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THE DEVELOPMENT AND VALIDATION OF IMPLICIT MEASURES FOR BLACK WOMEN STEREOTYPES

A Master's Thesis

Presented to

The Graduate College of

Missouri State University

In Partial Fulfillment

Of the Requirements for the Degree

Master of Science, Psychology

By

Natasha Pierre

May 2023

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Psychology

Missouri State University, May 2023

Master of Science

Natasha Pierre

ABSTRACT

The struggles that Black women face in everyday life are underrepresented in the research literature. Part of these hardships involve negative stereotypes that are associated with Black women. The purpose of this project was to create measures to assess the implicit association between stereotypic attributes and Black women. This study used Implicit Association Test (IAT) procedures to develop implicit measures of Black women stereotypes and investigate relationships with theoretically related explicit (self-report) measures in a sample of university students. Results indicated the implicit measures have acceptable psychometric properties (low stimuli misclassification error rates and adequate internal consistency) and sufficient variability to be potentially useful to assess individual difference. In addition, confirmatory factor analyses of nested latent trait models provided mixed evidence supporting the construct validity of the measures.

KEYWORDS: stereotypes, Black women, Implicit Association Test, convergent validity, divergent validity, confirmatory factor analysis, nested latent trait models

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In the interest of academic freedom and the principle of free speech, approval of this thesis indicates the format is acceptable and meets the academic criteria for the discipline as determined by the faculty that constitute the thesis committee. The content and views expressed in this thesis are those of the student-scholar and are not endorsed by Missouri State University, its Graduate College, or its employees.

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INTRODUCTION

While opportunities for Black women in professional spaces are increasing, feelings and experiences of inclusion in these spaces has not made substantial progress. Research has shown that the corporate experiences for Black women vary from those of Black men and women of other ethnicities. For example, when Black women experience failure, they may be evaluated more negatively than Black men and White women (Rosette & Livingston, 2012). Further, Catalyst (2004) revealed that Black women perceived less opportunity for career advancement in comparison to Black men and reported higher visibility and being under more scrutiny than other with whom they worked with (Catalyst, 2004; McKinsey & Company, 2022). These various barriers that Black women encounter are described as a "concrete ceiling" (Catalyst, 2004). Akin to the glass ceiling, the concrete ceiling illustrates the blockages to upward mobility and success for Black women in the workplace (Catalyst, 2004; Durr & Harvey Wingfield, 2011). Concrete ceiling differs from a glass ceiling because it is more difficult to penetrate and is specifically an experience of women of color and other individuals that hold multiple minority statuses. The foundation of this structure is shaped by lack of "fit" in the workplace, having a double outsider status, exclusion from informal networks, scrutiny, questioning of authority and credibility, and stereotypes such as the "Angry Black Woman," "Sapphire," "Crazy Black Bitch," "Superwoman," and "Strong Black Woman" (Catalyst, 2004; Reynolds-Dobbs et al., 2008). The aforementioned circumstances and stereotypes are frequently overshadowed when discussing race and gender differences in occupational outcomes, performance, leadership, and professional development (Reynolds-Dobbs et al., 2008; Rosette et al., 2018). Black women not only are subjected to the global sexism and racism that impacts people of the African diaspora, but they

also experience discrimination specific to them which stems from a distinct history of oppression in America (Beal, 2008; Collins, 2000). The accumulation of these conditions contributes to the marginalization of Black women in the workplace. Specifically, negative stereotypes and messages associated with Black women contribute to biases, both implicit and explicit, from others. Therefore, it is pertinent to understand the association of Black women with common stereotypic attributes. One way this can be done is by utilizing implicit measures, which are defined as measurements that assess the impact mental processes have on participants' responses to stimuli that are free of intention, resource-dependence, consciousness, or control (De Houwer, 2006; De Houwer, 2019). Implicit measures have been used to evaluate the strength of associations between social groups and stereotypes (Greenwald & Banaji, 1995), but none have been created to analyze associations between Black women and stereotypic attributes. Therefore, the goal of this study is to develop measures that target the implicit associations between stereotypes and Black women and examine their relationships with other, theoretically relevant measures.

LITERATURE REVIEW

Gendered Racial Theoretical Framework

Black women endure distinctive circumstances of marginalization due to the intersection of race and gender (Crenshaw, 1989). Gendered racism (Essed, 1991), intersectionality (Crenshaw, 1989), "interlocking systems of oppression" (Combahee River Collective, 1977), "respectability politics" (Higginbotham, 1992), and black feminist standpoint theory (Collins, 2000) have all theorized the experiences of Black women navigating multiple systems of gendered racial oppression. Intersectionality, a commonly cited sociological tool, examines how the intersection of race and gender impacts Black women's experiences with social inequality, power, and politics (Collins, 2012; Crenshaw, 1989; Nash, 2017). Previous research has typically explored race and gender as separate entities, leaving out the unique experiences that Black women experience as double minorities in various spaces (Carbado et al., 2013). A failure to incorporate intersectionality in research regarding Black women, results in a warped analysis of racism and sexism causing only a subset of privileged individuals within these groups to be focused on in social movements and research (Beal, 2008; Collins, 2000). Mainstream feminism has frequently centered the personal and social issues of middle-class White women and have failed to address how certain issues may be different for women who are also apart of other marginalized groups (Kendall, 2021). Black civil rights organizations have also primarily focused on the experiences of Black men, while further silencing the experiences of Black women (Beal, 2008; Collins, 2000). As a result of Black women being disregarded, multiple theories and movements that prioritized the experience of Black women were created. Critical race feminism, black feminist thought, and hip-hop feminism are examples of black feminist

theories that address the neglect of the impact of intersecting marginalized social identities.

Critical race feminism, according to Wing (2003), is a byproduct of critical race theory. This theory is anchored in the analysis of critical legal studies that centers those who face multiple forms of discrimination based on race, gender, and class and examines how all these factors interact within a system of White, male, patriarchy and racist oppression within the workplace and legal system. Existing legal models propose that women of color are overlooked and become voiceless under assumed impartial law or solely race-based or gender-based analyses. Crenshaw (1989) examined this phenomenon via an exploration of workplace discrimination cases. For example, in *DeGraffenreid v. General Motors* (1977), Black women at General Motors experienced combined race and sex discrimination. The workforce was segregated so that only Black men could do certain jobs and others were designated for White women which excluded Black women from a lot of positions. This case ruled that Black women were only protected to the extent that their experiences coincide with a gender *or* racial group, but not both. This ruling was upheld in several following cases such as *Moore v. Hughes Helicopter, Inc.* (1983) and *Payne v. Travenol Laboratories, Inc.* (1976). The courts have continuously failed to consider the importance of Black women's workplace experience in the legal realm.

Black Feminist Thought is another theory that addresses and prioritizes the complexities of being a Black woman via an examination of their epistemological and collective identity experiences. Collins (2000) emphasizes the significance in including the voices of all Black women, regardless of stature or education, when discussing the oppression and liberation of Black women. Collins (2000) also proposes that the oppression of Black women is characterized by three interdependent dimensions – economic, political, and ideological. The economic

dimension is the exploitation of Black women's labor being essential to U.S. capitalism. The political dimension symbolizes denial of Black women's rights and privileges routinely provided to White male citizens. The ideological dimension involves controlling images applied to Black women that originated during the slave era. This system was designed to keep Black women in a subordinate place and posits that the empowerment of Black women comes from understanding these systems and transforming them. Another fundamental concept that this work contributed to is the Black feminist standpoint theory. This theory asserts that the experiences of marginalized groups, specifically Black women, provide a useful perspective on social reality that is often overlooked by mainstream perspectives (Collins, 2000; Harnois, 2010; McCann & Collins, 2020). The valuable and distinctive perspectives that Black women are able provide insight to is created by the intersection of racism, sexism, and classism (Collins, 2000; hooks, 2015).

