5. \$60,000 or more ($M_{das}=2.44$, $SD_{das}=1.29$, range: 1-5). In the NSAL, annual household income was captured in the following brackets: 1. \$7,000, 2. \$7,000 - \$13,999, 3. \$14,000 - \$19,999, 4. \$20,000 - \$29,999, 5. \$30,000 - \$40,999, 6. \$41,000 - \$54,999, 7. \$55,000 - \$74,999, 8. \$75,000 or higher ($M_{nsal}=3.94$, $SE_{nsal}=.10$, range: 1-8).

Interviewer characteristics. Some demographics characteristics of interviewers were collected in the DAS and NSAL. Interviewer race was recorded and used to exclude all interviewer-respondent pairs that were not race-matched. Variables recorded were sex (male, female), educational attainment, and age. Their educational attainment was measured on a 7-point scale that ranged from the following: 1. 1st-8th grade, 2. Some high school, 3. High school graduate, 4. Some college, 5. College graduate, 6. Master's degree equivalent, and 7. Doctoral degree graduate.

Mixed-race/Biracial status: In the NSAL only, data regarding bi-racial/multi-racial status of respondents were available. One question asked, "which do you feel best describes your biological father's racial background? Black or African American, White, American Indian or Alaska Native, Asian, Pacific Islander or other race (please specify)?" An identically phrased question that replaced father with mother was also asked. There were 132 African American women in this NSAL sample (approximately 8%) who indicated that at least one biological parent was primarily non-Black. Those non-Black parents were most frequently American Indian, White, Hispanic/Latino, or multi-racial. Although information about biracial status was not available in the DAS for a comparison, appraisals of this population are important to examine.

Results

The hypothesized relationships were explored before and after adjusting for covariates; these covariates included respondents' characteristics (i.e. age, income, education, and beauty) and the interviewers' characteristics (i.e. age, gender, and education). Consistent with previous research, light-skinned women generally earned higher incomes, completed more years of education, and were judged to be more beautiful in the DAS (see Table 2.1) and NSAL (see Table 2.2) samples, although they were not more likely to be married. The demographic characteristics of DAS women were not statistically significant across skin tones, possibly because they were drawn from neighboring communities and had more in common; there were starker and significant SES differences among women in the national NSAL sample. We investigated the DAS relationships using analysis of variance (ANOVA) and covariance (ANCOVA) with SPSS software while regressions (bivariate and multiple) were used in the NSAL analyses with STATA software.

H₁: In the out-group appraisal, light-skinned women will report the least discrimination. The pattern will be pronounced among mixed-race women.

In the DAS, African American women's out-group appraisal of skin tone discrimination was statistically significant before adjusting for covariates, ANOVA $F(2, 293) = 14.28, p < .000, \eta_p^2 = .09$ and after adjusting, ANCOVA $F(2, 286) = 12.75, p < .000, \eta_p^2 = .08$. Fisher's least significant difference (LSD) post hoc tests suggested that the differences between dark-skinned ($M = 3.04, SD = .53$), medium-skinned ($M = 2.94, SD = .48$) and light-skinned ($M = 2.60, SD = .65$) women were significant between light-skinned and dark-skinned as well as between light-skinned and medium-skinned women; however, there was no significant difference between medium-skinned and dark-skinned women's out-group appraisals. Since light-skinned women

reported the least discrimination from Whites, the hypothesis was supported in the DAS sample (see Figure 2.1).

The same relationships were examined in the NSAL dataset. Consistent with the DAS findings, a similar pattern emerged for the out-group appraisal of skin tone discrimination among African American women. Dark-skinned women reported the most discrimination from Whites ($M=2.81$, $SE=.07$), followed by medium-skinned ($M=2.57$, $SE=.06$) and light-skinned ($M=2.38$, $SE=.08$). Using light-skinned women as a reference group, dark women reported significantly greater out-group discrimination ($b= .43$, $SE_B=.11$, $p=.000$) while medium-skinned women reported marginally more discrimination ($b= .19$, $SE_B=.09$, $p=.051$). Dark-skinned women also reported more discrimination than medium-skinned (reference group) women ($b=.24$, $SE_B=.09$, $p=.015$). The overall model was statistically significant $F(2, 1101.30) = 8.07$, $p=.001$, $R^2 =.018$. After adjusting for respondent and interviewer covariates, the model was still significant, $F(9, 1069.70) = 3.04$, $p=.013$, $R^2 =.029$; the differences between dark- and light-skinned women ($b= .41$, $SE_B=.10$, $p=.000$) and medium- and dark-skinned women ($b= .26$, $SE_B=.09$, $p=.009$) both remained significant. However, differences between light- and medium-skinned women were no longer significant after adjusting for covariates ($b= .15$, $SE_B=.09$, $p=.112$). Since light-skinned women reported the least discrimination from Whites, the hypothesis was supported in the NSAL sample as well (see Figure 2.2).

Relationships between skin tone and out-group appraisals among mixed race women were investigated in the NSAL. Mixed race women of dark ($M=3.12$, $SE=.11$), medium ($M=2.76$, $SE=.21$) and light complexions ($M=2.51$, $SE=.21$) followed the same pattern as the others in their out-group appraisals in the NSAL. Using multiple regression, mixed-race status ($b= .19$,

$SE_B=.11, p=.099$) and skin tone predicted out-group appraisals marginally and the overall model was significant, $F(3, 1101.30) = 7.04, p=.001, R^2 =.02$. After adjusting for covariates, mixed-race status ($b= .26, SE_B=.12, p=.044$) predicted out-group appraisal significantly, $F(10, 1069.70) = 3.04, p=.012, R^2 =.03$. The hypothesis was supported among mixed-race women, although the pattern was not necessarily more pronounced.

H₂: In the in-group appraisal, medium-skinned women will report the least discrimination. The pattern will be pronounced among mixed-race women.

In-group appraisals were investigated next. In the DAS, there was no association between in-group appraisals of skin tone discrimination among African American women before adjusting for covariates, ANOVA $F(2, 293) = 1.44, ns$ and after, ANCOVA $F(2, 286) = 1.49, ns$. Across dark- ($M=3.05, SD=.43$), medium- ($M=2.98, SD=.38$) and light-skinned women ($M=3.08, SD=.55$), reports of skin tone discrimination from Blacks were comparable, although medium-skinned women, on average, reported the least skin tone discrimination. Thus, the hypothesis was not supported in the DAS sample since the results were not statistically significant (see Figure 2.1).

The in-group appraisal of skin tone discrimination was more robust in the NSAL. Dark-skinned women reported the most discrimination from Blacks ($M=2.40, SE=.08$), followed by light-skinned ($M=2.23, SE=.07$) and then medium-skinned women ($M=2.13, SE=.07$), $F(2, 1100.86) = 3.09, p=.059, R^2 =.01$. Using light-skinned women as a reference, there was a marginally significant difference compared to dark-skinned women ($b= .17, SE_B=.10, p=.096$) but not compared to medium-skinned ($b= -.09, SE_B=.10, p=.338$). Medium-skinned and dark-

skinned women's reports of skin tone discrimination from in-group members were significantly different ($b=.27$, $SE_B=.11$, $p=.017$). Adjusting for covariates did not change this association between medium- and dark-skinned women ($b= .28$, $SE_B=.11$, $p=.015$) although the differences between light- and dark- ($b= .16$, $SE_B=.10$, $p=.125$) and light- and medium-skinned ($b= -.12$, $SE_B=.10$, $p=.252$) were not significant after controlling for covariates, $F(9, 1069.26) = 3.94$, $p=.003$, $R^2 =.03$. Therefore, the hypothesis was partially supported in the NSAL sample (see Figure 2.2).

Next, mixed-race women's reports of in-group discrimination were examined. Mixed-race women of dark ($M=2.59$, $SE=.22$), medium ($M=2.16$, $SE=.22$) and light ($M=2.53$, $SE=.20$) complexions followed a similar pattern as the others in the NSAL and results approached significance ($b= .19$, $SE_B=.13$, $p=.147$), $F(3, 1100.86) = 2.76$, $p=.058$, $R^2 =.01$. Controlling for covariates did not change this association ($b= .20$, $SE_B=.13$, $p=.125$), although the overall model was significant, $F(10, 1069.26) = 3.58$, $p=.005$, $R^2 =.03$. It is noteworthy that the reports of light-skinned women in the larger NSAL sample ($M=2.23$) compared to the smaller sample of light-skinned mixed-race women ($M=2.53$) suggest that mixed-race women, on average, may perceive even more rejection from Blacks, consistent with findings from qualitative studies. Like the other analyses, among mixed-race women, medium-skinned women reported the least skin tone discrimination from Blacks and the pattern was more pronounced which adds support to the hypothesis.

H₃: Using observer-rated skin tone, light-skinned women will report the highest self-esteem.

In the DAS, self-esteem and observer-rated skin tone associations were examined. The association was significant before and adjusting for covariates; ANOVA $F(2, 293) =6.60$,

$p=.002$, $\eta_p^2=.04$ and ANCOVA $F(2, 286) = 4.20$, $p=.016$, $\eta_p^2=.03$. LSD post hoc tests suggested that there were significant differences in self-esteem reports between dark-skinned ($M=3.61$, $SD=.55$) and medium-skinned ($M=3.79$, $SD=.28$) women, as well as significant differences between dark- and light-skinned women ($M=3.78$, $SD=.28$); however, there was no significant difference between light- and medium-skinned women, who reported similar self-esteem levels. The hypothesis is only partially supported, since both medium- and light-skinned women reported the highest self-esteem.

Similar results emerged in the NSAL analyses. Dark-skinned women ($M=3.56$, $SE=.03$) reported less self-esteem than medium- ($M=3.63$, $SE=.02$) and light-skinned women ($M=3.64$, $SE=.03$). The differences were significant between light- and dark-skinned women ($b= -.08$, $SE_B=.03$, $p=.029$) as well as between medium- and dark-skinned women ($b= -.07$, $SE_B=.03$, $p=.013$). Similarly to the DAS results, there were no significant differences medium- and light-skinned women's self-esteem reports, ($b= -.01$, $SE_B=.04$, $p=.850$), although the overall model was significant, $F(2, 1108.91) = 5.17$, $p=.011$, $R^2 =.01$. Adjusting for covariates improved the model, $F(9, 1077.31) = 13.29$, $p=.000$, $R^2 =.09$ since income and education were significantly associated with self-esteem. Like the DAS, the hypothesis is only partially supported in the NSAL since both medium- and light-skinned women reported the highest self-esteem.

H_{4a}: Across the three skin tones, dark-skinned women will have the largest discrepancies in self-rated versus observer-rated skin tones, suggesting greater skin tone dissatisfaction.

Standardized measures (i.e. z-scores) of self-rated versus observer-rated skin tone discrepancies were next examined. In the DAS, there were robust differences between dark- ($M=.42$, $SD=.66$), medium- ($M= -.09$, $SD=.67$) and light-skinned women ($M= -.34$, $SD=.82$) in

the discrepancies between their self-ratings of skin tone from ratings of trained observers. These differences in the DAS were statistically significant before adjusting for covariates ANOVA $F(2, 293) = 23.29, p=.000, \eta_p^2 = .14$ and after adjusting for covariates, ANCOVA $F(2, 286) = 19.41, p=.000, \eta_p^2 = .12$. Furthermore, LSD post hoc tests indicated that these differences were significant between all pairs of DAS skin tones (i.e. light and dark, dark and medium, and medium and light women). Typically, positive discrepancy scores suggested that respondents rated themselves with a *lighter* bias than the observer's rating, whereas negative discrepancy scores suggested that they self-rated with a *darker* bias. Thus, the hypothesis was supported in the DAS results because dark-skinned women illustrated the largest discrepancies, followed by light-skinned women (see Figure 2.3).

Similarly, z-scores of skin tone discrepancies in the NSAL were examined. There were parallels between the DAS pattern with the NSAL pattern of dark- ($M=.35, SE=.04$), medium- ($M= -.10, SE=.03$) and light-skinned women's ($M= -.27, SE=.04$) skin tone discrepancies. The differences were statistically significant between all pairs, consistent with the DAS; dark- and light- ($b= .62, SE_B=.06, p=.000$), medium- and light- ($b= .17, SE_B=.05, p=.002$) and medium- and dark-skinned women ($b= .45, SE_B=.05, p=.000$) were all significantly different from each other, $F(2, 1103.34) = 54.66, p=.000, R^2 = .11$. Controlling for covariates did not change the pattern, $F(9, 1071.74) = 28.73, p=.000, R^2 = .12$. The NSAL results also supported the hypothesis (see Figure 2.3).

H_{4b}: Discrepancies in self-rated versus observer-rated skin tone will not associate with higher self-esteem.

Finally, relationships between skin tone discrepancies and self-esteem were examined. Bivariate and multiple regressions were used to investigate these associations in both data sources. In the DAS, there was no significant association between women's skin tone discrepancies and self-esteem before adjusting for covariates, $F(1, 288) = 1.33, ns, R^2=.00$. After adjusting for covariates in the DAS, the association between skin tone discrepancies and self-esteem was still not significant ($b= -.04, SE_B=.03, p=.16$), although the overall model was statistically significant $F(8, 281) = 5.77, p=.000, R^2=.117$ because two respondent characteristics (income and education) were significantly correlated with higher self-esteem. Results in the NSAL mirrored those of the DAS; there were no associations between skin tone discrepancies and self-esteem before adjusting for covariates in the NSAL, $F(1, 1103.34) = .01, p=.931, R^2 =.00$. After adjusting for covariates, skin tone discrepancies were still not associated with self-esteem ($b= .01, SE_B=.01, p=.672$) although the overall model was significant because NSAL respondents' income and education were also strongly correlated with self-esteem $F(8, 1071.74) = 13.08, p=.000, R^2 =.09$. The hypothesis was supported in the DAS as well as in the NSAL.

Discussion

Findings from this current study have several important implications about the impact of colorism on African American women since the outcomes in the older, regional Detroit sample replicated in the more recent, nationally representative sample. It indicates that social contexts matter since skin tone appraisals about Whites differed from appraisals about Blacks. Other results suggest that some women may be more dissatisfied or sensitive about their complexion than others, and the perceptions of others in the community may fuel self-esteem more than self-

perceptions. Social and psychological factors that may have motivated these outcomes will be addressed further.

