What's your favorite music? Music preferences cue racial identity

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ABSTRACT

Past research has shown that music preferences can provide meaningful personality and identity clues. However, no research has examined whether music preferences can convey meaningful information regarding racial identity. Across two studies, we find racial differences in music preferences and demonstrate that Black participants with lower racial centrality are more likely to prefer music associated with White Americans. In Study 1, we find that strangers can make somewhat accurate racial judgments based on music preferences alone. In Study 2, we demonstrate that people are aware of how their music preferences reflect their race. The results suggest that people have strong racial associations with certain music genres and thus may use music preferences to communicate about their racial identities.

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1. Music preferences cue racial identity

Is the proverb "there's no accounting for taste" true? Sociologist Pierre Bourdieu wrote that taste is part of an individual's *habitus,* or the "internalized, 'embodied' social structures" that "produce individual and collective practices," (Bourdieu, 1977, 1989). Erving Goffman would argue that our preferences, musical or otherwise, are a part of how we "present" ourselves in our everyday lives (Goffman, 1959). Therefore, our tastes are made up of preferences that have socially understood meanings tied to them. The satirist Stephen Colbert once quipped, "I don't see race. People tell me I'm White, and I believe them, because I own a lot of Jimmy Buffett albums," (The Colbert Report, 11/2/2006). Colbert is implying that there is a particularly strong association between racial categories and certain music genres, one that is so strong that his race is apparent from his music preferences alone. We agree with Colbert; we argue that racial identity plays an important role in shaping people's music preferences, and that one could likely identify another person's race simply by knowing what kind of music he or she prefers.

While there is a growing body of research examining what personal and social information may be conveyed through music preferences, previous research has almost exclusively focused on judgments of personality characteristics, values, or common habits (e.g., alcohol or drug use) while ignoring inferences about the social groups the listener may belong to (e.g., gender, race, social class). This is a curious omission given that social group memberships are the primary features used in social categorization (Brewer, 1988; Fiske & Neuberg, 1990; Sidanius & Pratto, 2001) and people explicitly and implicitly rely on racial stereotypes when forming impressions (see Yzerbyt & Demoulin, 2010 for a review). Furthermore, decades of research have shown persistent racial differences in music preference, especially between White and Black listeners (Bryson, 1996; Denisoff & Levine, 1972; Dixon, 1981; Epstein, Pratto, & Skipper, 1990; McCrary, 1993). Thus, the present set of studies broadly examines how one's race and racial centrality relate to music preferences and how naive observers use those preferences to judge racial group membership.

1.1. Music preferences communicate meaningful information

Music preferences seem to be a central part of people's identities. People believe music preferences signal important information about their personality and identity—even more so than their preferred clothing, food, movies, TV shows, book choices, car brands, toothpaste, or kind of stereo (Berger & Heath, 2007; Rentfrow & Gosling, 2003). Moreover, discussing one's music preferences is a popular topic in getting-to-know-you scenarios. In one study, when college students were asked to get to know one another on an online forum, 58% of participants discussed music during the first week and music remained one of the most popular topics during the six-week study (Rentfrow & Gosling, 2006, Study 1). Furthermore, adolescents view their music tastes as a symbolic badge that bonds them with their peers who share their preferences (Frith, 1981). Thus, it seems likely that other aspects of identity, such as racial identity, could be important influences on music preferences.

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Past research has shown that certain personality traits do correlate with musical preferences. For example, people who prefer music categorized as "energetic and rhythmic"—rap/hip-hop, soul/funk, and electronica/dance—are more likely to be extraverted, agreeable, liberal, athletic, and tend to blurt out their thoughts (Rentfrow & Gosling, 2003, Study 6). In some studies, strangers were able to judge certain personality traits with some degree of accuracy simply from listening to the target's top ten favorite songs (North & Hargreaves, 2007a, 2007b, 2007c; Rentfrow & Gosling, 2006). This suggests that people hold shared meanings about the kinds of people who have various music preferences allowing music to cue judgments of personality characteristics (Rentfrow & Gosling, 2003, 2006, 2007; Rentfrow, McDonald, & Oldmeadow, 2009).