Hip-Hop feminism (HHF), coined by Joan Morgan, is an outgrowth of Black feminist theories that interrogates the experiences of next generation Black women at the nexus of Hip Hop culture, media, and interlocking systems of oppression. HHF provides space to allow Black women to express their racial and gender identities and critique them through hip-hop culture (Halliday & Payne, 2020; Peoples, 2007). Morgan challenged Black women to embrace their sexual agency and absolve themselves of needing to align with respectability politics or 'fuck with the grays" (Morgan, 2000). Further, Keyes (2000) explains that Black women attempt to empower themselves in rap music in four distinct categories of Black women which consists of, Queen Mother, Fly Girl, Sista with Attitude, and Lesbian. HHF seeks to connect the value of Hip-hop culture and Black women's struggle for respect and representation in their everyday lives (Halliday & Payne, 2020).

Stereotypes

Stereotypes are defined as "exaggerated beliefs associated with a social group" which are typically informed by sociopolitical conditions for Black women (Allport, 1979, p. 191). These circumstances were produced by ideologies formed during slavery, Jim Crow, Civil Rights, and they continue to be informed by current day social injustices, culture, and media messages. Called "controlling images" in *Black Feminist Thought*, these stereotypes have historically justified the sociopolitical climate. Collins described controlling images as portrayals of Black women that are designed "to make racism, sexism, poverty, and other forms of social injustice appear to be natural, normal, and inevitable parts of everyday life" (Collins, 2000, p.69). During slavery, several interrelated, socially constructed controlling images of Black women were created to promote the dominant group's interest in maintaining Black women's subordination (Collins, 2000).

Black women acted as caretakers for the families of slave owners during their enslavement. This role established the *Mammy* stereotype (Collins, 2000). Mammy describes black women as subservient, having unfaltering loyalty to White families and nurturing (Abdullah, 1998). Black women were not only caretakers, but also were frequently subjected to sexual violence as well. Historical depictions of Black women as sexually promiscuous and insatiable were created to justify the sexual exploitation of Black women (Collins, 2000; Leath et al., 2021). The portrayals of Black women at that time freed men from accountability and removed all hope of protection and legal justice (Leath et al., 2021; Thomas et al., 2004). The *Jezebel* stereotype stems from this brutality of which Black women were victims (Anderson et al., 2018; Kendall, 2021). This stereotype is characterized by the belief that Black women are hypersexual beings with little value to society (Collier et al., 2017; Morales, 2014).

Another stereotype is the Angry Black Woman. This stereotype is encompassed by some of the *Sapphire* stereotype's characteristics (Walley-Jean, 2009). The origins of Sapphire are linked to the character Sapphire in the Amos 'n Andy production that was popular in the 1940s and 1950s. Sapphire was a Black woman who was emasculating, loud, and argumentative (Coleman et al., 2020; Collins, 2000). The Angry Black Woman (ABW) is the idea that Black women are angry and confrontational (Ashley, 2013; Morales, 2014) and an evolved version of the Sapphire stereotype.

As Black women began to move into more white-collar roles, stereotypes like the Strong Black Woman became more relevant. The stereotype of Strong Black Woman (SBW) views Black women as individuals who are supposed to handle oppression quietly and endlessly endure trauma (Springer, 2002). The SBW stereotype are gender expectations that are specific to the race of Black women (Liao et al., 2019). Not only do Black women have to show unwavering strength but they must also support and care for others.

These stereotypes that depicted Black women as hypersexual, angry, resilient, and irresponsible helps justify Black women's oppression in the U.S. (Collins, 2000). Controlling images and stereotypes provide distinctive messages regarding Black women's placement in social hierarchies and continued to evolve through Jim Crow, the Civil Rights Era, and the current day to justify evolving systems of oppression (Collins, 2000). The presence of these messages is apparent when looking at the experience of Black women in the workplace.

Stereotypes at Work

The many stereotypes that are associated with Black women has led to their underrepresentation in work environments. Concrete ceiling describes a dense and tough barrier

to professional opportunities for women of color, particularly Black women. The barriers Black women have reported comprise of being excluded from informal networks and feeling disadvantaged due to their double minority status (Catalyst, 2004). In an examination of workplace harassment, Berdahl and Moore (2006) found that Black women experienced more harassment in the workplace than Black men and White men and women. The results supported that women experienced more sexual harassment than men, minorities experienced more racial harassment than Whites, and minority women experienced both thus leading to more harassment than majority men and women, and minority men. Another aspect of this barrier involves stereotypes (Catalyst, 2004). Black women perceive that stereotypes negatively impact how they navigate the workplace and how they are being treated (Dickens et al., 2019; Reynolds-Dobbs et al., 2008). For example, Jones and Shorter-Gooden (2004) interviewed Black women across the U.S. about their experiences with racism and sexism and how it affects their everyday lives. A participant in the study stated she felt she was assigned tasks that required someone who was aggressive and confrontational: "they want me to be the person who is saying I'm going to tell you off if you don't do right" (p.194). Another participant in the study described the pressure of having to align with the stereotypical image of a Superwoman: "I have to dress better, act better, do my job better and more efficiently to be deemed equal to a Caucasian coworker at the same level" (Jones & Shorter-Gooden, 2004, p.158). Black women also reported less access to career development opportunities than White women and being held to higher levels of scrutiny (Hall et al., 2011; Hite, 2004; Holder et al., 2015). Stereotypes not only affects how Black perceive themselves and experiences, but it also affects how they viewed by others.

Seo and Hinton (2009) found that stereotypes against Black women cause them to be viewed as both aggressive and less competent by their male colleagues when being assertive.

These attitudes toward Black women are additionally reflected in the lack of representation of Black women in corporate spaces and leadership positions. Studies have found that the norm of typical leader is White and male (Rosette et al., 2018), and the composition of influential leadership positions reflect this. There are currently only two Black women CEOs in the Fortune 500 and Black women are underrepresented across all leadership positions while being overrepresented in low service sectors (Dill & Duffy, 2022; Hinchliffe, 2021; Holder et al., 2015).

Measurement of Stereotypes of Black Women

There are several explicit or self-report measures for stereotypes associated with Black women. The Stereotypic Roles for Black Women Scale (SRBWS; Thomas et al., 2004) assesses Black women's endorsement of the Mammy, Sapphire, Superwoman, and Jezebel stereotypes. The purpose of the was to validate the SRBWS and explore the relationship between the endorsement of these stereotypes and racial identity and self-esteem. Participants were asked to rate how much agreed with statements designed to capture the stereotype constructs. It was revealed that endorsement of the Mammy and Sapphire stereotype were predictors of self-esteem scores and the stereotypes measured accounted for unique variance in racial identity attitudes. There is also the Giscombe Superwoman Schema Questionnaire (Woods-Giscombe et al., 2019) which measures explicit thoughts associated with the superwoman schema.

Unfortunately, these measures have been developed to evaluate the self-endorsement of these stereotypes. These explicit, self-report measures are not made to be taken by individuals who are not Black women and they do not measure explicit endorsement of these stereotypes by outgroup members. In addition, these measures fail to consider implicit attitudes and how

implicit cognitive processes relate to the treatment of Black women. It is imperative that implicit measures are developed to measure what explicit scales fail to measure. Due to a decrease of overt racism in the U.S., racial attitude and stereotype scales have not been able to clearly assess attitudes due to impression management (Holmes, 2014).

Implicit bias emerges because of associated stereotypes with a social group and can inform how we view or interact with others (Amodio & Devine, 2005; McConnell & Leibold, 2001). Parallel constraint-satisfaction theory (PCST) asserts that individuals consider stereotypes when forming impressions of others. According to PCST, stereotypes influence the interpretation of observed behavior so that it aligns with our expectations (Kunda & Thagard, 1996). This theory is supported by a growing body of empirical evidence. When listening to recordings of Black women being angry and being exposed to the SBW stereotypes, individuals were more likely to attribute the anger to internal factors and provide poorer performance evaluations and assessments of leadership capabilities (Motro et al., 2021). Individuals frequently solicit stereotypes without being consciously aware of doing so (Devine, 1989), and research demonstrates that the application of stereotypes (e.g., by an evaluator) is often not intentional (Goodwin et al., 2000). Implicit stereotyping has also been shown to be predictive of instrumental forms of race-biased behavior. Research has indicated that implicit attitudes are related to nonverbal behaviors such as less eye contact, furthering physical distance and relatively negative evaluations (Amodio & Devine, 2005; Fazio et al. 1995; Word et al., 1974) Unfortunately, unconscious, or not, the harmful effects of these implicit attitudes towards historically disadvantaged groups persist.