The first hypothesis was supported in both data sources because light-skinned women perceived the least discrimination from Whites, followed by medium-skinned women and dark-skinned women who reported the most mistreatment. This is consistent with findings since slavery that introduced stereotypes that lighter-skinned Blacks were morally superior, cleaner, more attractive, and smarter because of their physical resemblance to Whites (Maddox, 2004). Since out-group appraisals of discrimination may reflect real differences in how Whites treat African American women, it has grave implications. For example, in a racially diverse workplace, dark-skinned women may be stereotyped as being less competent, offered lower salaries than their counterparts, or overlooked for prestigious jobs entirely (Harrison & Thomas, 2009) because out-groups devalue them.

Moreover, this is complicated by the fact that darker women generally do not complete as many years of education than their lighter counterparts, partly because teachers have lower expectations of them (Hannon, DeFina, & Bruch, 2013) and because they are often born into families that have less accumulated wealth and fewer resources to support their aspirations (Hall, 2008). These color-based findings illustrate an important disparity in experiences of discrimination that is often overlooked in race-related research that combines Black women of all hues into the same category/variable of “Black.” In light of the growing literature on discrimination’s damaging effects on health (Williams & Mohammed, 2013), accounting for the unique experiences of women of different skin tones can paint a more thorough picture of which individuals should be targeted for interventions. Furthermore, some research suggests that cross-

race rejection (e.g. rejection from Whites or other out-groups) may be associated with increased anger, cardiac output, and risk-taking behavior (Jamieson, Koslov, Nock, & Mendes, 2013) which has important implications for the well-being of darker skinned women because they reported the most out-group skin tone discrimination.

Second, the hypothesis that medium-skinned women would perceive the least discrimination in the in-group (Black) appraisal was supported although the pattern did not reach significance in the DAS data. Dark- and light-skinned women reported higher discrimination from Blacks. This outcome also mirrored findings from Wilder's (2010) and Hunter's (2005) respective qualitative studies that examined African American women's perceptions of stereotypes about dark-, medium-, and light-skinned peers and their general experiences with colorism. Light-skinned interviewees in these qualitative studies typically stated that they were rejected by Blacks (particularly women) who assumed they were privileged and snobby because of their attractiveness; light-skinned mixed-race women in the current study reported even more discrimination, consistent with those previous qualitative studies. Furthermore, dark-skinned women indicated that they were also mistreated for their color but it was because of its association with lack of intelligence and unattractiveness. Overall, results in this hypothesis imply that although medium-skinned women are less privileged in inter-racial settings (with Whites), they may receive more protection during intra-racial social contexts where Blacks are strongly represented. These contexts include lower socioeconomic status communities that are highly segregated (Massey, 2004). The in-group appraisal results also have important implications for interventions. For example, some research has indicated that compared to cross-race discrimination, social rejection from same-race individuals (i.e. Blacks/in-groups) is especially deleterious to health because it increased cardiovascular reactivity of Blacks (Mendes,

Major, McCoy, & Blascovich, 2008). Therefore, this implies that since dark- and light-skinned women (i.e. those with either the strongest or weakest Afrocentric features) perceived the most in-group discrimination, they may be more vulnerable to health problems, particularly when they reside in racially segregated/homogenous contexts around mostly Blacks, as a recent study suggested (Hagiwara, Penner, Gonzalez, & Albrecht, 2013).

Results of the in-group appraisal may also account for the skin tone discrepancy outcomes in Hypothesis 4a. As those qualitative studies portrayed, medium-skinned women expressed a sense of safety and protection when interacting with Blacks/in-group members unlike the others. It is noteworthy that medium-skinned women are also the only group that illustrated very small discrepancies in self-rated versus observer-rated skin tones. Perhaps they feel more secure and proud of their skin tone since Blacks welcome their medium-brown color. In contrast, dark-skinned women had strongly positive discrepancies, suggesting that they self-rated “lighter”—closer to a medium-brown ideal. Likewise, light-skinned women had stronger negative discrepancies, indicating that they self-rated their skin tones with a “darker” bias—also closer to a medium-brown ideal. Since respondents were race-matched to Black interviewers, this design may have influenced self-ratings because respondents reflected on these personal judgments in the presence of an unfamiliar Black person (in-group member) in their home.

The connection of those discrepancies to the self-esteem results in Hypothesis 3 and 4b has interesting implications. In this current study of women, skin tone discrepancies were not associated with self-esteem while interviewer ratings of their skin tone *did* predict self-esteem. In light of theories that indicate that women are socialized to desire affirmation/approval from others, it is plausible that being dark-skinned is strongly penalized (socially) to the extent that

women of this hue internalized lower self-worth because they sense being “unlikable.” Although medium-skinned women may perceive some discrimination from Whites and light-skinned women perceive discrimination from Blacks, they both still enjoy the protection of having a number of positive attributes associated with their skin tone. Therefore, since medium- and light-skinned women do not have derogatory stereotypes attached to their complexions, they may be “affirmed” more by schoolteachers, nurtured by parents, and treated more kindly by males or romantic partners—messages from others that remind them that they have value, therefore, they should value themselves and pursue their aspirations. Unlike early studies that posited that light-skinned women were the most advantaged in terms of self-esteem, since light- and medium-skinned women reported the same levels of self-esteem, this current study indicated that perhaps only dark women are disadvantaged in that regard.

It is notable that since skin tone discrepancies and self-esteem were not associated, discrepancies did not appear to “protect” or “harm” women’s self-esteem. Although research on positive illusions (Taylor & Brown, 1988) showed that thinking of ourselves in a more flattering light than we actually are serves to maintain and protect self-esteem, these results indicated that for women of color, society’s judgments may have trumped their own self-judgments about their value. Additionally, previous research has suggested that many women internalized a sense of their worth based on how others perceived and treated them; since stereotypes and perceptions of dark-skinned women have been the most negative (Hunter, 2005; Wilder, 2010), they may have adopted and accepted those views from outside observers as indicative of their worth.

Limitations and Future Directions

Some limitations of this study are the cross-sectional sample design, which prevents determination of causality. Others include the measurement of variables. The internal consistency estimates for self-esteem were lower in the DAS sample. Additionally, although interviewers were trained before evaluating respondents' skin tones and attractiveness, some human bias is inherent in those judgments (Hill, 2002a). However, we controlled for interviewer characteristics and restricted the sample to race-matched interviews to address this.

Future studies on skin tone appraisals could solicit specific appraisals about how African American women felt Black men treated them versus how Black women treated them. Since light-skinned women can be objects of desire for men, and simultaneously a source of resentment for women in the community, their appraisals of each gender may differ. In addition, it may be worthwhile to re-design such studies so that women can appraise these discriminatory experiences alone and in private (i.e. outside of the presence of the Black interviewer in their home). It is plausible that social desirability bias may have influenced women's verbal responses to another in-group member (the interviewer) about this sensitive, taboo topic. This may occur because colorism is swept under the rug since it may be embarrassing for an already oppressed minority group to acknowledge that even members of their own race discriminate against them.

Examining colorism is an important part of understanding the psychology of African American women. Skin tone bias interacts with race, gender, and social class to produce complex and diverse life experiences for women of different hues. Although this current study investigated African American women, various results likely extend to other women of color such as Latinas, Indians, and Caribbean ethnic groups because similar stratification and discriminatory processes operate for darker and lighter women in those communities as well

(Glenn, 2009). Importantly, as our society becomes increasingly multi-racial and racism itself evolves, perhaps skin tone will become a more salient source of discriminatory stress than race alone. If the media continue to celebrate many more dark-skinned and other women with diverse physical features, perhaps more women of all colors will grow to embrace their inner and natural outer beauty and realize that they have a lot to offer society.

Table 2.1

Demographic characteristics of African American women—1995 DAS

	Total	Dark skin	Medium skin	Light skin	<i>p</i> -value
N (% of sample)	290 (100%)	77 (26.4%)	139 (48.0%)	74 (25.6%)	
Age, mean (SD)	44.22 (17.14)	42.09 (16.30)	44.31 (17.42)	46.27 (17.41)	<i>ns</i>
Income (household) scaled score, mean (SD) ^a	2.44 (1.29)	2.31 (1.32)	2.48 (1.27)	2.51 (1.31)	<i>ns</i>
Income, percentages					
<\$10,000, %	31.8%	35.9%	29.5%	31.1%	
\$10,000-\$19,999, %	21.6%	23.1%	20.9%	21.6%	
\$20,000-\$39,999, %	26.0%	24.4%	30.2%	20.3%	
\$40,000-\$59,999, %	11.6%	5.1%	10.8%	20.3%	
\$60,000+, %	9.0%	11.5%	8.6%	6.8%	
Education scaled score, mean (SD) ^b	2.15 (.94)	2.11 (.99)	2.13 (.94)	2.23 (.91)	<i>ns</i>
Education, percentages					
Did not complete high school, %	30.0%	34.2%	30.7%	24.3%	
High school graduate/GED, %	33.1%	28.9%	33.6%	36.5%	
Some college, %	28.6%	27.6%	27.9%	31.1%	
College graduate, %	8.3%	9.2%	7.9%	8.1%	
In-group appraisal, mean (SD)	3.02 (.45)	3.05 (.43)	2.98 (.38)	3.08 (.55)	<i>ns</i>
Out-group appraisal, mean (SD)	2.88 (.57)	3.04 (.53)	2.94 (.48)	2.60 (.65)	.000 ^{*,‡}
Attractiveness rating, ^c mean (SD)	3.64 (1.23)	3.79 (1.06)	3.74 (1.22)	3.31 (1.38)	.027 ^{*,†}
% rated as “beautiful”	40.60%	35.05%	33.81%	58.11%	.001
Self-esteem, ^d mean (SD)	3.74 (.38)	3.61 (.55)	3.79 (.28)	3.78 (.28)	.002 ^{*,‡}
Skin tone discrepancy (standardized), mean (SD)	.00 (.74)	.42 (.66)	-.09 (.67)	-.34 (.82)	<.000 ^{*,†,‡}

Note. These measures above are statistically weighted but frequencies are not (N=290).

a. Income is on a five-point scale with higher scores indicating higher household income

b. Education is on a four-point scale with higher scores indicating higher education

c. Attractiveness is on a 7-point scale with lower scores indicating higher beauty

d. Self-esteem is on a four-point scale with higher scores indicating higher self-esteem

Superscripts indicate statistically sig. differences between * Light- and dark-skinned. † Light- and medium-skinned. ‡ Medium- and dark-skinned.

Table 2.2
Demographic characteristics of African American women—2003 NSAL

	Total	Dark skin	Medium skin	Light skin	<i>p-value</i>
N (% of sample)	1653 (100%)	540 (32.67%)	686 (41.50%)	427 (25.83%)	
Age, mean (SE)	41.83 (.70)	42.78 (1.09)	42.38 (1.02)	39.77 (.95)	.018 ^{*,†}
Income (household) scaled score, mean (SE) ^a	3.94 (.10)	3.73 (.13)	3.93 (.13)	4.19 (.15)	.028 [*]
<\$7,000, (%)	13.39%	14.50%	14.17%	10.73%	
\$7,000 - \$13,999, (%)	16.51%	17.18%	15.18%	17.87%	
\$14,000 - \$19,999, (%)	15.88%	19.25%	15.63%	12.16%	
\$20,000 - \$29,999, (%)	17.68%	17.62%	18.64%	16.16%	
\$30,000 - \$40,999, (%)	11.76%	9.98%	11.94%	13.63%	
\$41,000 - \$54,999, (%)	10.78%	10.12%	11.12%	11.04%	
\$55,000 - \$74,999, (%)	6.72%	5.76%	5.58%	9.78%	
\$75,000 or higher (%)	7.29%	5.58%	7.74%	8.62%	
Education scaled score, mean (SE) ^b	2.25 (.05)	2.16 (.06)	2.25 (.06)	2.35 (.06)	.061 [*]
Education					
Did not complete high school, %	22.69%	26.43%	21.27%	20.48%	
High school graduate/GED, %	41.55%	41.13%	43.94%	38.09%	
Some college, %	23.82%	21.95%	23.22%	27.10%	
College graduate, %	11.94%	10.49%	11.56%	14.33%	
In-group appraisal, mean (SE)	2.24 (.04)	2.40 (.08)	2.13 (.07)	2.23 (.07)	.059 [‡]
Out-group appraisal, mean (SE)	2.60 (.04)	2.81 (.07)	2.57 (.06)	2.38 (.08)	.001 ^{*,†,‡}
Attractiveness rating, ^c mean (SE)	3.28 (.08)	3.53 (.07)	3.25 (.11)	3.02 (.13)	.000 ^{*,‡}
% rated as “beautiful”	54.85%	46.56%	54.25%	65.95%	.000
Self-esteem, ^d mean (SE)	3.61 (.02)	3.56 (.03)	3.63 (.02)	3.64 (.03)	.011 ^{*,‡}
Skin tone discrepancy (standardized), mean (SE)	.00 (.02)	.35 (.04)	-.10 (.03)	-.27 (.04)	<.000 ^{*,†,‡}
Mixed-race/biracial ^e (% of sample)	8.08%	4.07%	7.92%	13.23%	.000

Note. These measures above are statistically weighted in the NSAL but the frequencies (N=1653) are un-weighted.

Superscripts indicate statistically sig. differences between * Light- and dark-skinned. † Light- and medium-skinned. ‡ Medium- and dark-skinned.

a. Income is on an eight-point scale with higher scores indicating higher household income

b. Education is on a four-point scale with higher scores indicating higher education

c. Attractiveness is on a 7-point scale with lower scores indicating higher beauty

- d. Self-esteem is on a four-point scale with higher scores indicating higher self-esteem
- e. Mixed-race status was binary; respondents with one non-Black biological parent were categorized as mixed-race. Information about biological parents' race was not available in the 1995 DAS.