Some research has shown that music preferences can also cue race and social class stereotypes of the average fan. In a study comparing stereotypes of rap versus heavy metal fans, Fried (2003) found that White participants were more likely to spontaneously use race and social class terms (e.g., Black; poor) to describe rap fans compared to heavy metal fans. In a more recent study, Rentfrow and colleagues (2009) examined the stereotypes that British participants held for music fans of six popular music genres (classical, jazz, rock, pop, electronica, and rap). They found that the content of music stereotypes espoused by British participants was similar to those held by American participants. Specifically, British participants presumed classical fans were more likely to be from upper-middle and upper class backgrounds, rap fans were presumed to be Black or from working or middle-class backgrounds, and fans of rock and pop were presumed to be White (Rentfrow et al., 2009). Rentfrow et al. recommended that future research should examine the accuracy of these stereotypes. In addition to examining the accuracy of some of these music stereotypes, a goal of the present research is to examine the accuracy of racial judgments from a person's music preferences.

1.2. Racial differences in music preference

People's stereotypes about fans of certain musical genres are likely informed by real racial differences in music preference. Research studies spanning the past 50 years have documented persistent racial differences in musical preference. As early as the 1960s, researchers found that race was more important than age and social class in explaining differences in music preference. For example, White college students in the 1960s preferred folk and rock music while Black college students preferred Motown and jazz (Denisoff & Levine, 1972). Dixon (1981) replicated this pattern among Black and White college students a decade later, indicating that at least Black and White college students seemed to have very different musical preference patterns.

These racial differences in music preference have persisted as new music genres emerge (e.g., rap and Indie rock). For example, Black adolescents in America reported listening to rap music more than White adolescents did as rap grew in popularity (Epstein, Pratto, & Skipper, 1990). Another study using national survey data showed that Blacks and Latinos disproportionately liked rap, reggae, R&B, gospel, and Latin genres compared to Whites (Bryson, 1996). More recently, Whites in the United Kingdom were more likely to listen to rock, Indie, and musicals than other racial groups (North & Hargreaves, 2007a). Collectively, the research shows that Whites, on average, are more likely to prefer classical, country, rock, and folk genres, while Blacks, on average, are more likely to prefer jazz, reggae, gospel, rap, and R&B genres.

It is worth noting that the ways in which these genres were created and evolved over time may explain why these patterns exist. Many genres that have historically been preferred by Black Americans have African inspired elements, were produced specifically for Black audiences, or have been in reaction to the social treatment of Black Americans at the time (cf., Burnim & Maultsby, 2006). For example, rap music was created by Black and Latino youth in the Bronx neighborhood of New York City in the 1970s. The music borrowed from African-inspired traditions such as "playing the dozens" in which young people would creatively insult each other. (Norfleet, 2006). Perhaps, the inclusion of those traditions in the music allows the genre to continue be associated strongly with Black Americans. In other words, rap music itself has become a Black American tradition, likely along with other genres.

In contrast, while rock music also borrowed from African-American music from the 1940s, current scholars contend that rock's melding of blues with country music has become largely appropriated by White, middle-class Americans (McDonald, 2009; Waksman, 2009). Importantly, the first rock songs were "race music" blues songs of the 1940s (performed by Black musicians for Black audiences) that were covered by White musicians but with less salacious lyrics that would do well commercially with White audiences (Denisoff and Levine, 1970). Lyrics that focus on different themes, especially focusing on questioning institutions and creating intergenerational angst, have therefore possibly lead to rock becoming a tradition in White America. Our research aim is to investigate whether these histories have created different racial worlds when it comes to music, and if music preferences therefore indicate which racial world an individual is currently living in and feels connected to, and thus what their racial identity might be.

People's tendencies to share their music preferences with one another coupled with actual racial differences in preference for various musical genres seems to have strengthened the association between certain musical genres and Black or White racial groups. Therefore, we expect to replicate racial differences in music preferences in the current research. However, because of the strength of these associations, we further predict that naive observers will be able to judge a participant's racial identity with some level of accuracy based only on the type of music genres they prefer. In other words, we expect that music preferences are conveying powerful information about race on their own, just as Stephen Colbert's affinity for Jimmy Buffet, a country/folk singer, conveys information to himself about his White racial identity.

1.3. Racial identity and music preference

In addition to the histories of specific music genres, there are potential social psychological reasons for racial differences in music preferences. One possibility may be rooted in Social Identity Theory which posits that individuals greatly value their ingroups (Tajfel & Turner, 1979). Listeners may prefer music by artists who are members of their own racial group due to ingroup preference or to follow group norms and be more like the prototypical group member (cf. van Veelen, Otten, Cadinu, & Hansen, 2016). For example, in one study, McCrary (1993) found that Black listeners showed greater preference for Black vocalists across various genres but for White listeners this ingroup preference was only true for those who preferred same-race social interactions. Sullivan (2003) found that Black adolescents viewed rap music as more culturally-affirming because the themes presented in the lyrics and music videos reflected the Black experience. These findings suggest that components of Social Identity Theory, such as identification with other ingroup members, may play a role in music preference. Furthermore, at least for Black listeners, certain musical genres may be seen as identity-affirming because the themes of the music highlight shared ingroup experiences.