Implicit Measures

Implicit attitudes can be described as "actions or judgments that are under the control of automatically activated evaluation, without the performer's awareness of that causation" (Greenwald & Banaji, 1995, p.7). The Implicit Association Test (IAT) was developed by Greenwald et al. (1998) to assess automatic cognitive processes that are not explicitly experienced. IATs continue to advance research on implicit bias and have been used to measure group-trait associations that underlie stereotypes (Greenwald & Krieger, 2006). These associations are under the control of automatically activated cognitive processes that are outside an individual's conscious awareness (Greenwald & Banaji, 1995). The IAT produces a measure of implicit associations by assessing the relative speeds of matching stimuli to categories. This is based on the assumption that it is easier to pair items from two categories when those two categories are cognitively associated with one another (Greenwald & Krieger, 2006). One of the most used IATs in implicit bias literature is the Race IAT. This measure explores attitudes towards African Americans relative to White Americans and involves participants matching images of African Americans and White Americans to pleasant and unpleasant words. A common result is the stronger association of African American faces with unpleasant words and White American faces with pleasant words. This indicates an implicit preference for White Americans relative to African Americans.

Research supports that these implicit preferences may be followed by discriminatory behavior. Racial bias measured by IATs have been correlated with discriminatory intergroup group social interactions such as decreased eye contact (Dovidio et al., 2002) and decreased empathy (Gutierrez et al., 2014). A meta-analytic study indicated that IATs are more predictive of prejudicial behavior than explicit measures of the same construct (Greenwald et al., 2009).

While a review of the literature reveals there are many reliable and predictive IATs that target attributes of racial and gender groups, no IATs target the intersection of race and sex, such as those that manifest in Black women stereotypes.

Purpose of the Study

It is evident that stereotypes are harmful to the workplace experiences of Black women (Hall et al., 2011; Hite, 2004; Holder et al., 2015; Jones & Shorter-Gooden, 2004). Therefore, it is imperative that associations between Black women and stereotypic attributes are further examined. Implicit measures that consider the intersection of racism and sexism are scarce. The purpose of this study was to develop and validate implicit measures of stereotypes associated with Black women. A multitrait-multimethod design was used to evaluate the hypotheses of the study (Campbell & Fiske, 1959). Confirmatory factor analytic (CFA) procedures were used to investigate the construct validity of the implicit measures by examining the fit statistics of hierarchically nested latent trait models according to procedures described by Widaman (1985).

Research Questions. There were a couple of research questions that guided this study:

- Can psychometrically sound IATs be created that assess the implicit association between Black woman and relevant stereotypes? Psychometric soundness is attained when (a) D-score standard deviations fall within a range of .3 to .5 (Greenwald et al, 2021) and (b) internal consistency coefficients fall within a neighborhood of .7 (Nunnally, 1978).
- Can the relationships among the implicit and explicit measures of the Black women stereotypes be adequately predicted by a latent trait model that includes three trait factors (for three stereotypes) and two method factors (for two measurement methods)?

Hypotheses. Hypotheses for this study are described following the order of the research questions. The first research question sought to determine whether the implicit measures had suitable psychometric properties. Thus, the first hypothesis is:

- H1: The IATs created for the three stereotypes (i.e. SBW, ABW and Jezebel) and composite IAT will be psychometrically sound.

The second research question addresses the convergent and divergent validity of the latent trait factors. Therefore, the second and third hypotheses state:

- H2: The latent factors representing different stereotypes and measurement methods will account for a meaningful amount of variance/covariance in the multitrait-multimethod correlation matrix (evidence of convergent validity).
- H3: IAT measures of the three Black women stereotypes (SBW, ABW and Jezebel) and one composite IAT containing all three stereotypes will be related to corresponding explicit (self-report) measures of stereotypes as well as each other but each will also make unique contributions to the prediction of the variance/covariance among measures (evidence of discriminant validity).

METHODS

Sample and Procedures

The Missouri State University Institutional Review Board's Protection of Human Subjects Committee approved this research (Appendix A) on October 5, 2022 (Study Number IRB-FY2022-565). The study consisted of four IATs along with five explicit scales and a set of demographic questions. Participants were recruited from the Psychology Department's pool of Introductory Psychology students. Volunteer subjects reported to a university computer lab where informed consent instructions were administered before providing participants with a link to the Millisecond, Inc. website where all implicit, explicit, and demographic measures were administered online. The order in which the measures were administered were: Demographics, SRBWS-Jezebel subscale, SBW IAT, Personal Attribute Questionnaire, Jezebel IAT, SRBWS-Mammy subscale, ABW IAT, SRBWS-Superwoman subscale, Composite Black woman stereotype IAT, SRBWS-Sapphire subscale and SRBWS-Jezebel subscale. Pilot study data suggested that it took approximately 30 minutes to complete the procedure. The data from these subjects was analyzed using SPSS (v28.0) and AMOS (v18) software packages.

Implicit Measures

The implicit measures were constructed according to the standard seven block procedure described by Wittenbrink et al., (2007). Three IATs were created using descriptive terms related to each of three specific stereotypes (Strong Black Woman, Angry Black Woman and Jezebel). In addition, a composite IAT was created by including descriptors from each of the three more specific stereotypes. The first three of the seven IAT blocks consist of 20 trials where

participants practice assigning stimuli to their corresponding categories by pressing a letter ("E" or "I") on the keyboard. This is followed by a block of 40 trials where participants assign stimuli to paired categories. The key assignment is then reversed for one set of categories and participants practice assigning stimuli to the new keys on two blocks of 20 trials. A final block of 40 trials involves participants assigning stimuli to the reversed pairing of categories The IAT score is a function of the mean reaction times on the sorting task for the alternative pairing of categories (blocks 3 and 4 versus blocks 6 and 7). Larger scores reflect stronger relationships for initial pairing of categories, relative to the second pairing. The table below (Table 1) displays the format of a standard seven block IAT designed to assess racial preference.

IATs are described in the research literature by listing the *category labels* and *stimuli* that are presented to subjects for classification (Greenwald et al., 1998). The category labels and corresponding stimuli used in this study are presented in the table below (Table 2).

Initially, the researchers sought to create IAT stimuli and categories targeting four stereotypes: Jezebel, Angry Black Woman, Strong Black Woman and Mammy. Research team members reviewed literature and explicit measures that targeted the four stereotypes and created a preliminary list of possible category labels and stimuli that corresponded to the targeted stereotypes. The present researchers decided which stimuli and labels best characterized each stereotype, according to recommendations provided by Greenwald et al. (2021) and Nosek et al. (2005). After initial pilot testing with research team members, it was decided that the Mammy stereotype was dated and would not be relevant to the current workplace experiences of Black women. As a result, that IAT was discarded.

Students enrolled in the Introductory Psychology course at Missouri State University (N = 40) were then used to further pilot test the four IATs that were retained – one for each of the

targeted stereotypes (Strong Black Woman, Angry Black Woman, and Jezebel) and one composite IAT which involved attributes related to all three stereotypes. Classification error rates for the stimuli, IAT (D-score) variance statistics, and internal consistency coefficients from the pilot studies were used to further refine the IATs and determine the final set of category labels and stimuli for the IATs displayed in Table 2.

Explicit Measures

Strong Black Woman Stereotype. The superwoman subscale from the Stereotypic Roles of Black Women Scale (Thomas et al., 2004) was used to assess this stereotype ($\alpha = .67$). The Superwoman items included: "Black women have to be strong to survive," "Black women are often expected to take care of family members," and "If Black women fall apart, they will be a failure." In addition, the Mammy subscale ($\alpha = .52$) was also used to measure this stereotype. The wording of the items in these scales were adjusted from their original form so that participants who are not Black women are able to respond. Lastly, modified items from the Personal Attribute Questionnaire (Spence et al., 1975) were used to target this stereotype. Participants were asked to indicate where Black women fell on a scale between two extreme attributes. These attributes included “Gives up very easily” to “Never gives up easily”. See Appendix B and C for the full scales.