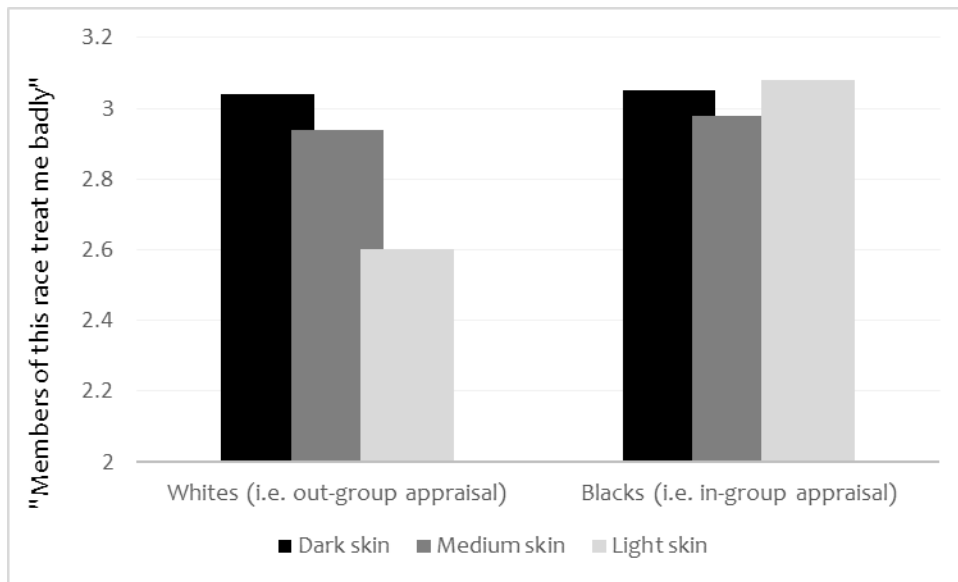


Figure 2.1. African American women’s appraisals of skin tone discrimination—1995 DAS*

*1995 Detroit Area Study African American women’s mean appraisals of skin tone discrimination for Hypotheses 1 (left) and 2 (right). Hypothesis 1 solicited perceptions of discrimination from Whites (out-group members) across dark-, medium-, and light-skinned women while Hypothesis 2 addressed the same perceptions of discrimination from Blacks (in-group members).

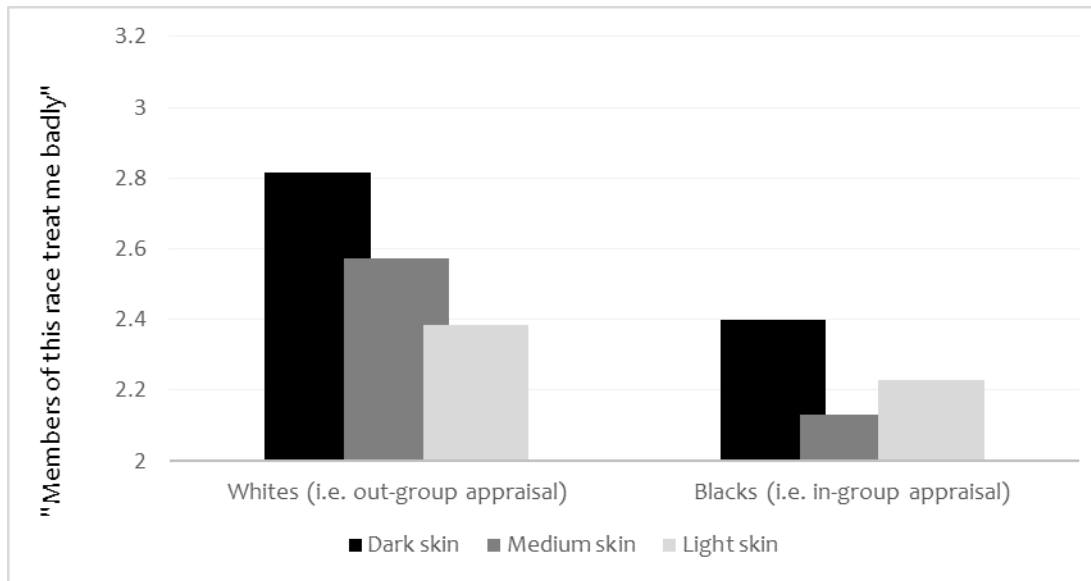


Figure 2.2. African American women's appraisals of skin tone discrimination—2003 NSAL*

*The 2003 National Survey of American Life African American women's mean appraisals of skin tone discrimination for Hypotheses 1 (left) and 2 (right). Hypothesis 1 solicited perceptions of discrimination from Whites (out-group members) across dark-, medium-, and light-skinned women while Hypothesis 2 addressed the same perceptions of discrimination from Blacks (in-group members).

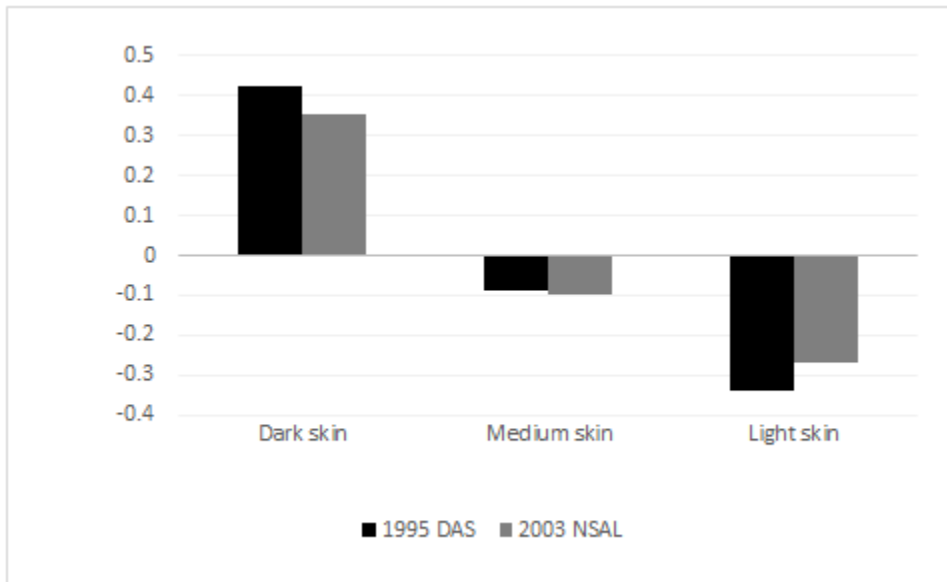


Figure 2.3. African American women’s standardized skin tone discrepancies in DAS and NSAL.*

*DAS and NSAL African American women’s mean standardized skin tone discrepancies for Hypothesis 4a. Larger discrepancies indicate that respondents’ self-rated skin tones differed more strongly from the interviewers’ private ratings of their skin tones.⁵

⁵ See Appendix D for the results using the African American men sample.

CHAPTER IV

AFRICAN AMERICAN WOMEN'S SKIN TONE AND HEALTH OUTCOMES

Abstract. Skin tone discrimination is known to affect the well-being and life outcomes of women of color. Yet the connection of skin tone and women's health outcomes has been understudied. This paper analyzed African American women in the Detroit Area Study and National Survey of American Life and examined objective and subjective stress outcomes as well as objective and subjective health outcomes. Results suggested that darker-skinned women experienced poorer objective health although they reported similar subjective health as lighter-skinned counterparts. This implied that objective measurements might reveal health disparities more clearly. Additionally, dark women reported more stress in their lives.

Life experiences of African Americans are heterogeneous, varying greatly between males and females, higher and lower social classes, and across different physical characteristics, including skin tone. The interface of these characteristics with skin tone is rarely considered in research, yet may produce complex variations in health and well-being among African Americans. Research indicates that skin tone stigma is more central to the lives of women of color (Hunter, 2002; Keith, 2009) and, among African American women, skin tone is a subtle but impactful feature that can negatively or positively affect social interactions both inter-rationally (i.e., with Whites and other races) and intra-rationally (i.e., with other Blacks). When research about race categorizes women as "Black," it implies homogeneity of their interactive experiences

of sexism, racism, and colorism, which clouds the varying patterns of outcomes that may occur within particular subgroups, such as the lighter-skinned versus darker-skinned.

It is widely assumed that women of lighter-skin tone are advantaged in socioeconomic status (SES) compared to darker-skinned counterparts (Herring et al., 2004; Hunter, 2002). This is likely to account for differences in women's health outcomes due to the direct effects of SES on health as well as the indirect effects of SES on health through stress exposure. However, it may be possible that subjective and contextual factors related to discrimination (that cannot be explained solely by SES) play a role in stress exposure and disparities in well-being between darker and lighter African American women. To address this gap in the literature, this current paper investigates stress exposure and stress-sensitive physical health outcomes across African American women in two cross-sectional samples: 1995 Detroit Area Study and 2003 National Survey of American Life.

Ramifications of skin color bias: Stereotypes and self-worth

Skin tone bias in American history is a phenomenon that was originated with Whites and perpetuated by all groups, including African Americans (e.g. Hall, 2010). American slavery distinguished Black slaves by skin tone, favoring light-skinned slaves who were often of mixed-race because they were fathered by White slave owners (Brown et al., 1999; Keith & Herring, 1991). Lighter skinned slaves were considered more valuable and given less strenuous indoor work (relative to darker skinned Black slaves) such as housekeeping and cooking (Hall, 2010). Economically, socially, and psychologically, light skin tone became associated with higher social status and privilege; vestiges of those historical biases are still internalized by African Americans (Hunter, 2007, 2008).

Currently, one important consequence of skin tone preference is its function in fueling stereotypes about African American women who fall in the extremes of the color continuum. In general, women with darker-skin are stereotyped by Whites and African Americans with derogatory attributes such as being unattractive, dirty, or stupid while light-skin tone is associated with more positive traits like intelligence, attractiveness, and politeness, although light-skinned women are also regarded as conceited because of their social privilege (Wilder, 2010). Additionally, because American society strongly judges and values women based on their physical appearance, research has shown that African American women of darker skin are said to be the most “handicapped” by skin tone bias because compared to light-skinned women, they earn less money, are less employable, less marriageable, report lower self-esteem (Keith, 2009) and report more discrimination (Klonoff & Landrine, 2000).

Light Skin Privileges among Women. It is well known that skin tone stereotypes affect African American women uniquely. From early ages, lighter-skinned females are privileged in multiple domains of social life, including within the family (Wilder & Cain, 2011). Research indicates that African American parents invest the most time, support, and resources on their light-skinned daughters (Landor et al., 2013) which likely contributes to light-skinned women’s higher self-esteem as adults (Hunter, 2008; Thompson & Keith, 2001). Unlike darker counterparts, light-skinned African American women earn higher incomes, complete more years of education, and are typically considered the most beautiful by both racial in-group and out-group members (Hunter, 2007, 2008). They are also treated better in society by Whites; compared to darker-skinned women, lighter-toned women report less racial discrimination (Klonoff & Landrine, 2000) and receive more lenient prison sentences when incarcerated (Viglione et al., 2011).

Their quality of life is also enhanced by their successes in the marriage market. Being the most “marriageable” in the community (Hamilton et al., 2009), light-skinned women gain resources and financial security through their ability to attract and select for wealthier or more upwardly mobile spouses (Hunter, 2002, 2008). Although each of these social, economic, and psychological factors likely has important implications for mental and physical health, little work has been done to investigate the relationship between skin tone, stress and health among African American women (Keith, Lincoln, Taylor, & Jackson, 2010)

Skin tone, stress and health: Complexities by gender and social class

Racism and health. Many studies indicate that experiences of racial discrimination are social stressors that adversely affect the health of African Americans (Pascoe & Smart Richman, 2009; Williams & Mohammed, 2009). These stressors are partially attributable to lower SES, disadvantages in housing, polluted living environments, less access to quality health care, and stress from interpersonal cues of exclusion such as micro-aggressions (Major, Mendes, & Dovidio, 2013; Matthews & Gallo, 2010). As stress accumulates, physiological reactions to stressors can leave a person more vulnerable to injury and diseases (Thoits, 2010). Thus, it is not surprising that research investigating the impact of discrimination-related stress consistently finds poorer psychological well-being (Schmitt, Branscombe, Postmes, & Garcia, 2014) and worse physical health outcomes for African Americans who perceive more discrimination (Mays, Cochran, & Barnes, 2007; Pascoe & Smart Richman, 2009).

Sexism and health. Although women have a longer life expectancy than men, they experience more health problems (Case & Paxson, 2005). Furthermore, the experience of sexism

in everyday settings may account for the greater burden of disease among women (Landrine & Klonoff, 1995), particularly when they appraise sexism as being pervasive (Foster, 2009). Belonging to both a low status gender and a low status racial group, African American women may experience exponentially worse outcomes from enduring both gender *and* racial discrimination (Berdahl & Moore, 2006; Geronimus, 2001). For example, research shows that African American women who report more discrimination have an increased incidence of breast cancer (Taylor et al., 2007) and also carry more visceral abdominal fat (Lewis, Kravitz, Janssen, & Powell, 2011) than Caucasian women. Compared to White women, African American women's blood pressure increases more after reading hypothetical scenarios of discrimination (Lepore et al., 2006). And among men and women across racial groups, African American women (regardless of their income) have the highest odds of high allostatic load (Geronimus, Hicken, Keene, & Bound, 2006), a biological indicator of stress-related acceleration of the aging process (McEwen, 1998). Their health may be further taxed due to carrying multiple caregiving roles since they are frequently single mothers because Black men are often absent or underemployed (Holzer, Offner, & Sorensen, 2005). However, in light of the aforementioned research on lighter skin advantages, it is possible that some African American women could be more buffered from some of these risks.

Skin tone and health. Skin tone may serve as a proxy for discrimination because darker-toned African Americans report more discrimination than their lighter-toned counterparts and are widely considered the “lower status Blacks” among racial out-group and in-group members (Hall, 2010; Klonoff & Landrine, 2000; Uzogara et al., 2014). Studies that investigated skin tone and physical health largely examined hypertension risks exclusively. These early studies found that hypertension risks were highest for low SES African Americans that were dark-skinned

unlike light- and medium-skinned African Americans (Klag, Whelton, Coresh, Grim, & Kuller, 1991; Waitzman & Smith, 1994). More recent research has extended this work and found that hypertension risk was consistently poor for dark-skinned African Americans regardless of SES, whereas hypertension risk improved only among light-skinned African Americans as their SES increased (Sweet et al., 2007). That finding of chronically poor health among dark-skinned minorities (even at high-income levels) may have been mediated by discriminatory stress exposure since dark-skinned African Americans are disadvantaged during interpersonal contacts with Whites, who are more prevalent in high SES environments (e.g. Klonoff & Landrine, 2000). Although that paper did not investigate social processes that may have mediated those effects, a recent study that examined other Afrocentric features (i.e. nose and lip length) did (Hagiwara et al., 2013). Hagiwara and colleagues (2013) found that among African Americans of both genders, those with the strongest “ethnic” features suffered from worse physical health; importantly, the authors also found that those health disparities were mediated by perceived unfair treatment. This implied that discriminatory stress (a non-biological, social factor) may have fueled those disparities.

Other recent research examined the biological role of vitamin D3 and ultraviolet radiation in skin tone-related health disparities. Specifically, this work found that dark-skinned people of color (especially Blacks) residing away from the equator are less able to absorb vitamin D3 from sunlight, and, consequently, are more exposed to disease risks from vitamin D3 deficiencies such as nutritional rickets, multiple sclerosis, and cancer (Jablonski & Chaplin, 2012). Together, these findings suggest that there are social, economic, biological, and environmental factors at play that can increase health risks of African Americans of darker complexions.

Higher SES, skin tone, and health. Although some research indicates that African Americans of lower SES health have the poorest health, this should not imply that high SES confers health protection for African Americans. Research by Farmer and Ferraro (2005) illustrated a pattern of “diminishing returns” for high SES African Americans; succinctly, they found that high SES African Americans still suffer considerably in health outcomes although they enjoyed more economic comfort. This was in sharp contrast to Whites whose health outcomes improved as their SES increased; it appeared that unlike Whites, high SES African Americans experienced more discriminatory stress and interpersonal obstacles in their pursuit of upward mobility, which carried health costs. However, that study did not account for skin tone differences among African Americans or the possibility that stress exposure mediated those effects.

It is plausible that the stress from skin tone discrimination (as well as racial discrimination) may play a role in health outcomes for African Americans although findings have been mixed. For example, some researchers used the Coronary Artery Risk Development in Young Adults (CARDIA) dataset to investigate skin tone-related health outcomes relying on either objective or subjective measures of health. Sweet and colleagues (2007) used an objective measure of health in the CARDIA dataset (i.e. systolic blood pressure) and found that dark-skinned African Americans were worse off than their lighter-toned counterparts. In contrast, other researchers used more subjective measures of health in the CARDIA dataset (i.e. self-rated physical health) and found no associations of skin tone with health among African Americans (Borrell et al., 2006). Thus, these conflicting findings on health outcomes based on skin tone (and SES) may be attributable to differences in the ways that health and stress were measured across studies.

Subjective versus objective measures of health. Subjective and objective measurements of well-being both have merits, but researchers should consider the implications of their findings in light of the weaknesses of the measurement selected. Studies relying on self-rated (subjective) health may be particularly vulnerable to respondents' subjective biases and feelings about the self (Cheng, Fung, & Chan, 2007). For example, to protect their self-esteem, many patients are inclined to appraise their overall physical health status using downward social comparisons (Festinger, 1954); that is, they intentionally assess their health in comparison to similar others who are *worse* off and *more* unhealthy (Taylor, Buunk, & Aspinwall, 1990; Wills, 1981).

This tendency to use downward comparisons could be particularly prevalent among stigmatized and ethnic minority groups. For example, research found that African Americans downwardly socially compare themselves to other similar African Americans, particularly those within their immediate social environment (Crocker & Major, 1989). This reference group (i.e. racial in-group members in their neighborhoods) and members of the primary social networks, typically are of similar SES and experience similar rates of various health conditions such as obesity (Christakis & Fowler, 2007). Therefore, persons embedded in unhealthy social networks and environments may not be able to accurately assess their own physical health because their reference group is already unhealthy. Since lower SES African Americans are more likely to live in poor, racially segregated conditions (Iceland & Wilkes, 2006), their appraisals of their own health (i.e. self-rated health) could be inaccurately skewed in a flattering light. We can expect their reports of self-rated health (a subjective measure) to differ more strongly from what objective measurements of their health indicate.

In contrast, since high SES African Americans reside or work in less racially segregated settings, their reference groups (when they self-rate their health) could include non-Black

persons that are healthier than they are. Therefore, their self-ratings of health may reflect this difference. Moreover, as mentioned earlier, high SES African Americans experience unique risks to poor health consistent with the “diminishing returns” findings (Farmer & Ferraro, 2005). For example, they may experience high levels of discrimination since they typically have frequent contact with Whites compared to low SES counterparts. In fact, for African Americans, living and/or working among Whites appears to have its own negative health consequences, particularly among the darker-skinned (Sweet et al., 2007). Succinctly, self-rated health measurements may mask within-race health disparities among African Americans as well as obscure the extent of disparities across race.

Theoretical/Conceptual Influences of Hypotheses

To summarize, the aforementioned literature suggests that some important differences may occur across African American women of different skin tones. This paper will examine four measures: 1) objective stress, 2) subjective stress, 3) objective health, and 4) subjective health. Four patterns are expected for African American women based on previous research.

First, objective stress reports (i.e. stressful life events) could be higher among dark-skinned women because of the association of SES and their skin tones. Research has shown that because of negative stereotypes about them (e.g. dirty, stupid, unattractive) and their higher reports of racial discrimination, dark-skinned African American women earn lower incomes, complete fewer years of education, and disproportionately reside in substandard/poor housing or high-crime locations (Hall, 2010; Keith, 2009). Therefore, it is plausible that they experience more objective stressors (e.g. getting robbed, assaulted, or fired from their jobs).

Second, subjective stress reports could also be higher among women of dark skin tone/strong Afrocentric features for various reasons. For example, they have relatively few cross-race (i.e. non-Black) friends compared to their lighter-skinned counterparts (Hebl et al., 2012). This is a risk factor for perceived stress because research indicates that having cross-race friendships (particularly close friendships with Whites) protects African Americans from stress symptoms triggered by rejection from racial out-group members (Page-Gould, Mendoza-Denton, & Mendes, 2014). Additionally, since skin tone and beauty are associated, dark-skinned women may perceive higher levels of subjective stress because of their appearance. This could occur because of negative consequences of the halo effect (Asch, 1946)—a concept that attractive people are assumed to have other desirable qualities such as kindness or intelligence. It is well known that light skin tone is strongly associated with beauty, and because society judges women strongly for their physical appearance (Polivy & Herman, 2007), dark-skinned women may be devalued and treated poorly. Lighter-skinned women experience less prejudice from Whites (Hagiwara, Kashy, & Cesario, 2012) and are more likely to be romantically partnered (Hamilton et al., 2009), which may provide additional social support. For these reasons, it is plausible that light-skinned women subjectively experience lower stress compared to darker women, particularly in higher SES settings that are diverse/heavily populated by Whites. Therefore, for economic and social reasons, dark-skinned women may experience higher subjective stress in their day-to-day lives.

Those experiences of stress may compromise objective physical health, even if women are not subjectively cognizant of its impact. Therefore, reports in the third measure, objective physical health (i.e. chronic health conditions), could differ across women's skin tones for economic and social reasons. Dark women endure worse economic conditions because they earn

lower incomes and complete fewer years of schooling (Hunter, 2002). This could be linked to poorer health conditions for darker women because SES is an important predictor of physical health. Additionally, if dark-skinned women experience more stressors (whether objective and/or subjective stress), their physical bodies could be taxed according to literature on the stress-health link (for a review, see Thoits, 2010). This is plausible because dark women may perceive the highest racial discrimination, which is associated with poor health (Pascoe & Smart Richman, 2009).

However, because African Americans (i.e. a stigmatized minority group) engage in downward or lateral social comparisons (Festinger, 1954) towards other African Americans that are similar to them (Crocker & Major, 1989), *subjective* measures of overall health may not be associated with skin tone. Therefore, in the fourth measure, subjective physical health (i.e. self-rated health), African American women may not accurately assess their own health since they may compare their health to peers of equally poor (or worse off) health statuses. It is therefore possible that beauty, subjective stress, and/or objective stress may moderate or mediate relationships between skin tone and health outcomes according to the reviewed literature; this will be examined in exploratory analyses.

Research questions and hypotheses

The main research questions are as follows: (1) Is skin tone associated with any stress measures for African American women? Is skin tone associated with any physical health measures for African American women?; (2) Does the association between skin tone and stress/physical health vary across subjective and objective measures of stress/health?; and (3) Do these

associations weaken over time (comparing cross-sectional samples of native-born African American women collected in 1994-95 and 2001-2003)?

The hypotheses are as follows:

H_{1a}: Dark-skinned women will report the highest *objectively-measured* stress. Among high SES women, this pattern will not be consistent (there will be no relationship because increased wealth and better housing should protect all women from many objective stressors).

H_{1b}: Dark-skinned women will report the highest *subjectively-measured* stress. Among high SES women, this pattern will be consistent and pronounced because high SES women have more contact with Whites and more exposure to racial discrimination.

H_{2a}: Using *objectively-measured* physical health, dark-skinned women will report worse health. Among high SES women, this pattern will be consistent and pronounced.

H_{2b}: Using *subjectively-measured* physical health, there will be no relationship between skin tone and health. However, among high SES women, dark-skinned women will report worse *subjectively-measured* physical health (this is predicted because they may be surrounded by a reference group of Whites and high SES Blacks that are healthier than they are).

H₃: In exploratory analyses, beauty, subjective stress, and objective stress will be examined as potential mediators of the relationships in H_{2a}-H_{2b}.

Method

Participants and Procedure

Two sources of data were used to examine the association between skin tone and stress/health. The first data source was the 1995 Detroit Area Study (DAS), Social Influence on Health: Stress, Racism and Health Protective Resources. This was a multistage probability sample that represented the Whites and Blacks of the then-Detroit area population (Jackson & Williams, 2002). The design and procedure of the DAS has been described elsewhere (Williams et al., 1999). Eleven trained interviewers from the University of Michigan conducted the majority (80.2%) of all interviews. Most interviews (over 90%) were “race-matched” where the interviewer was the same race as the respondent. Analyses in this paper were restricted to race-matched African American adult women ranging from 18 to 88 years old ($M_{age}= 44.22$, $SD= 17.14$) with complete data on covariates ($N=290$ un-weighted). Socio-demographic characteristics of the final sample are presented based on their household information in 1994/1995 (see Table 1). The overall response rate for the full DAS sample was 70 percent. Further details are available at <http://dx.doi.org/10.3886/ICPSR03272>

The second data source was the 2001-2003 National Survey of American Life (NSAL). This source was a comprehensive, nationally representative sample of 5,191 Black Americans, Black Caribbean’s, and African Americans with an overall response rate of 70.7%. Like the DAS, most interviews were also “race-matched” (over 85%), and analyses were restricted to race-matched respondents with complete data on the main covariates ($M_{age}= 41.83$ years, $SE= .70$, range: 18-90 years old). Because of the significance of ethnicity and culture, only Black women of African American ethnicity were retained in the final sample (i.e., Black Caribbean’s, Africans, and other

Black women were excluded). More information on the NSAL is available on this website:

<http://www.rcgd.isr.umich.edu/prba/nsal>.

Measures

Skin tone (interviewer-rated). Interviewers were trained to rate the skin tone of respondents on a color palette. This interviewer-rated measure (rather than self-ratings) was used for all analyses, consistent with previous studies (Hughes & Hertel, 1990; Keith & Herring, 1991; Thompson & Keith, 2001; Uzogara et al., 2014) because self-rated skin tone measures are more susceptible to personal biases. Moreover, since the DAS and NSAL interviewers were largely drawn from local communities, their skin tone ratings of respondents could be thought of as community assessments.

In the DAS, interviewer-rated skin tone was recorded in five shades (percentages of respondents in this sample that fell in each category are in parentheses): (1) very dark brown (2.2%); (2) dark brown (24.2%); (3) medium brown (48.0%) (4) light brown (21.4%); and (5) very light brown (4.1%). Consistent with previous studies (e.g., Bond & Cash, 1992; Thompson & Keith, 2001; Uzogara et al., 2014), these five shades were collapsed to three categories (dark, medium, light). The original “medium” shade remained unchanged, while all shades *darker* than “medium” (i.e., “very dark brown” and “dark brown”) were combined to “dark,” and all shades *lighter* than “medium” were combined to “light.”

Unlike the DAS, the NSAL’s interviewer ratings of skin tone were recorded in seven shades: (1) very dark (2.4); (2) dark (12.7%); (3) somewhat dark (16.5%); (4) medium (42.7%); (5) somewhat light (14.6%); (6) light (8.1%); and (7) very light (3.1%). This measure was also re-distributed to three categories (dark, medium, light); the original “medium” group remained

unchanged, while all shades *darker* than “medium” were combined to “dark” and all shades *lighter* than medium were combined to “light.”

Stress Outcomes

Subjective stress. In the DAS, subjective stress was measured by the Cohen Perceived Stress Scale (PSS) (Cohen, Kamarck, & Mermelstein, 1983); this scale assesses how overwhelmed a person feels by events that seemed unpredictable and uncontrollable using five levels (1 = *very often* through 5 = *never*). The respondents’ answers were summarized as one overall score ($M_{das} = 2.24$, $SD_{das} = .80$, range 1.00-4.75) to measure their global perception of stress for the 10 items ($\alpha = .77$); higher scores indicate greater stress appraisal.

In the NSAL, since the PSS was not included in interviews, subjective stress was instead measured by two responses to questions regarding goal-striving stress (Neighbors, Sellers, Zhang, & Jackson, 2011; Sellers & Neighbors, 2008). The first question asked about their current status, “[p]lease look at the [10-step] ladder in your respondent booklet...the tenth step stands for the best possible way of life for you and the first step stands for the worst possible way of life for you. What step number best describes where you are now?” And the companion question asked about their aspiration, “[w]ill you please tell me the step number that best describes where you would like to be a few years from now?” Subjective stress was operationalized as the discrepancy between their aspiration and their current status ($M_{nsal} = 2.85$, $SD_{nsal} = 1.53$, range: -1 to 9).