Angry Black Woman Stereotype. The Stereotypic Roles for Black Women subscale involving the Sapphire stereotype was used to assess this stereotype ($\alpha = .70$). The Sapphire items included: "Black women are often loud and obnoxious," "Black women need to nag others to get a response," and "If given a chance, Black women will put down Black men.". These items were modified so participants who were not Black women were able to respond. In addition,

selected items from the Personal Attribute Questionnaire (Spence et al., 1975) were used to construct an explicit measure targeting this stereotype (masculinity-scale: $\alpha = 0.77$; femininity-scale: $\alpha = 0.84$). These items involved a five-point Likert scale for attributes like “Not at all aggressive” to “Very aggressive” And “Not at all emotional” to “Very emotional.”. See Appendix B and C for the full scales.

Jezebel Stereotype. The Stereotypic Roles for Black Women subscale involving the Jezebel stereotype was used to assess this stereotype ($\alpha = .72$). These items concern whether participants believed that Black women exhibit hypersexual behaviors. The Jezebel items include: "Black women are all about sex," "Black women will use sex to get what they want," and "Men can be controlled with sex.” The Modern Jezebel Scale (Townsend et al., 2010) was also used to assess this stereotype ($\alpha = .82$). A few examples of items from this scale are: “Black women are loud and have an attitude”, “Black women always want to have sex” and “Black women use sex to get what they want.” These items were altered from their original form so that participants who are not Black women were able to respond. See Appendix B and D for the full scales.

Table 1. The Format of an Implicit Association Test for Racial Preference

Block	Trials	Task	Response Key Assignment	
			Left key (“E”)	Right key (“I”)
1	20	Target Category Task	Black faces	White faces
2	20	Attribute Category Task	Negative words	Positive words
3	20	Combined Category Task	Black+Negative	White+Positive
4	40	Combined Category Task	Black+Negative	White+Positive
5	20	Reversed Target Category	White faces	Black faces
6	20	Reversed Combined Task	White+Negative	Black+Positive
7	40	Reversed Combined Task	White+Negative	Black+Positive

Table 2. Category Labels and Word Stimuli for the Stereotype IATs

Combative	Resilient	Loose	BW Stereotype
Loud	Intimidating	Voluptuous	Aggressive
Angry	Resilient	Hypersexual	Loud
Confrontational	Strong	Promiscuous	Voluptuous
Outspoken	Independent	Lustful	Promiscuous
Aggressive	Forceful	Risqué	Intimidating
			Strong

RESULTS

Descriptive Statistics

A total of 227 students participated in this study. First, in cleaning the raw data, participants who did not complete all measures were eliminated. The remaining participants were then screened according to classification error rates on the IATs. Individuals with classification error rates higher than 25% were considered to have invalid scores and were eliminated (Greenwald et al, 2003). This left a sample of 191 participants. Of these, 55% self-identified as women and 2% non-binary, with a mean age of 19.1 years. About 96% of students indicated that English was their native language. The racial backgrounds of the participants were 1% American Indian or Alaskan Native, 3% Black or African American, 5% two or more racial groups, 3% Hispanic or Latino, 6% Asia, 1% Native Hawaiian or other Pacific Islander and 81% non-Hispanic White. Regarding political orientation, 41% identified as slightly conservative, 32% identified as slightly liberal, 12% identified as very conservative and 16% identified as very liberal.

Tables 3 and 4 show the descriptive statistics, reliability coefficients and correlations for the variables in this study. It is common to initially find inadmissible solutions when using CFA procedures with latent trait models and data from MTMM designs (Byrne, 2010; Marsh, 1989). It is possible for this to be prevented by imposing constraints on parameter estimates that are problematic. Due to being unable to achieve an admissible solution for the least restrictive model (Model 1), some of the explicit measures were parceled (Matsunaga, 2008). Parceling the explicit measures increased the degrees of freedom for the CFA models. The parceling procedure involved creating two scores for a measure based on the measures' even-numbered and odd-

numbered items. This procedure produced admissible solutions for all models without imposing other constraints. The parceled measures are indicated by an "A" or "B" suffix to the original scale label in Table 4.

Data Analysis

Convergent and discriminant validity were assessed by comparing the fit statistics for various CFA models (Byrne, 2010). Convergent validity refers to the extent to which different method factors coincide in their measurement of the same trait. Divergent validity is the extent to which method factors diverge in their measurement of separate traits and is assessed in terms of both traits and method factors. The technique consists of using four nested models containing alternative combinations of method and trait factors. The initial (least restrictive) model (Figure 1) contained two freely correlated method factors that represented the explicit and implicit procedures, and three freely correlated trait factors (representing the three hypothesized stereotypes: Strong Black Woman, Angry Black Woman, and Jezebel). This model will be compared with more restrictive models to test hypotheses related to the convergent and discriminant validity of the measures and trait factors.

Model 2 is shown in Figure 2. The second model is more restrictive because it contains only two freely correlated method factors and no factors representing the three stereotypes. Model 3 is represented in Figure 3. The third model is a more restrictive model in that the three trait factors representing stereotypes are required to be perfectly correlated. Figure 4 displays the fourth model which contains three freely correlated latent trait factors representing the stereotypes and two uncorrelated method factors.

According to Widaman (1985), one begins by comparing Figures 1 and 2. If the fit statistics exhibit a notable deterioration from Figure 1 to Figure 2, then this represents evidence for the convergent validity of the latent trait factors targeting the stereotypes. Evidence of discriminant validity in the trait factor is shown by a large discordance in fit statistics when Figure 1 is compared with Figure 3. Finally, the comparison of Figure 1 with Figure 4 evaluates divergent validity of the methods factors. A large change in the fit statistic in this comparison argues the lack evidence of divergent validity in this comparison.

Test of Hypothesis

The hypothesized model (Model 1) was comprised of three freely correlated trait factors and two freely correlated methods factors ($\chi 2$ (46) = 54.47; CFI = .99; RMSEA = .04, 90%CI = .00, .06). The fit statistics for this model are displayed in Table 5 and suggest that the model is over fit (i.e., there are too many latent trait factors). The CFI value is .99, which is larger than the acceptable range, and the RMSEA value is .04, which is outside (smaller than) the acceptable range (Bryne, 2010). However, in accord with Widaman's (1985) test for convergent validity, the fit statistics for Model 2 (no trait factors) also falls outside the range of acceptability ($\chi 2$ (64) = 161.16; CFI = .85; RMSEA = .09, 90%CI = .07, .11), indicating a poorer fit. The best fit statistics are for those of Model 3 ($\chi 2$ (51) = 73.25; CFI = .97; RMSEA = .048, 90%CI = .02, .07) which fall within the range of values that are generally considered accepted as representing a good fit (Byrne, 2010). This result suggests that there is a single latent trait as opposed to separate, independent traits for each of the stereotypes identified in the literature (i.e., a lack of discriminant validity for the trait factors).

These model comparisons are displayed in Table 6. The first comparison (Model 1 versus Model 2) shows a significant and substantial decline in fit statistics. This represents evidence of convergent validity for the trait factors. The second comparison does not provide evidence of discriminant validity because the fit statistics of Model 3 did not differ substantially from Model 1. There was only a .02 change in CFI value. The last differential goodness-of-fit analysis (Model 1 versus Model 4) reveals little difference in fit as well, which represents evidence of divergent validity between the method factors.

An alternative of Model 3, shown in Figure 5, which contained two uncorrelated method factors, and three perfectly correlated trait factors revealed a nearly identical fit as Model 3 ($\chi 2$ (52) = 73.79; CFI = .97; RMSEA = .047, 90%CI = .017, .070). The result suggests that this is the best (most parsimonious) model for these data.

An alternative of Model 3, shown in Figure 5, which contained two uncorrelated method factors, and three perfectly correlated trait factors revealed a nearly identical fit as Model 3 ($\chi 2$ (52) = 73.79; CFI = .97; RMSEA = .047, 90%CI = .017, .070). The result suggests that this is the best (most parsimonious) model for these data.