Objective Stress. In both datasets, respondents were asked about the types of stressful life events they experienced; these were summarized to one score. The DAS asked whether they

experienced the following life events within the previous twelve months before the interview: serious or recurrent physical injury, physical assaults, robbery, forced retirement, unemployment in their household, relocation to unsafe neighborhoods, difficult financial problems, death of a loved one, and interracial conflicts ($M_{das}=1.66$, $SD_{das}=1.56$, range 0-8 life events). In contrast, the NSAL asked about occurrence of the following life events within the previous one month before the interview: money problems, job problems, children/family or intimate relationships/marriage problems, survived a crime, police harassment, racial discrimination, or gambling ($M_{nsal}=2.04$, $SD_{nsal}=1.65$, range 0 – 9 life events).

Physical Health Outcomes

Subjective health. In both the DAS and NSAL, self-rated health was a proxy for “subjective health.” This was reported in a question that asked respondents, “[h]ow would you rate your overall physical health at the present time? (1 = *excellent*, 2 = *very good*, 3 = *good*, 4 = *fair*, 5 = *poor*); this measure was reversed during analyses so that lower scores indicated worse health; subjective health ratings in the DAS and NSAL ranged from 1 to 5 ($M_{das}=3.13$, $SD_{das}= 1.08$; $M_{nsal}=3.35$, $SD_{nsal}=1.09$).

Objective health. An inventory of diagnosed chronic health conditions was collected in both datasets. The DAS asked respondents whether “a doctor or other health professional has ever” diagnosed them with any of the following 7 stress-sensitive conditions retained in analyses: high blood pressure (hypertension), stroke, heart attack/cardiac problems, diabetes, arthritis, blood circulation/artery hardening problems, and high cholesterol. Additionally, body mass index or BMI (from self-reported weight and height in kilograms meters squared) was used to compute a binary measure of obesity (obese or non-obese) as the 8th health condition. The quantity of

illnesses was captured in a summary score for the 8 health conditions ($M_{das}=1.56$, $SD_{das}=1.58$, range 0 – 7 health conditions). The NSAL asked similar health questions and those same health conditions were used to calculate a summary score except “high cholesterol” because it was unavailable in the NSAL ($M_{nsal}=1.33$ $SD_{nsal}=1.35$, range 0 – 7 health conditions).

Covariates

Socio-demographics and Health Status—Respondents. In both datasets, marital status, home ownership status, and health insurance coverage were assessed as binary variables, respectively (married/not married, homeowner/not homeowner, insured/non-insured). Age in years was determined from their self-reported date of birth. Educational attainment was self-reported in four categories: 1) Kindergarten to 11th grade; 2) completed 12th grade or GED; 3) Attended some college/Associates degree; 4) Completed a bachelor’s degree or higher.

Household income and SES. Income categories were different in the datasets. DAS respondents’ household incomes were coded into five categories: 1) Under \$10,000; 2) \$10,000-\$19,999; 3) \$20,000-\$39,999; 4) \$40,000-\$59,999; 5) \$60,000 or higher. NSAL respondents’ incomes were coded in eight categories: 1) less than \$7,000; 2) \$7,000-\$13,999; 3) \$14,000-\$19,999; 4) \$20,000-\$29,999; 5) \$30,000-\$40,999; 6) \$41,000-\$54,999; 7) \$55,000-\$74,999; 8) \$75,000 or above.

Additionally, in both the DAS and NSAL, a binary variable indicated whether respondents earned \$50,000 or more annually. Since the most affluent African Americans in the United States during the time periods that both datasets were collected (i.e. 1995-2003) typically earned at or above this level (Massey, 2004; Oliver & Shapiro, 1995), this variable was used as a proxy for “high SES” for these two samples. Results support this, as only approximately 13% and 18% of

respondents in these DAS and NSAL samples, respectively, earned at least \$50,000 annually. Consistent with previous skin tone studies about women (Thompson & Keith, 2001), we distinguished respondents based on income (i.e. a resource-based measure of SES) as opposed to a prestige-based measure of SES (e.g. education attainment) because colorism outcomes for women have operated robustly along resource-based distinctions⁶.

Socio-demographics—Interviewers. In both datasets, age (in years) and gender (male/female) was collected for all interviewers; race was collected and used to remove non-Black (non-race matched) interviewer-respondent pairs. Additionally, interviewers' highest level of education in both the DAS and NSAL was measured on a 7-point scale (1=kingergarten-8th grade, 2=some high school, 3=high school grad, 4= some college/Associate's degree, 5=Bachelor's degree, 6=Master's degree, 7=Ph.D. grad/equivalent).

Beauty/attractiveness. Beauty was assessed in both surveys using the following question, “where would you place the respondent along the following scale [of physical attractiveness]? Please enter a number 1 to 7 with 4 being Neutral.” The options provided were 1= “Most attractive,” 2., 3., 4=“Neither attractive nor unattractive,” 5., 6., and 7=“Most unattractive” ($M_{das}=3.64$, $SD_{das}=1.23$, range: 1-7; $M_{nsal}=3.28$, $SE_{nsal}=.08$, range: 1-7). Additionally, a binary measure of beauty was computed by re-coding ratings of 1-3 as “beautiful” and 4-7 as “non-beautiful” for descriptive results in the tables. In this binary measure, 40.6% and 55.60% of the DAS and NSAL samples, respectively, were evaluated as “beautiful” women. In exploratory analyses, beauty (the 7-point measure) will be tested as a mediator for health disparities because

⁶ Results from their 1980 NSBA analyses did not replicate using education distinctions (instead of income) and results from the DAS and NSAL also did not replicate using education to differentiate female respondents.

the aforementioned feminist literature suggested that women are judged critically for their outward appearance in society, and this particular burden may compromise their well-being.

Statistical Analysis

Analyses were performed using IBM SPSS, Version 19.0 (SPSS, 2010) for the DAS results and STATA 13.0 (StataCorp., 2013) for NSAL results. Data were weighted in both samples to account for varying probabilities of selection. Furthermore, the *svy* commands of STATA were used for NSAL analyses to handle the stratification, clustering, and weights of the complex design.

Results

Demographic characteristics for respondents are presented for the DAS (see Table 3.1) and NSAL (see Table 3.2). In Hypotheses 1a through 2b, the covariates controlled were respondent demographic characteristics (i.e., age, education, income, marital status, home ownership status, and health insurance coverage) and interviewer characteristics (i.e., age, gender, and education). SPSS software was used for DAS analyses (ANOVA and ANCOVAs), while STATA was used for NSAL analyses (bivariate and multiple regression).

H_{1a}: Dark-skinned women will report the most objectively-measured stress. Among high SES women, this pattern will not be consistent (there will be no relationship).

The relationship between skin tone and objective stress (that occurred in the previous twelve months from their interview) was examined before and after adjusting for respondent and interviewer characteristics. In the DAS, dark-skinned women reported more objective stress

($M=2.05$, $SD=1.49$) than medium-skinned ($M=1.51$, $SD=1.56$) and light-skinned women ($M=1.41$, $SD=1.53$). This relationship was significant before adjusting for covariates ANOVA $F(2, 293) = 4.09$, $p < .018$, $\eta_p^2 = .03$ and after adjusting ANCOVA $F(2, 282) = 3.91$, $p < .021$, $\eta_p^2 = .03$. A Least Significant Difference (LSD) post hoc test indicated that the difference was significant between dark- and medium-skinned ($p = .014$) women and dark-skinned and light-skinned ($p = .010$) women; it was non-significant between medium- and light-skinned women. Among high SES women, although dark women reported more objective stress on average, this relationship was not statistically significant between dark- ($M=1.33$, $SD=.71$), medium- ($M=.76$, $SD=.77$) and light-skinned women ($M=.88$, $SD=.64$), ANOVA $F(2, 35) = 1.95$, *ns*. The hypothesis was supported in the DAS.

Among African American women in the NSAL, skin tone was not associated with objective stress (that occurred in the previous one month from their interview), design-based $F(2, 909.27) = .82$, $p = .451$, $R^2 = .00$; dark- ($M=2.11$, $SE=.11$), medium- ($M=1.96$, $SE=.09$) and light-skinned women ($M=2.12$, $SE=.13$) had similar reports. Adjusting for covariates improved the model fit ($R^2 = .08$) although there were still no significant differences across skin tone groups. Additionally, among high SES women in the NSAL, there was no significant difference between skin tone groups, design-based $F(2, 159.77) = 1.39$, $p = .266$, $R^2 = .02$ although dark-skinned women ($M=1.82$, $SE=.28$) reported higher objective stress, on average, than medium ($M=1.33$, $SE=.17$) and light-skinned women ($M=1.63$, $SE=.25$). The hypothesis was not supported in the NSAL.

H_{1b}: Dark-skinned women will report the most subjectively-measured stress. Among high SES women, this pattern will be consistent and more pronounced.

The relationship between skin tone and subjective stress was investigated in the DAS and NSAL samples before and after adjusting for covariates. In the DAS, African-American women's reports of subjective stress was weakly associated with skin tone; as hypothesized, dark-skinned women reported the highest subjective stress ($M=2.41$, $SD=.83$), followed by medium-skinned ($M=2.22$, $SD=.84$) and light-skinned ($M=2.12$, $SD=.67$). The overall relationship in the DAS was marginally significant before controlling for covariates, ANOVA $F(2, 293) = 2.68$, $p=.070$, $\eta_p^2 = .02$ but not after controlling for covariates, ANCOVA $F(2, 282) = 2.29$, $p=.104$, $\eta_p^2 = .02$. The LSD post hoc test indicated that the difference was significant between dark and light-skinned women ($p=.019$), medium and light women ($p=.005$), but not between dark and medium women. The interaction between skin tone, subjective stress, and high SES (dummy-coded) was significant, $F(2, 279) = 3.24$, $p=.041$, $\eta_p^2 = .03$. Among high SES women (those with a household income of \$50,000 or more), the relationship was significant, ANOVA $F(2, 35) = 4.75$, $p=.015$, $\eta_p^2 = .21$ with dark- ($M=2.33$, $SD=.41$) and medium-skinned women ($M=2.36$, $SD=.74$) reporting more stress than light-skinned women ($M=1.59$, $SD=.38$). The hypothesis was partly supported using the full sample. However, in samples stratified by high SES women, dark- and medium-skinned women were comparably worse off than light-skinned.

Next, these relationships were investigated in the NSAL. Although dark-skinned women, on average, reported more subjective stress ($M=2.93$, $SE=.07$) than medium- ($M=2.78$, $SE=.08$) and light-skinned women ($M=2.88$, $SE=.10$), the association was not significant, $F(2, 939.59) = .81$, $p=.453$, $R^2 = .00$; adjusting for covariates improved the model ($R^2 = .09$) but there were no significant differences between skin tone groups. Among high SES women, dark-skinned women's reports were higher ($M=2.65$, $SE=.20$) than medium ($M=2.19$, $SE=.12$) and light-

skinned women ($M=2.40$, $SE=.14$) on average, but the association was not significant, $F(2, 181.83) = 1.30$, $p=.287$, $R^2 = .03$. The hypothesis was not supported in the NSAL.

H_{2a}: Using objectively-measured physical health, dark-skinned women will report worse health. Among high SES women, this pattern will be consistent and pronounced.

Using objectively-measured physical health (i.e., their total number of stress-sensitive chronic health conditions), the same relationships were examined before and after adjusting for covariates. In the DAS, dark-skinned women reported worse objective health ($M=2.21$, $SD=1.96$) than medium- ($M=1.68$, $SD=1.53$) and light-skinned women ($M=1.25$, $SD=1.34$) before adjusting for covariates ANOVA: $F(2, 284) = 6.71$, $p=.001$, $\eta_p^2 = .05$ and after adjusting ANCOVA $F(2, 273) = 10.50$, $p<.000$, $\eta_p^2 = .07$ (see Figure 3.1). An LSD post hoc test was significant between dark- and medium- ($p=.025$) and dark- and light- women ($p=.000$) and a marginally significant difference between medium- and light-skinned women ($p=.056$).

There was a significant interaction between high SES and skin tone in these DAS analyses of objective health, $F(2, 281) = 3.38$, $p=.036$, $\eta_p^2 = .02$. Among high SES women, the relationship was consistent and pronounced; dark-skinned women reported much more health problems than ($M=3.11$, $SD=1.54$) than medium- ($M=1.10$, $SD=1.41$) and light-skinned women ($M= 0.75$, $SD=.71$), ANOVA $F(2, 35) = 8.81$, $p=.001$, $\eta_p^2 = .34$. This difference was significant (LSD post hoc test) between dark- and medium- ($p=.001$) and between dark- and light-skinned women ($p=.001$); there was no significant difference between medium and light-skinned women. DAS results supported the hypothesis for high SES women.

Objective health and skin tone associations were also investigated in the NSAL. Consistent with the DAS results, NSAL women of dark- ($M=1.44$, $SE=.11$), medium- ($M=1.32$, $SE=.06$) and light skin tone ($M=1.17$, $SE=.06$) differed, design-based $F(2, 1108.90) = 3.20$,

$p=.054$, $R^2=.01$ (see Figure 3.1). Controlling for covariates improved the model strongly ($R^2=.27$). Among high SES women in the NSAL, although light-skinned women reported the fewest illnesses on average, there were no significant differences in objective health between dark- ($M=1.16$, $SE=.20$), medium- ($M=1.20$, $SE=.12$) and light-skinned women ($M=.96$, $SE=.14$), design-based $F(2, 200.40)=1.05$, $p=.361$, $R^2=.01$. Therefore, NSAL results did not fully support the hypothesis among wealthier women.

H_{2b}: Using subjectively-measured physical health, there will be no relationship of skin tone and health. However, among high SES women, dark-skinned women will report worse subjectively-measured physical health.

Next, associations of subjective physical health (i.e. self-rated health) and skin tone were examined before and after adjusting for respondent and interviewer characteristics described in the previous hypotheses. As hypothesized, using the full sample of African American women in the DAS, there was no significant association between subjective health and skin tone before adjusting for covariates ANOVA $F(2, 293)=1.98$, *ns* but the association was marginally significant after adjusting ANCOVA $F(2, 282)=2.64$, $p=.073$, $\eta_p^2=.02$. Dark- ($M=2.99$, $SD=1.24$), medium- ($M=3.05$, $SD=1.03$) and light-skinned women's ($M=3.31$, $SD=1.05$) reports of subjective health differed slightly. The interaction of high SES, skin tone, and subjective health was significant, $F(2, 290)=4.54$, $p=.011$, $\eta_p^2=.03$. Among high SES women, dark-skinned women ($M=2.56$, $SD=.73$) reported significantly lower subjective health than medium- ($M=3.76$, $SD=.94$) and light-skinned women ($M=4.00$, $SD=.93$), ANOVA $F(2, 35)=7.14$, $p<.003$, $\eta_p^2=.29$. An LSD post-hoc test indicated that the difference was significant between dark- and medium-skinned women ($p=.002$) as well as dark- and light-skinned women ($p=.002$); it was not significant between medium- and light-skinned women. Thus, the hypothesis was supported in the DAS.

In the NSAL, the same associations of subjective (self-rated) health and skin tone were examined. Similarly to the DAS, among NSAL women, there was no significant association, design-based $F(2, 1108.91) = 1.06, p = .357, R^2 = .00$ between reports from dark- ($M = 3.28, SE = .06$), medium- ($M = 3.34, SE = .05$) and light-skinned ($M = 3.42, SE = .06$) women. After adjusting for covariates, the model improved ($R^2 = .12$) but there were no significant associations across skin tone groups. Unlike the DAS results, high SES women in the NSAL sample did not differ significantly, $F(2, 200.40) = .59, p = .559, R^2 = .01$; dark- ($M = 3.54, SE = .15$), medium- ($M = 3.40, SE = .08$) and light-skinned women ($M = 3.55, SE = .14$) reported similar levels of subjective health. Therefore, the hypothesis was not supported among high SES women in the NSAL.

H₃: Exploratory analyses of possible mediators of the relationships between skin tone and health

Since results (largely in the DAS) indicated that there were some significant associations between skin tone, stress, beauty, and health outcomes, exploratory analyses to investigate whether those variables were mediators follows. Using the four-step approach (Baron & Kenny, 1986), these analyses examine direct and indirect effects.

a. DAS - Skin tone predicting objective health (potential mediator: objective stress)

Skin tone significantly predicted objective health (Step 1) $F(1, 279) = 10.74, p = .001, R^2 = .034$ and also predicted objective stress (Step 2) $F(1, 288) = 7.58, p = .006, R^2 = .022$. However objective stress did not predict objective health (Step 3) $F(1, 279) = .270, ns, R^2 = .00$. Mediation was not supported since criteria were not met.

b. DAS - Skin tone predicting objective health (potential mediator: subjective stress)

In the second set of analyses, skin tone significantly predicted objective health (Step 1) $F(1, 279)=10.74, p=.001, R^2=.034$ as well as predicted subjective stress (Step 2) $F(1, 288)=5.58, p=.019, R^2=.016$. However, subjective health did not predict objective health (Step 3) $F(1, 279)=.259, ns, R^2=.00$. There was no support for mediation.

c. DAS -- Skin tone predicting objective health (potential mediator: beauty)

Next, beauty was examined as a mediator in the relationship between skin tone and objective health. Skin tone predicted objective health (Step 1) $F(1, 279)=10.74, p=.001, R^2=.034$ and skin tone predicted beauty (Step 2) $F(1, 288)=5.72, p=.017, R^2=.016$. The association (regression) between beauty and objective health (Step 3) was marginally significant $F(1, 279)=3.08, p=.080, R^2=.004$. In the multiple regression analyses of skin tone and beauty (predictors) and objective health (Step 4), mediation was not supported. Beauty (path *b*) was no longer significant when controlling for skin tone ($b=.10, SE=.08, p=.186$) and skin tone remained significant ($b= -.398, SE= .13, p=.002$).

d. NSAL -- skin tone predicting objective health (potential mediator: beauty)

The only variable addressed in this paper in the NSAL sample that met criteria as a potential mediator for the relationship of skin tone and objective health was beauty/attractiveness (subjective and objective stress in the NSAL did not qualify as mediators since they were not related to skin tone). Therefore, this was explored as well. First (Step 1) skin tone predicted objective health, $F(2, 1108.91) = 3.20, p = .029, R^2 = .02$. Additionally (Step 2), skin tone predicted beauty significantly, $F(2, 1108.91) = 10.48, p = .000, R^2 = .02$. In Step 3, beauty significantly predicted objective health, $F(1, 1108.91) = 13.22, p = .001, R^2 = .01$. Therefore, analyses were continued to Step 4 where the overall model was statistically significant, $F(2,$

1108.91) = 9.70, $p = .001$, $R^2 = .01$. In this multiple regression analysis (skin tone and beauty were predictors) of objective health, beauty still significantly predicted objective health ($b = .08$, $SE_B = .02$, $p = .003$) when skin tone was controlled, however, skin tone was not significant ($b = -.11$, $SE_B = .06$, $p = .070$). This provided support that beauty may have mediated the association between skin tone and objective physical health (Sobel Test statistic: -2.62 , $p = .009$) among African American women (see Figure 3.2).

e. DAS - Skin tone predicting subjective health (potential mediator: objective stress)

The remaining analyses involve skin tone and subjective (self-rated) health. The main effect of skin tone and subjective health was marginally significant (Step 1) $F(1, 288) = 2.96$, $p = .087$, $R^2 = .007$. Skin tone predicted objective stress (Step 2), $F(1, 288) = 7.58$, $p = .006$, $R^2 = .022$. Next, objective stress significantly predicted subjective health (Step 3) $F(1, 288) = 8.26$, $p = .004$, $R^2 = .025$. In the multiple regression analysis (Step 4), the overall model was significant $F(2, 287) = 4.97$, $p = .008$, $R^2 = .027$. Objective stress (path b) was still significant ($b = -.11$, $SE = .04$, $p = .009$) when controlling for skin tone; however, skin tone (path c') was no longer significant ($b = .11$, $SE = .09$, $p = .197$). Objective stressors may influence the association of skin tone and subjective perceptions of health among African American women.

f. DAS - Skin tone predicting subjective health (potential mediator: subjective stress)

As already shown, the association between skin tone and subjective health (Step 1) $F(1, 288) = 2.96$, $p = .087$, $R^2 = .007$ was marginally significant. Skin tone significantly predicted subjective stress (Step 2) $F(1, 288) = 5.58$, $p = .019$, $R^2 = .016$. Next, subjective stress predicted subjective health (Step 3) $F(1, 288) = 11.86$, $p = .001$, $R^2 = .036$. Finally, in multiple regression analyses for skin tone and subjective stress in predicting subjective health (Step 4), the overall

model was significant $F(2, 287)=6.77, p=.001, R^2=.038$. When both variables were accounted for, subjective stress was significant ($b= -.26, SE=.08, p=.001$) but skin tone was no longer significant ($b=.11, SE=.09, p=.200$). Like the analysis above, subjective stress (like objective stress) may play a role in the link between skin tone and subjective perceptions of health in this population of African American women.

g. DAS - Skin tone predicting subjective health (potential mediator: beauty)

In this investigation, skin tone's association with subjective health (Step 1) was marginally significant $F(1, 288)=2.96, p=.087, R^2=.007$ and skin tone also predicted beauty (Step 2) significantly, $F(1, 288)=5.72, p=.017, R^2=.016$. The association between beauty and subjective health (Step 3) was marginally significant, $F(1, 288)=3.40, p=.066, R^2=.012$. Additional analyses did not provide support for mediation.

Discussion

The present study illustrated several consistent findings across the two cross-sectional data sources that have important implications for research in public health and the social sciences. There were certain health-related results in the smaller, regional Detroit sample that paralleled the larger, national sample as well as some stress-related findings that were unique to the Detroit sample. This will be addressed in light of findings related to both gender and racial oppression the United States.

First, subjective (self-rated) health ratings were not associated with skin tone health disparities in the DAS or NSAL. Research relying on measurements of self-rated health is common in public health and considered reliable. However, the role of psychological motives such as social comparisons (particularly among stigmatized minority groups like African

American women) and salient reference groups during those self-appraisals of health are important to consider; various populations may not accurately self-assess their overall health, as discussed earlier. This is problematic for medical and public health research because studies examining within-race or across-race health disparities involving African American women may be misleading if this population underreports the extent of their poor health.

Second, the results regarding skin tone associations with objective health disparities perhaps underscored the importance of measurement. Although dark-, medium-, and light-skinned women did not differ in reports of subjective (self-rated) health, they differed in objective measures of health in both the DAS and NSAL. Succinctly, this current study replicated findings from the Borrell and colleagues (2006) study where skin tone was not associated with *subjectively* measured (self-rated) health. Likewise, this present study also replicated findings from the Sweet and colleagues (2007) study that showed significant differences in *objectively* measured health outcomes across skin tones. Therefore, an important lesson from these findings is that skin tone discrimination may be a social determinant of health for African American women and this is evidenced more clearly when health outcomes are measured objectively.

Third, another consistent pattern in the DAS and NSAL was the link between body mass index (BMI) and skin tone of women. Dark-skinned women were the only groups that, on average, met criteria for obesity (i.e. $BMI > 30$) in both datasets; moreover, BMI was lower among lighter-skinned women. This is noteworthy because research has indicated that dark-skinned women perceived more racial discrimination than lighter-skinned women (Klonoff & Landrine, 2000), and perceived discrimination has been linked with increased visceral fat among African American women (Lewis et al., 2011)—suggesting that discrimination may be a

pathway to increased cardiovascular disease risk for African American women. This finding regarding obesity and poor physical health among dark-skinned women is also notable in light of their interactive experiences of different forms of oppression, since they belong to subordinate race, gender, and skin tone categories; perhaps their simultaneous experiences of high levels of racism, sexism, and colorism (Herring et al., 2004) may have taxed their health.

Furthermore, there were findings in the nationally representative NSAL sample that merit attention. Beauty partly mediated the link between skin tone and objective physical health disparities among women in the NSAL. Succinctly, the interviewers' beauty judgments (i.e. a social/interpersonal factor) may have fueled women's health disparities in the NSAL. This result also dovetails with Hagiwara and colleagues (2013) finding that perceived discrimination (i.e. a social/interpersonal factor) also mediated health disparities among male and female Blacks of varying Afrocentric features. Since our current study focused solely on women, there are also sexist implications of the beauty mediation effect. Indeed, previous research has shown that physical appearance tends to be much more salient to the social and economic well-being of women, and serves as a continuing form of gender oppression (Hunter, 2002; Keith, 2009). Further, social psychological research on the halo effect (Asch, 1946) and "What is Beautiful is Good" (Dion et al., 1972) could explain this finding. Because women that were considered attractive were possibly treated better in society, more likely to be partnered, and/or provided more social support during their daily lives, there might have been various health protective benefits of such treatment.

This suggests that the social lives and expectations of African American women may be unique in ways that make them vulnerable to perceived threats to their well-being based on skin tone differences and perhaps other Afrocentric physical appearance distinctions as well. It is

also plausible that African American women may rely on coping strategies or health behaviors to relieve stress that undermine their health. For example, they overindulge on comfort foods while under stress (instead of exercising) because it may efficiently protect their mental health although it occurs at the expense of their physical health (Jackson, Knight, & Rafferty, 2010). This may explain the obesity trends that emerged among darker African American women.

Furthermore, the DAS and NSAL results involving subjective and objective physical health represent an interesting intersection of psychology and public health. The greater odds of being diagnosed with stress-sensitive chronic health conditions (objective health) for darker-skinned African American women is a significant public health challenge. At the same time, the majority of those women seemed to be protected in their perception of their own health (i.e. subjective, self-rated health) because there were no significant differences emerging by skin tone in the full sample. This discordance between subjective and objective health among darker-skinned African American women may be a psychological advantage as research on “positive illusions” indicated that people fared better when they perceived themselves and/or their life circumstances in a more flattering light, even if it was inaccurate (Taylor & Brown, 1988).

Strengths, Limitations, and Future Directions

This paper has strengths that add to our understanding of the association between skin tone and well-being among African American women. The interviewer-rated skin tone measures were assessed/collected by same-race interviewers that resided in the same communities where respondents also lived. Those local interviewers were well suited to assess what was considered “light,” “medium,” or “dark,” according to their community’s standards (Hill, 2002a). These ratings are arguably a more meaningful social/interpersonal predictor of how respondents are

regarded in their particular communities compared to studies that relied on skin tone measures from machines such as reflectance meters (Borrell et al., 2006). However, these human judgments are simultaneously a limitation because they include a degree of subjectivity that adds “noise” to the study because humans naturally use their own skin tone as an anchor when assessing another person’s shade. However, the results controlled for a number of interviewer demographic characteristics to try to account for this “noise.”

Other limitations in this analysis included differences in subjective and objective stress measures in the NSAL compared to the DAS sample. Ceiling and floor effects might have influenced results. For example, objective stress in the NSAL asked about stressors that occurred in the previous one month while the DAS used a twelve-month period. One month may be too short to detect objective stress disparities across skin tones that could emerge over the course of a year. Subjective stress measures in the NSAL (i.e. goal-striving stress) were also conceptually different from the DAS (i.e. perceived stress). Goal-striving stress was probably most relevant for working adults that had already completed their education (e.g. ages 30-55) while perceived stress assessed how overwhelmed respondents felt. Therefore, those stress measures were not equivalent and that could account for the non-significant differences in NSAL stress results.

It should also be noted that although we describe self-reports of doctor-diagnosed health outcomes and stressful life events scales as “objective,” these measures are still somewhat “subjective” since they were self-reported by respondents; thus, they can also suffer from recall and social desirability bias. However, the finding that some consistent patterns of results emerged across samples when using “objective” versus “subjective” measures lends credence to the idea that these objective measures are capturing a different dimension of stress and health compared to the more subjective measures used.