Table 3. Descriptive Statistics for Study Variables

Variables	N	Min	Max	Mean	SD	Alpha
Implicit Measures						
Strong Black Woman	191	-1.07	1.31	.42	.37	.68
Angry Black Woman	191	-1.02	1.11	.33	.31	.44
Jezebel	191	-.50	1.35	.46	.36	.69
Explicit Measures						
SRBWS	191	63	119	89.57	11.47	.82
SRBWS-Sapphire	191	10	40	23.98	6.53	.88
SRBWS-Superwoman	191	25	43	33.40	3.62	.48
SRBWS-Jezebel	191	8	27	16.35	4.74	.76
SRBWS-Mammy	191	8	25	15.92	2.50	.63
PAQ	191	75	124	93.84	7.10	.68
PAQ abw	191	17	50	31.50	4.63	.79
PAQ- sbw	191	28	48	36.41	3.95	.69
Modern Jezebel	191	6	23	10.77	3.99	.88

Table 4. Zero-Order Correlations for Study Variables

Variables[1]	1	2	3	4	5	6	7	8	9	10	11	12
Implicit												
SBW	-											
ABW	.33**	-										
JEZ	.22**	.39**	-									
BWS Comp	.29**	.31**	.29**	-								
Explicit												
PAQ-abw	.07	.21**	.25**	.13	-							
PAQ-sbw	.10	.06	.05	.03	-.15*	-						
SAP - A	.06	.22**	.22**	-.15*	.59**	-.13	-					
SAP - B	.07	.22*	.24**	.07	.62**	-.09	.80**	-				
SUP - A	.03	.19**	.11	.07	.13	.50	.30**	.30**	-			
SUP - B	.07	.08	.12	.08	.13	.08	.17*	.18*	.51**	-		
Mammy	.08	-.01	-.07	.01	-.20**	.20**	-.13	-.17*	.08	.27**	-	
Mod JEZ	-.02	.04	.13	.10	.41**	-.04	.53**	.51**	.11	-.01	.23**	-
Jezebel	.01	.16*	.18*	.12	.33**	-.06	.49**	.41**	.32**	.21**	-.11	.52**

Note. Variable names have been shortened due to space restrictions. All variable names are as follows: Implicit Measures, Strong Black Woman, Angry Black Woman, Jezebel, Black Women Stereotype Composite, Explicit Measures, PAQ- Strong Black Woman, PAQ- Angry Black Woman, Sapphire-A, Sapphire -B, Superwoman- A, Superwoman- B, Mammy, Modern Jezebel, Jezebel.
* $p < .05$, ** $p < .01$

Table 5. Summary of Goodness-of-Fit Statistics for CFA Models

Model	x^2	df	CFI	RMSEA	90%C.I.
1. Freely correlated traits; freely correlated methods	54.47	46	.99	.031	.000, .060
2. No traits; freely correlated methods	161.16	64	.85	.089	.072, .107
3. Perfectly correlated traits; freely correlated methods	73.25	51	.97	.048	.017, .071
4. Freely correlated traits; uncorrelated methods	44.23	47	1.00	.000	.000, .043

Table 6. Differential Goodness-of-Fit Statistics for Nested Model Comparisons

Model Comparisons	$\Delta\chi^2$	Δdf	ΔCFI
Test of Convergent Validity			
Model 1 vs. Model 2	106.69**	18	.14
Tests of Discriminant Validity			
Model 1 vs. Model 3	18.78**	5	.02
Model 1 vs. Model 4	10.24**	1	.001

** $p < .01$

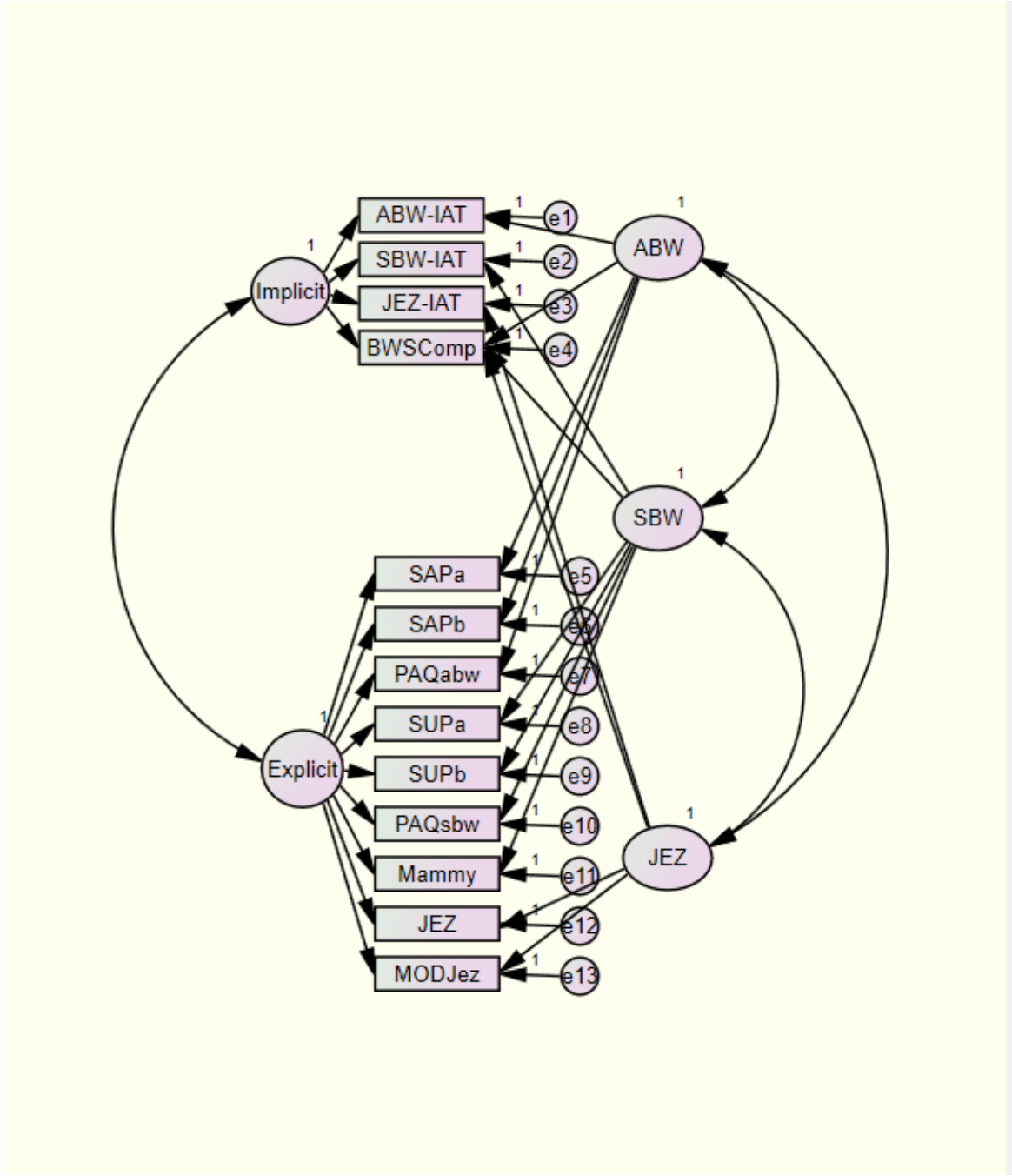

Figure 1. CFA Model 1: Two Freely Correlated Method Factors and Three Freely Correlated Trait Factors