Finally, the cross-sectional designs of the studies were limitations as well. Future experimental and longitudinal studies combined with clinically obtained measures of health (e.g., measured blood pressure, height, weight) are necessary in order to infer causality. It is important that future studies measure vitamin deficiencies (such as vitamin D3 levels) that are connected to skin tone health disparities (Jablonski & Chaplin, 2012). Future research should also address the role of coping and health behaviors that may explain why skin tone was associated with poor objective health among women (e.g. exercising, eating comfort foods, smoking, and substance use, etc). Finally, studies could attempt to differentiate whether respondents' subjective stress was triggered from discrimination from in-groups (i.e. Blacks) or out-groups (Whites) since unfair treatment from in-groups could be more deleterious to well-being (Mendes et al., 2008). These future directions are important for better understanding the role of social constructions of skin tone, stress and health across gender, as it is an understudied but important topic.

Table 3.1⁷*Demographic and health characteristics of African American women—1995 DAS*

	Total	Dark	Medium	Light	<i>p</i>
N, (%)	290 (100%)	77 (26.4%)	139 (48.0%)	74 (25.6%)	
Age, mean (<i>SD</i>)	44.22 (17.14)	42.09 (16.30)	44.31 (17.42)	46.27(17.42)	.013
Education, ^a mean (<i>SD</i>)	2.15 (.94)	2.11 (.99)	2.13 (.94)	2.23 (.91)	<i>ns</i>
Household annual income, ^b mean (<i>SD</i>)	2.44 (1.29)	2.31 (1.32)	2.48 (1.27)	2.51 (1.31)	<i>ns</i>
High SES (income \$50,000 or above), %	13.1	13.0	14.5	10.8	<i>ns</i>
Married (%)	35.3	32.9	37.4	33.8	<i>ns</i>
Home owner (%)	54.3	51.9	52.9	59.5	<i>ns</i>
Has health insurance (%)	88.5	80.3	90.5	93.2	.027
Body mass index (BMI) kg/m ² , mean (<i>SD</i>)	28.98 (6.48)	30.08 (6.14)	28.87 (7.30)	28.11 (4.94)	<i>ns</i>
Stress					
Subjective stress, ^c mean (<i>SD</i>)	2.24 (.80)	2.42 (.82)	2.21 (.83)	2.12 (.68)	.055
Objective stress, ^d mean (<i>SD</i>)	1.66 (1.56)	2.10 (1.55)	1.55 (1.52)	1.41 (1.57)	.013
Physical health					
Subjective health, ^e mean (<i>SD</i>)	3.13 (1.08)	3.02 (1.23)	3.09 (1.02)	3.33 (1.02)	<i>ns</i>
Objective health, ^f mean (<i>SD</i>)	1.70 (1.63)	2.21 (1.96)	1.68 (1.53)	1.25 (1.34)	.001
Attractiveness rating, ^g mean (<i>SD</i>)	3.64 (1.23)	3.79 (1.06)	3.74 (1.22)	3.31 (1.38)	.027

a. Education attainment was measured as 1) Kindergarten to 11th grade; 2) completed 12th grade or GED; 3) Attended some college/Associates degree; 4) Completed a bachelor's degree or higher.

b. DAS income was measured as 1) Under \$10,000; 2) \$10,000-\$19,999; 3) \$20,000-\$39,999; 4) \$40,000-\$59,999; 5) \$60,000 or higher

c. Subjective stress in the DAS was measured using Cohen's Perceived Stress Scale

d. Objective stress was measured as the summary score of stressful life events

e. Subjective health was self-rated health (reverse coded so that higher scores indicate better health)

f. Objective health was the summary score of diagnosed chronic physical illnesses

g. Attractiveness is on a 7-point scale with lower scores indicating higher beauty

⁷ See Appendix E for these results using the African American men's sample.

Table 3.2⁸*Demographic and health characteristics of African American women—2003 NSAL*

	Total	Dark	Medium	Light	<i>p</i>
N, (%)	1653 (100%)	521 (31.5%)	705 (42.7%)	427 (25.8%)	
Age, mean (<i>SE</i>)	41.83 (.70)	42.78 (1.09)	42.38 (1.02)	39.77 (.95)	.018
Education, ^a mean (<i>SE</i>)	2.25 (.05)	2.16 (.06)	2.25 (.06)	2.35 (.06)	.061
Household annual income, ^b mean (<i>SE</i>)	3.94 (.10)	3.73 (.13)	3.93 (.13)	4.19(.15)	.028
High SES (income \$50,000 or above), %	18.07	14.82	17.69	22.68	.060
Married (%)	26.71	26.00	25.95	28.82	<i>ns</i>
Home owner (%)	45.5	44.62	47.31	43.58	<i>ns</i>
Has health insurance (%)	80.58	79.99	82.06	78.85	<i>ns</i>
Body mass index (BMI) kg/m ² , mean (<i>SE</i>)	29.46 (.18)	30.01 (.38)	29.58 (.26)	28.60 (.35)	.018
Stress					
Subjective stress, ^c mean (<i>SE</i>)	2.85 (.04)	2.93 (.07)	2.78 (.08)	2.88 (.10)	<i>ns</i>
Objective stress, ^d mean (<i>SE</i>)	2.05 (.07)	2.11 (.11)	1.96 (.09)	2.12 (.13)	<i>ns</i>
Physical health					
Subjective health, ^e mean (<i>SE</i>)	3.34 (.03)	3.28 (.06)	3.34 (.05)	3.42 (.06)	<i>ns</i>
Objective health, ^f mean (<i>SE</i>)	1.33 (.04)	1.44 (.11)	1.32 (.06)	1.17 (.06)	.029
Attractiveness rating, ^g mean (<i>SE</i>)	3.28 (.08)	3.53 (.07)	3.25 (.11)	3.02 (.13)	.000

a. Education attainment was measured as 1) Kindergarten to 11th grade; 2) completed 12th grade or GED; 3) Attended some college/Associates degree; 4) Completed a bachelor's degree or higher.

b. Household income was measured as 1) less than \$7,000; 2) \$7,000-\$13,999; 3) \$14,000-\$19,999; 4) \$20,000-\$29,999; 5) \$30,000-\$40,999; 6) \$41,000-\$54,999; 7) \$55,000-\$74,999; 8) \$75,000 or above.

c. Subjective stress in the NSAL was measured as goal-striving stress

d. Objective stress was measured as the summary score of stressful life events

e. Subjective health was self-rated health (reverse coded so that higher scores indicate better health)

f. Objective health was the summary score of stress-sensitive diagnosed chronic physical illnesses

g. Attractiveness is on a 7-point scale with lower scores indicating higher beauty

⁸ See Appendix E for the results using the African American men sample.

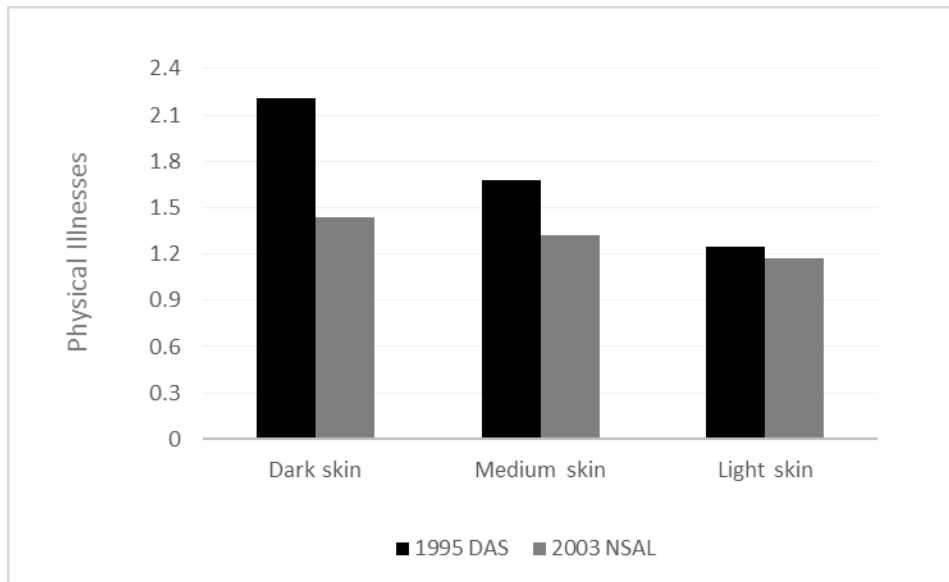


Figure 3.1. Mean chronic physical illnesses (stress-sensitive) across African American women's skin tone in DAS and NSAL.

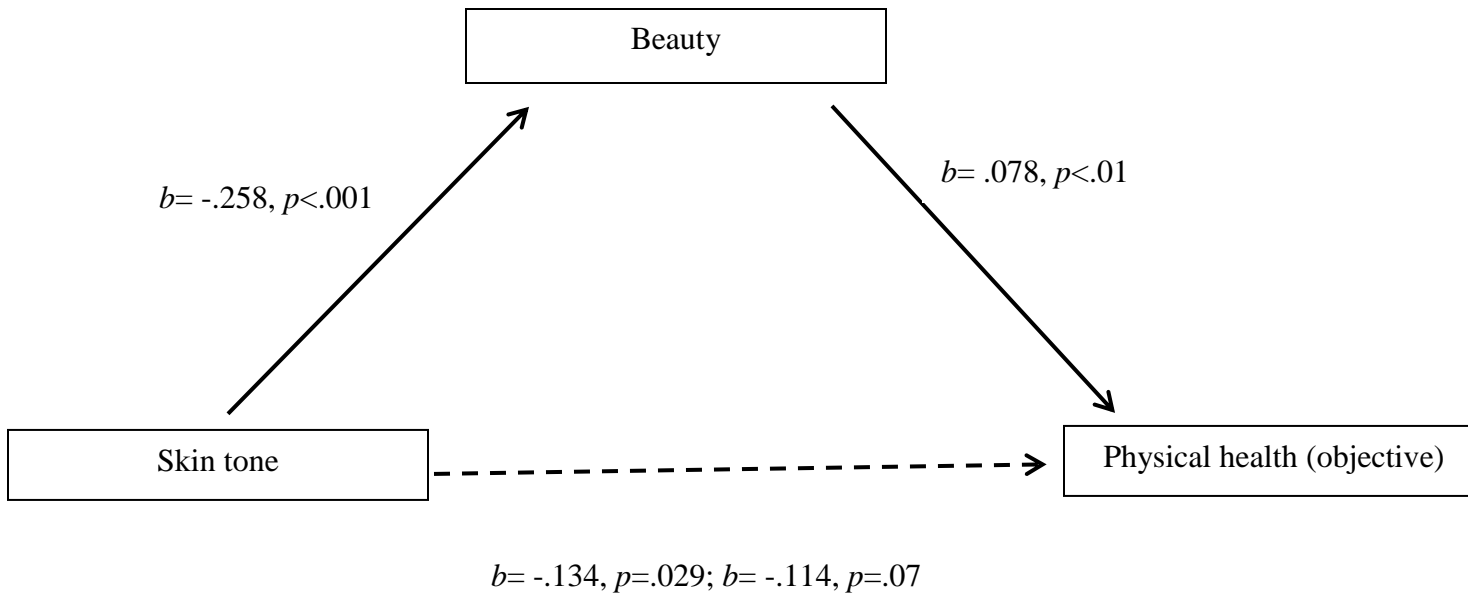


Figure 3.2. Skin tone, beauty, and physical health mediation model—NSAL.

CHAPTER V

CONCLUSION

Skin tone biases can make a substantial difference in the lives of African American men and women in various ways including in social, economic, and physical well-being domains. This three-paper dissertation investigated important consequences of colorism for men and women separately because since skin tone bias is a social construction, there were gendered distinctions in their reactions as men and women are socialized differently. Each of the three papers addressed certain gaps in the literature and made unique contributions to our understanding of the ramifications of skin tone discrimination because various hypotheses were supported while some nuanced findings surfaced.

This dissertation was framed in the context of forms of self-construal that might explain why subgroups of the African American samples reacted in different ways. Since women and persons of lower social classes are likely to be “other-focused” (interdependent/collectivistic) while men and persons of higher social classes are “self-focused,” (independent/individualistic) it was predicted that women and lower social classes (the relatively disadvantaged groups) would be most vulnerable to self-evaluation threats and negative consequences of their community’s perception of their value. Although interdependence/independent worldviews were not directly measured in the samples, the findings largely conformed to what this framework predicts.

The first paper (Chapter 2) addressed African American men’s responses to skin tone discrimination. Men’s responses in the out-group appraisal (where men reported increasingly worse treatment from Whites as skin tone darkened) and in-group appraisal (where medium-

skinned men reported the best treatment and the other groups reported greater discrimination) was consistent over time from 1995-2003. This suggested that colorism was deeply ingrained in the culture and those patterns might have been stable for a long time. Since the appraisals were robust and consistent even after demographic factors (age, education and income) were controlled, it illustrated that men that were more privileged economically are still not protected from color-based and racial discrimination in their daily lives. Importantly, since some African American men reside in settings that are homogenous (e.g. low SES environments mostly near Black people) while others reside in diverse settings, the in-group appraisal or out-group appraisal may be more consequential and salient depending on their social context.

Additionally, contrary to research that assumed that men's skin tones were not related to psychological variables like self-esteem, a notable contribution of this paper was its exploration of social class and skin tone discrepancies in predicting low self-esteem among men. As the self-construal framework would predict, men of lower social classes might have been more attuned to social meanings attached to their skin tones because they exhibited the highest skin tone discrepancies; furthermore, larger discrepancies were associated with lower the self-esteem. This illustrated that colorism may affect men in more complex ways than previously thought.

The remaining two papers (Chapters 3 and 4) addressed women's psychological and health-related outcomes. Research on skin tone usually acknowledges that consequences of colorism may be more central to women's lives, perhaps because society evaluates women harshly based on physical appearance criteria. Beauty appeared to be a linchpin in outcomes concerning women as light-skinned women were consistently advantaged in many domains.