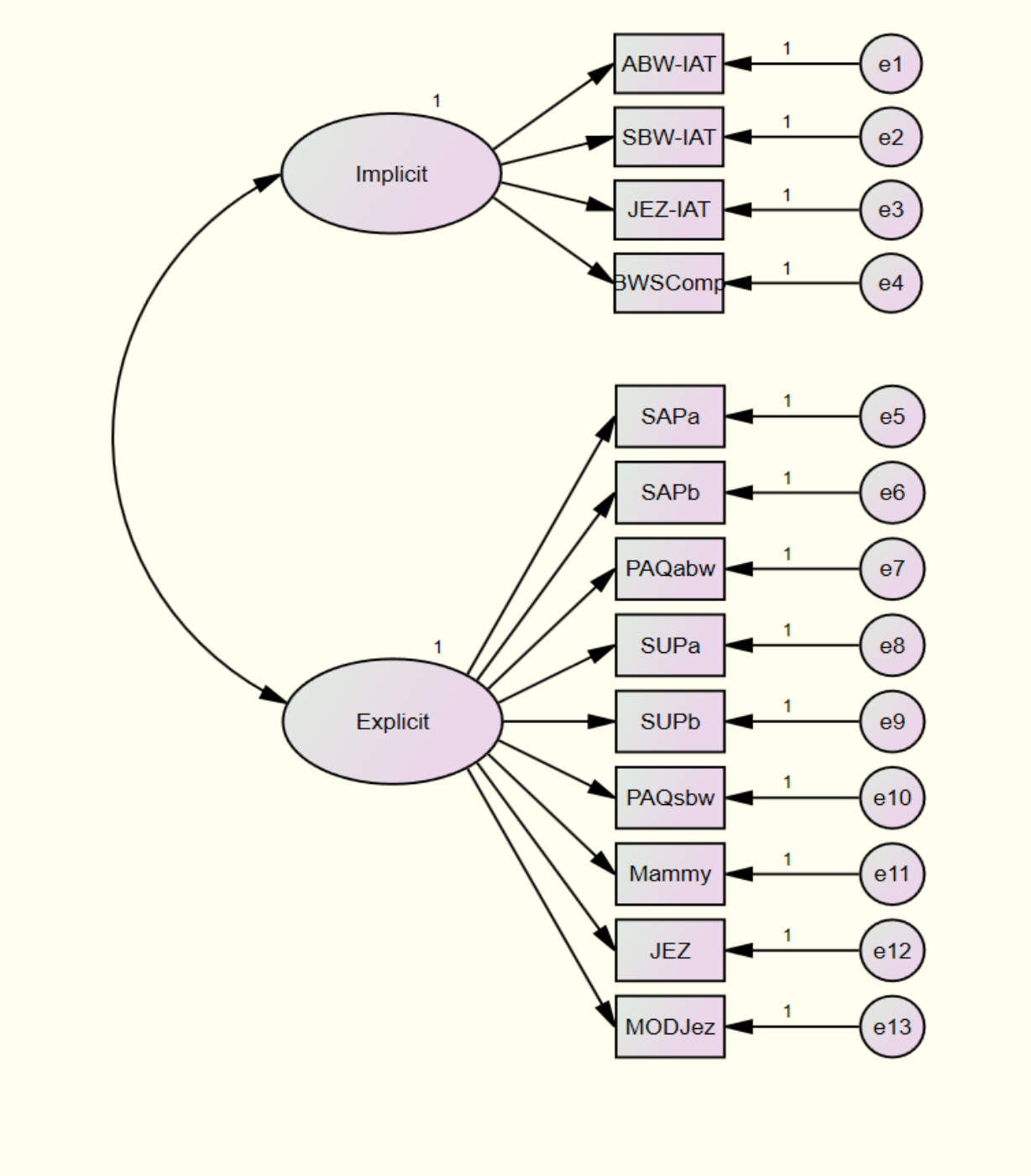

Figure 2. CFA Model 2: Two Freely Correlated Method Factors and No Trait Factors

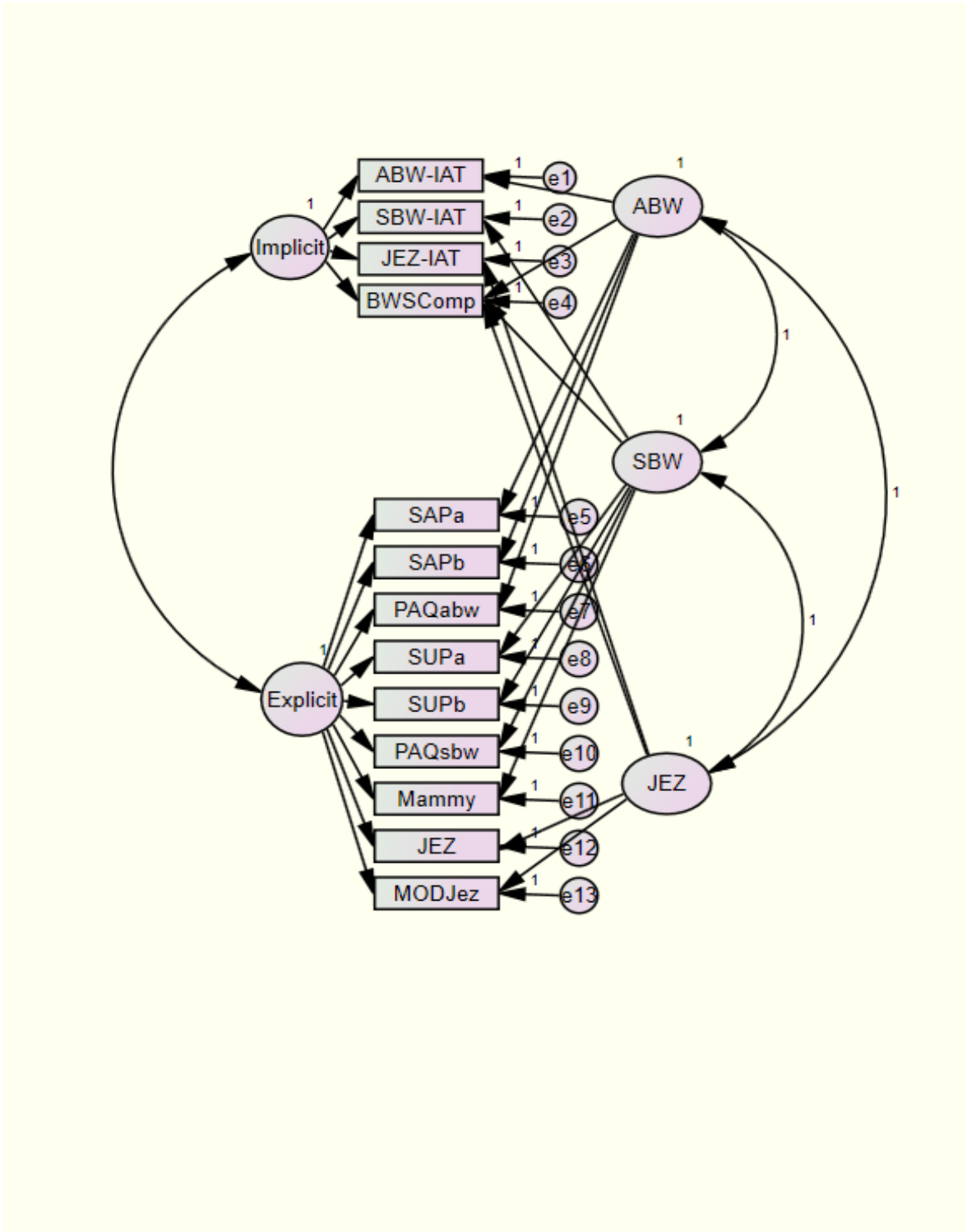

Figure 3. CFA Model 3: Two Freely Correlated Method Factors and Three Perfectly Correlated Trait Factors