As the construal framework indicates, women are more “other-focused” and therefore more susceptible to negative consequences of colorism if their community devalues their particular skin tone. Perhaps social and economic disparities (e.g. beauty, education, income) between lighter and darker women were starker and more robust in the large national sample for this reason. The pattern of discrimination in their out-group appraisal was consistent with men: light-skinned women reported the best treatment from Whites, and women reported worse treatment as skin tone darkened. It was notable that women’s reports in in-group appraisals were less robust and this might have reflected social desirability biases. Overall, it seemed that the economic and social benefits of being a light-skinned woman (e.g. income, education, mate selection, less racial discrimination from out-groups) far outweighed the costs (e.g. objectification by men and having strained friendships with Black women).

While Chapter 3 established the importance of beauty in women’s skin tone-related outcomes, Chapter 4 extended this notion by investigating health and stress outcomes across complexions. One important contribution of this paper was that it provided support for the contention that objective measurements of physical health (instead of self-rated/subjective variables) are most appropriate for detecting women’s health disparities across skin tone. Respondents’ self-rated reports of health were not associated with skin tone; however, a summary score of stress-sensitive, diagnosed illnesses was significantly higher among dark-skinned women (especially among high social classes) and consistently lower among light-skinned women. Moreover, beauty mediated this association of skin tone and objectively measured physical health in the nationally representative NSAL sample, which has a number of implications for women’s experiences of sexism, racism, and colorism.

Together, findings from the three papers have important implications for policymakers and researchers that design interventions to mitigate the consequences of discrimination for minorities. The results imply that social contexts matter—African Americans residing in racially homogenous versus racially diverse settings have different needs because the type of discriminatory stress they experience differs (i.e. poor treatment from their racial out-groups and/or racial in-group members). Since there are derogatory stereotypes about dark-skinned persons (e.g. stupid, dangerous), authority figures such as schoolteachers or law enforcement officers probably target them unfairly. Interventions could be executed to inform these figures of unconscious biases they may carry. Moreover, dark-skinned males (who consistently reported the highest discrimination from both racial out-groups and in-groups) may have special mental health needs because of those skin tone appraisals. Policymakers should be cognizant of these differences when intervening to support the social and health needs of African American men.

There are also important policy and clinical implications for African American women's needs. Because society evaluates women strongly for their outward appearance, clinicians and therapists should be sensitive to the mental and physical health needs of dark-skinned adolescent girls and women because they may endure additional social and economic barriers that compromise their well-being compared to other skin tones. Likewise, light-skinned women (particularly those with mixed-race backgrounds) experience their own identity-related issues that therapists should address. Perhaps most importantly, the findings in this dissertation illustrated that all skin tone groups reported at least one form of disadvantage in social or economic domains. This underscored the reality that colorism can affect any African American and more work needs to be done to reduce misunderstandings about people of varying skin tones both within the race and outside of the race.

APPENDICES

Appendix A

Supplemental descriptive results for African American men (attractiveness and raw skin tone discrepancies)

African American men's additional characteristics

	Total	Dark	Medium	Light	<i>p</i>
1995 DAS					
Attractiveness, <i>M (SD)</i>	3.62 (1.35)	3.56 (1.19)	3.93 (1.36)	2.96 (1.35)	<.000
% rated as "handsome"	39.9%	37.5%	33.9%	58.3%	
Skin tone discrepancy, <i>M (SD)</i>	-.01 (.83)	.45 (.91)	-.12 (.65)	-.49 (.70)	.000
2003 NSAL					
Attractiveness, <i>M (SE)</i>	3.37 (.09)	3.72 (.12)	3.25 (.10)	2.78 (.20)	<.000
% rated as "handsome"	53.3%	44.1%	56.3%	69.3%	
Skin tone discrepancy, <i>M (SE)</i>	.00 (.03)	.28 (.05)	-.15 (.03)	-.33 (.06)	.013

Appendix B

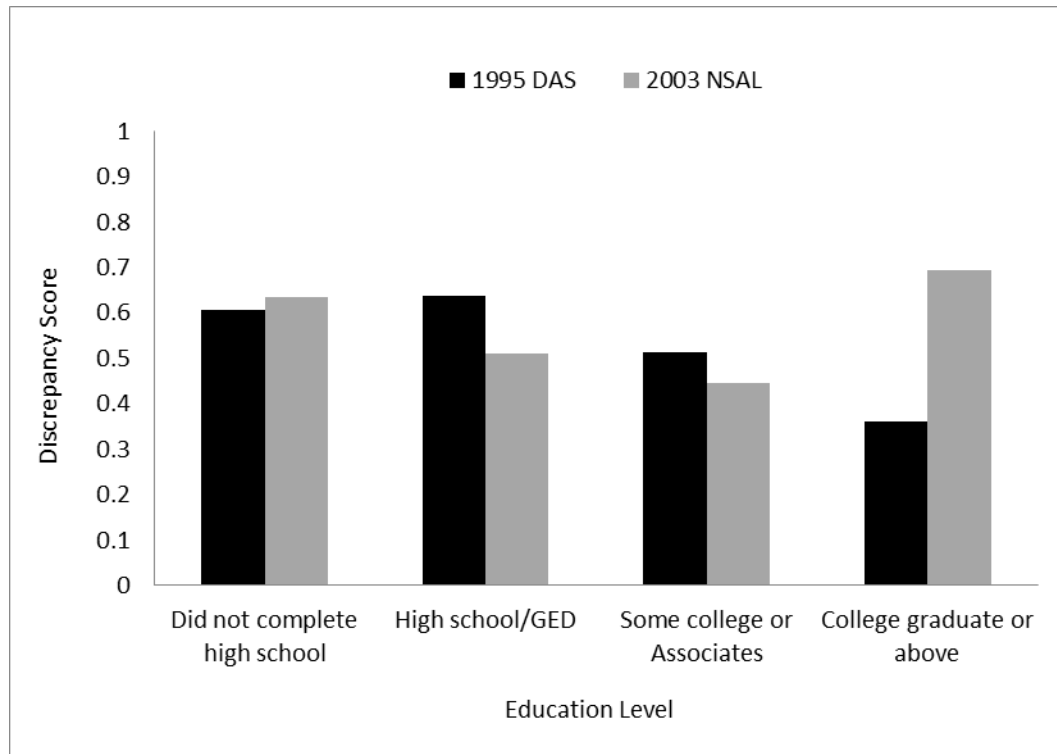
Women's overlap of self- and interviewer ratings of skin tone--1995 DAS

	Very dark	Dark	Medium	Light	Very light	Total
Very dark	3 50.0%	5 6.6%	0 0.0%	0 0.0%	0 0.0%	8 2.6%
Dark	3 50.0%	50 65.8%	29 19.2%	0 0.0%	0 0.0%	82 26.5%
Medium	0 0.0%	20 26.3%	110 72.8%	29 45.3%	1 8.3%	160 51.8%
Light	0 0.0%	1 1.3%	11 7.3%	30 46.9%	3 25.0%	45 14.6%
Very light	0 0.0%	0 0.0%	1 0.7%	5 7.8%	8 66.7%	14 4.5%
Total	6 100.0%	76 100.0%	151 100.0%	64 100.0%	12 100.0%	309 100.0%

Horizontal = interviewer-rated skin tone, vertical = self-rated skin tone (counts are statistically weighted).

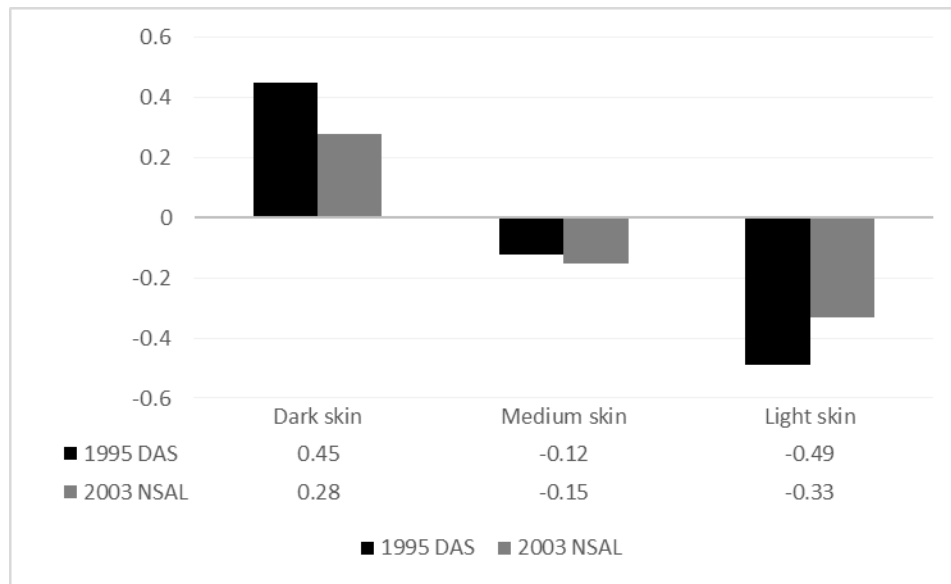
Appendix C

Women's squared skin tone discrepancies across education level



Appendix D

Men's raw skin tone discrepancies graphed



Appendix E

African American men's stress and health status characteristics

1995 Detroit Area Study

	Total	Dark	Medium	Light	<i>p</i>
N, (%)	243 (100%)	80 (32.9%)	115 (47.3%)	48 (19.7%)	
Age, mean (<i>SD</i>)	41.55 (16.7)	43.57 (15.9)	42.55 (17.6)	35.79 (14.5)	.075
Education, ^a mean (<i>SD</i>)	2.16 (.94)	2.09 (.96)	2.18 (.98)	2.25 (.84)	<i>ns</i>
Household annual income, ^b mean (<i>SD</i>)	2.98 (1.4)	3.48 (1.4)	2.78 (1.3)	2.95 (1.2)	.001
High SES (income \$50,000 or above), %	25.5%	43.8%	14.8%	20.8%	.000
Married (%)	51.0%	63.8%	42.6%	50.0%	.015
Home owner (%)	69.8%	69.2%	67.2%	77.1%	<i>ns</i>
Has health insurance (%)	88.5%	88.6%	87.9%	89.6%	<i>ns</i>
Body mass index (BMI) kg/m ² , mean (<i>SD</i>)	27.20 (6.74)	26.61 (4.81)	28.00 (8.21)	26.28 (5.21)	<i>ns</i>
Stress					
Subjective stress, ^c mean (<i>SD</i>)	2.14 (.70)	2.09 (.77)	2.17 (.66)	2.17 (.69)	<i>ns</i>
Objective stress, ^d mean (<i>SD</i>)	1.64 (1.51)	1.51 (1.48)	1.54 (1.51)	2.09 (1.50)	.08
Physical health					
Subjective health, ^e mean (<i>SD</i>)	3.36 (1.15)	3.23 (1.17)	3.37 (1.25)	3.53 (.79)	<i>ns</i>
Objective health, ^f mean (<i>SD</i>)	1.51 (2.12)	1.51 (1.92)	1.67 (2.45)	1.13 (1.42)	<i>ns</i>

a. Education attainment was measured as 1) Kindergarten to 11th grade; 2) completed 12th grade or GED; 3) Attended some college/Associates degree; 4) Completed a bachelor's degree or higher.

b. DAS income was measured as 1) Under \$10,000; 2) \$10,000-\$19,999; 3) \$20,000-\$39,999; 4) \$40,000-\$59,999; 5) \$60,000 or higher

c. Subjective stress in the DAS was measured using Cohen's Perceived Stress Scale

d. Objective stress was measured as the summary score of stressful life events

e. Subjective health was self-rated health (reverse coded so that higher scores indicate better health)

f. Objective health was the summary score of diagnosed chronic physical illnesses

Appendix E continued

African American men's stress and health status characteristics

2003 National Survey of American Life

	Total	Dark	Medium	Light	<i>p</i>
N, (%)	944	399 (41.7%)	387 (41.8%)	158 (16.5%)	
Age, mean (<i>SE</i>)	41.7 (.72)	43.0 (.88)	41.0 (1.1)	40.2 (1.7)	.090
Education, ^a mean (<i>SE</i>)	2.38 (.05)	2.22 (.07)	2.46 (.06)	2.59 (.10)	.000
Household annual income, ^b mean (<i>SE</i>)	3.33 (.09)	3.26 (.15)	3.32 (.12)	3.53 (.21)	<i>ns</i>
High SES (income \$50,000 or above), %	26.43%	22.55%	27.46%	33.47%	<i>ns</i>
Married (%)	40.49%	41.10%	38.18%	44.78%	<i>ns</i>
Home owner (%)	52.61%	54.46%	47.80%	60.08%	.042
Has health insurance (%)	82.02%	78.36%	85.63%	82.01%	<i>ns</i>
Body mass index (BMI) kg/m ² , mean (<i>SE</i>)	28.24 (.19)	28.63 (.32)	28.07 (.30)	27.29 (.49)	<i>ns</i>
Stress					
Subjective stress, ^c mean (<i>SE</i>)	2.79 (.06)	2.74 (.09)	2.86 (.09)	2.69 (.15)	<i>ns</i>
Objective stress, ^d mean (<i>SE</i>)	1.52 (.08)	1.57 (.11)	1.51 (.11)	1.51 (.21)	<i>ns</i>
Physical health					
Subjective health, ^e mean (<i>SE</i>)	3.51 (.04)	3.52 (.06)	3.53 (.06)	3.43 (.07)	<i>ns</i>
Objective health, ^f mean (<i>SE</i>)	1.23 (.05)	1.28 (.10)	1.21 (.09)	1.10 (.10)	<i>ns</i>

a. Education attainment was measured as 1) Kindergarten to 11th grade; 2) completed 12th grade or GED; 3) Attended some college/Associates degree; 4) Completed a bachelor's degree or higher.

b. Household income was measured as 1) less than \$7,000; 2) \$7,000-\$13,999; 3) \$14,000-\$19,999; 4) \$20,000-\$29,999; 5) \$30,000-\$40,999; 6) \$41,000-\$54,999; 7) \$55,000-\$74,999; 8) \$75,000 or above.

c. Subjective stress in the NSAL was measured as goal-striving stress

d. Objective stress was measured as the summary score of stressful life events

e. Subjective health was self-rated health (reverse coded so that higher scores indicate better health)

f. Objective health was the summary score of diagnosed chronic physical illnesses

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