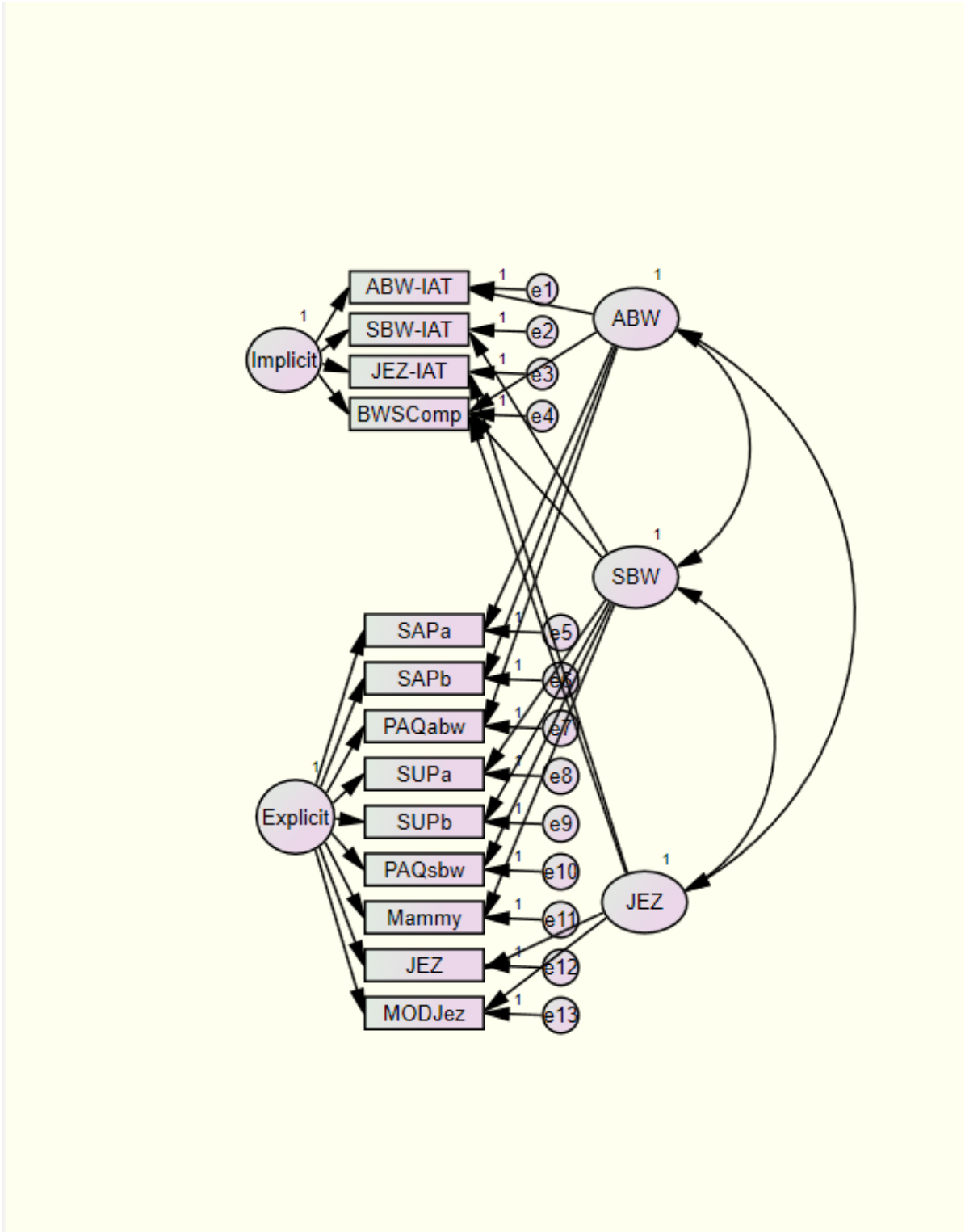

Figure 4. CFA Model 4: Two Uncorrelated Method Factors and Three Freely Correlated Trait Factors

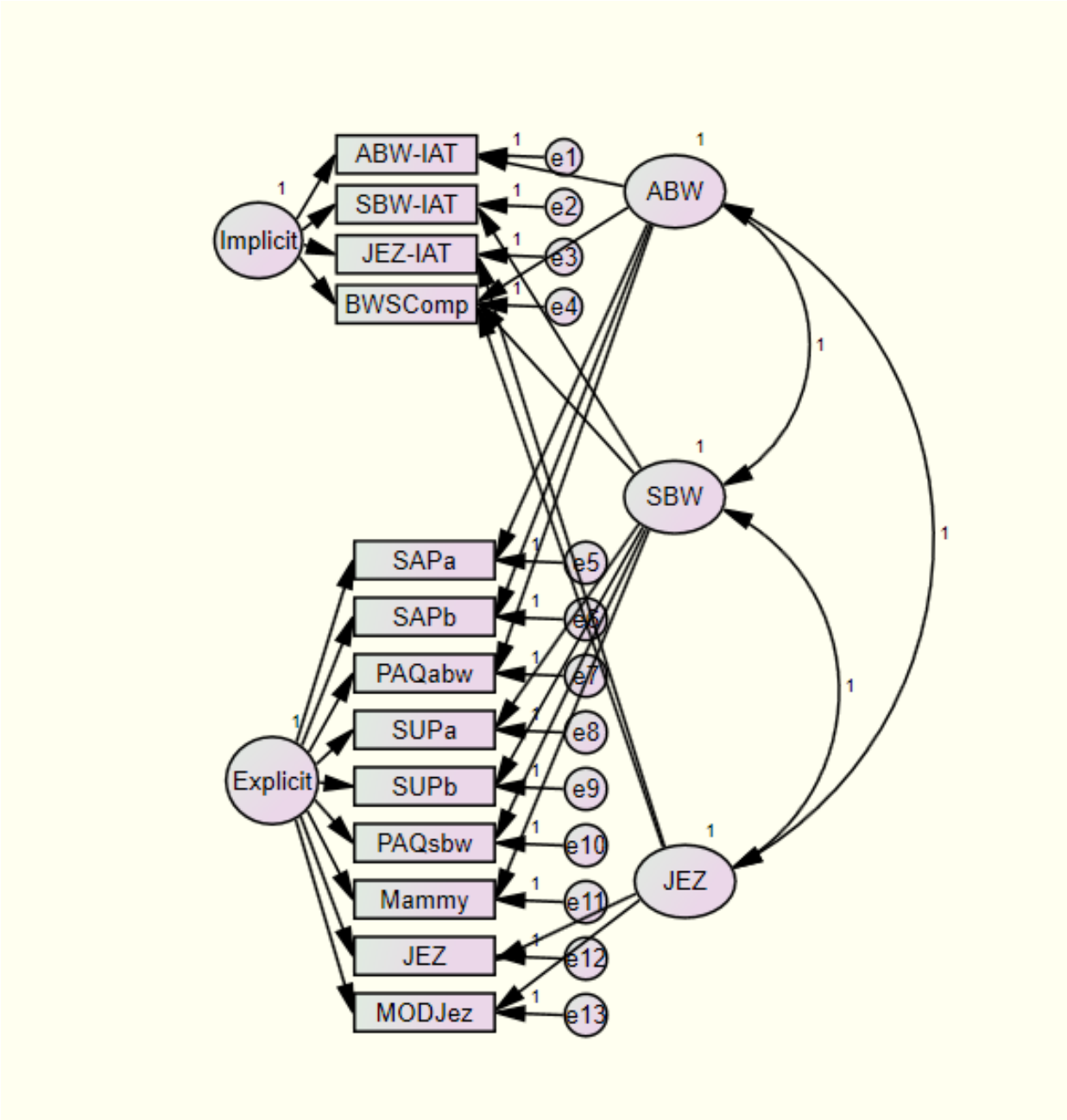

Figure 5. CFA Model 5: Two Uncorrelated Method Factors and Three Perfectly Correlated Trait Factors

DISCUSSION

Key Findings

The intended purpose of this study was to create psychometrically sound implicit measures for three stereotypes associated with Black women and evaluate the relationship between the different factors in the study. IATs that are psychometrically sound have low error rates for stimuli classification (< 25%), acceptable internal consistency (> .70; Nunnally,1978) and adequate IAT (D-score) variance statistics. The ABW-IAT had a lower than desired internal consistency value ($\alpha = .44$). However, the remaining descriptive statistics of this IAT and the other IATs met the standards of being psychometrically sound.

The fit statistics provided evidence for Model 3 being the best fit model ($\chi 2$ (51) = 73.25; CFI = .97; RMSEA = .048, 90%CI = .017, .071) and the hypothesized model being overfit ($\chi 2$ (46) = 54.47; CFI = .99; RMSEA = .031, 90%CI = .000, .060). The model comparisons substantiated evidence of convergent validity for the trait factors but little evidence of divergent validity for the trait factors. This supports that one single latent trait captures all three stereotypes examined in this study (i.e., SBW, ABW and Jezebel). In other words, the stereotypes largely overlap with one another to the extent that makes it difficult to differentiate the stereotypes. Strong support for divergent validity also exists between the measurement factors which suggests that the implicit and explicit measures accounted for their own unique variance. A fifth model was tested and revealed nearly identical fit statistics to Model 3. Based on past research revealing that implicit measures typically are weakly correlated with explicit measures of the same construct and Model 5 being the more parsimonious model, it was concluded that this model

would be the best for explaining similarities and differences among individuals in this study (McClelland et al., 1989; Köllner & Schultheiss, 2014).

Future Directions

Future research should first work on improving the psychometric properties of the ABW-IAT. The poor internal consistency of this IAT was the only descriptive statistic of the measure that did not meet desired standards. This could indicate that the stereotypes targeted by this measure needs to be expanded and updated to align more with current stereotypes associated with Black women. Further research should be conducted to understand the cause of poor reliability in this measure.

It would also be valuable to consider how the IATs developed in this study can be applied to further research on workplace experiences of Black women. It is essential that researchers look at the relationship between implicit associations of Black women and stereotypes, and various behaviors that occur in the workplace such as hiring decisions and social interactions with Black women. Studies have shown that applications with stereotypical Black names were less likely to get call backs and Black interviewees were perceived as less intelligent (Bertrand & Mullainathan, 2004; Frazer & Wiersma, 2001). Past studies have also provided a link between implicit racial bias and behaviors such as negative intergroup interactions (Kurdi et al., 2019; Rudman & Ashmore, 2007). However, these studies have only considered solely racial biases. The implicit measures validated in this study can be implemented in studies such as these to determine if the implicit association of Black women and stereotypes is predictive of those same outcomes. For example, will stereotypic Black women names receive fewer callbacks than Black men? How interviewees who are Black women be perceived compared to Black men and White

men and women? IATs in this study can be used to consider not only racial bias in intergroup interactions and employment practices but also gendered racial biases that are embodied by stereotypes associated with Black women. The measures produced in this study can also be used shed more insight on research that already centers the experiences of Black women. It would be of substantial value to determine if these differential outcomes were due to implicit biases and attitudes. In schools and within organizations, Black women are subjects to lower performance evaluations and harsher disciplinary actions than their White counter parts (Martin, 1994; Motro et al., 2021; Wun, 2014). If a relationship between implicit attitudes and discriminatory behavior against Black women is revealed, then organizations will be able to detect these implicit attitudes and make employees aware of them. Awareness is a fundamental part of implicit bias prevention (Devine et al., 2012).

Next, researchers can look to expand on the intersectionality of Black women to involve social identities outside of race and gender in the IATs developed in this study. Collins (2000) spoke about how Black women's experience also included the interlocking of sexism and classism as well. According to research, LGBTQ+ and low socioeconomic status (SES) professionals experience higher rates of harassment, discrimination, and more career limitations than other professionals who are not LGBTQ or who are of a low SES (Cech & Waidzunas, 2021; Pitesa et al., 2017). There are Black women who self-identify as LGBTQ+. There are Black women who come from low SES backgrounds. There are Black women who identity as LGBTQ+ and are from low SES backgrounds. Including their experiences would lead to a measure that is inclusive of experiences of all Black women.

Limitations

Although this research provided several significant findings, sample related and time constraint limitations should be discussed. First, the study was conducted at a midwestern predominantly White institution. The diversity of the sample was insufficient being that a majority of the sample were White (81%). This will negatively impact the generalizability of the results of this study. Another limitation was the restricted timeframe in which this study was conducted. The sample consisted of college students, which differs from the intended population of this study (i.e., working professionals). Additional time would have allowed researchers more time to locate working professionals that were willing to participate in the study. Undergraduate students were used because they were easily and quickly accessible.

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APPENDICES

Appendix A. Human Subjects IRB Approval

Missouri State
UNIVERSITY

To:
Ashley Payne
Psychology
Donald Fischer

RE: Notice of IRB Approval
Submission Type: Modification
Study #: IRB-FY2022-565
Study Title: Development of Implicit Measures of Black Women Stereotypes
Decision: Exempt

Approval Date: October 5, 2022

This submission has been approved by the Missouri State University Institutional Review Board (IRB). You are required to obtain IRB approval for any changes to any aspect of this study before they can be implemented. Should any adverse event or unanticipated problem involving risks to subjects or others occur it must be reported immediately to the IRB.

This study was reviewed in accordance with federal regulations governing human subjects research, including those found at 45 CFR 46 (Common Rule), 45 CFR 164 (HIPAA), 21 CFR 50 & 56 (FDA), and 40 CFR 26 (EPA), where applicable.

Researchers Associated with this Project:
PI: Ashley Payne
Co-PI: Donald Fischer
Primary Contact: Natasha Pierre
Other Investigators: Adriana Failla, Eryn Fanning

Appendix B. Modified Stereotypic Roles for Black Women Scale

Please rate the statements based on how much you agree with them. There are no right or wrong answers. The term 'Black women' refers to women of African descent (African, African American, Black American, and Caribbean American women).

1. Black women are often loud and obnoxious.
2. Black women are all about sex.
3. Black women have to be strong to survive.
4. Black women need to nag others to get a response.
5. Black women will use sex to get what they want.
6. Black women control men with sex.
7. If given a chance, Black women will put down Black men.
8. Black women are often treated as sex objects.
9. Black women are often expected to take care of family members.
10. If Black women fall apart, they will be failures.
11. Black women are usually angry with others.
12. Black women often put aside their own needs to help others.
13. Black women often feel ignored by others.
14. Black women find it difficult to ask others for help.
15. Black women feel guilty when they put their own needs before others.
16. Black women do not want others to know if they experience a problem.
17. People often expect Black women to take care of them.
18. People respond to Black women more if they are loud and angry.
19. Black women tell others that they are fine when they are depressed or down.
20. People treat Black women as if they are sex objects.
21. It is difficult for Black women to share problems with others.
22. Black women should not expect nurturing from others.
23. Black women are hardly ever satisfied.
24. Black women are out to get another woman's man.
25. Black women often have to put someone in their place, read them or check them.
26. Young Black women are gold-diggers.

27. Black women often threaten to cuss someone out.

28. Sex is a weapon.

29. Black women are overworked, overwhelmed, and/or underappreciated. 30. Black women are demanding.

31. Black women are always helping someone else.

32. Black women will let people down if they take time out for themselves. 33. It is easy for Black women to tell other people their problems.

34. Black women feel guilty if they cannot help someone.

Appendix C: Modified Personal Attribute Questionnaire

The items below inquire about what kind of person you think Black women are. Each item consists of a PAIR of characteristics, with the letters A-E in between. For example,

Not at all artistic A.....B.....C.....D.....E Very artistic

Each pair describes contradictory characteristics - that is, Black women cannot be both at the same time, such as very artistic and not at all artistic. The letters form a scale between the two extremes. You are to choose a letter which describes where Black women fall on the scale. For example, if you think that Black women have no artistic ability, you would choose A. If you think that Black women are pretty good, you might choose D. If Black women are only medium, you might choose C, and so forth."

1. Not at all aggressive.....Very Aggressive
2. "Not at all independent.....Very independent"
3. Not at all emotional.....Very emotional
4. Very submissive.....Very dominant
5. Not at all excitable in a major crisis.....Very excitable in a major crisis
6. Very passive.....Very active
7. Not at all able to devote self completely to others.....Able to devote self completely to others
8. Very rough.....Very gentle
9. Not at all helpful to others.....Very helpful to others
10. Not at all competitive.....Very competitive
11. Very home oriented.....Very worldly
12. Not at all kind.....Very kind
13. Indifferent to others approval.....Highly needful of others' approval
14. Feelings not easily hurt.....Feelings easily hurt
15. Not at all aware of feelings of others.....Very aware of feelings of others
16. Can make decisions easily.....Has difficulty making decisions
17. Gives up very easily.....Never gives up easily
18. Never cries.....Cries very easily
19. Not at all self-confident.....Very self-confident

20. Feels very inferior.....Feels very superior
21. Not at all understanding of others.....Very understanding of others
22. Very cold in relations with others.....Very warm in relations with others
23. Very little need for security.....Very strong need for security
24. Goes to pieces under pressure.....Stands up well under pressure
25. Very quiet.....Very loud
26. Not at all hostile.....Very hostile
27. Not at all violent.....Very violent
28. Not at all angry.....Very angry
29. Very accommodating.....Very confrontational
30. Not at all combative.....Very combative

Appendix D. Modified Modern Jezebel Scale

Please rate the statements based on how much you agree with them. There are no right or wrong answers. The term 'Black women' refers to women of African descent (African, African American, Black American, and Caribbean American women).

1. Black women are loud and have an attitude.
2. Black women always want to have sex.
3. Black women use sex to get what they want.
4. Black women are always mad and ready to fight.
5. Black women are gold-diggers.
6. Black women always want their way.