However, racial differences in music preferences are not absolute; people are not restricted to liking music from genres associated with their racial ingroup. The concept of racial centrality

may provide one possible explanation for *within*-group racial differences in music preference. Racial centrality distinguishes between individuals who see their race as a very central or important part of their identity compared to those who minimize the importance of belonging to their racial group (Sellers, Chavous, & Cooke, 1998; Smalls, White, Chavous, & Sellers, 2007). A wide body of research shows that the racial centrality of Black individuals is related to different psychological and interpersonal experiences. For example, Black individuals who are more strongly racially-identified experience greater group-based self-esteem (Crocker, Luhtanen, Blaine, & Broadnax, 1994), but also perceive experiencing more discrimination than less-identified Blacks (Sellers & Shelton, 2003). In contrast, Black individuals who are less racially-identified are often accused of "acting White" (Sellers et al., 1998; Smalls et al., 2007) and are also more likely to emphasize assimilating to White culture (Sellers, Rowley, Chavous, Shelton, & Smith, 1997). Therefore, to explore within-group differences in music preference, we will examine differences in racial centrality as a predictor of differences in music preference. Specifically, we expect that Black participants with higher racial centrality will show greater preference for music typically preferred by Black Americans than Black participants with lower racial centrality, indicating that music preferences are one way in which race can play a central role in one's identity, at least for Black Americans.

Less is known about the role that racial centrality plays in Whites' psychological and interpersonal experiences. Recent research has shown that White individuals vary in how much they identify with being White (Goren & Plaut, 2012; Knowles & Peng, 2005), a concept known as *White racial centrality*. However, much of the research on White racial centrality has examined what antecedents lead to being more or less identified, and less on the outcomes of having high or low racial centrality. For example, Knowles and Peng (2005, Study 2) found that growing up in more diverse counties led to higher levels of White identity centrality. In another study, researchers found that White racial centrality was highly correlated with a stronger American identity (Devos & Banaji, 2005; Devos, Gavin, & Quintana, 2010), suggesting that Whites may perceive their racial identity as synonymous with being American. That there is overlap between White and American identity is not surprising; Devos and colleagues find that even non-White participants associate American identity with being White. Because White individuals may be identifying more with their national identity and less with their racial/ethnic identity, racial centrality may function differently for Whites than for Blacks.

Thus, racial centrality may not predict music preferences for White individuals in the same way we predict differences among Black individuals. On the one hand, having higher White racial centrality would seem to be related to a greater preference for music typically preferred by White listeners. On the other hand, research suggests that White individuals with higher racial centrality grew up in more diverse neighborhoods (Knowles & Peng, 2005) suggesting that they were exposed to greater racial diversity and presumably experienced greater exposure to a wider diversity of musical genres. Therefore, Whites' exposure to more racial diversity could relate to more diverse musical preferences or it could relate to greater identification with ingroup genres (a type of symbolic exclusion; see Bryson, 1996).

1.4. Music preferences and personality

Rentfrow and colleagues have laid the groundwork for much of our research. They have examined the accuracy of personality and behavior judgments from an individual's music preferences and described which music genres correlated with certain personality

traits (Rentfrow & Gosling, 2003, 2006, 2007). In one study, participants were able to judge with some accuracy the personality traits, especially extraversion, emotional stability, and openness, of a person they had never met but whose top ten songs they were given to listen to on a compact disc (Rentfrow & Gosling, 2006, Study 2). Their analysis showed that the music's attributes, much more than the music genres, were the source of the judges' accuracy. Much of their work relies on the Short Test of Music Preferences (STOMP) to examine the relationship between music preferences and the Big Five dimensions of personality (Rentfrow and Gosling, 2003; Study 6). The STOMP has participants rate their preference for 14 common music genres on a 7-point Likert scale. The 14 genres are then clustered based on shared characteristics of the prototypical music (e.g., tempo, musicality) and then aggregated into four music-preference dimension: reflective/complex, intense/rebellious, upbeat/conventional, and energetic/rhythmic.

In a more recent study, Zweigenhaft (2008) examined how the four STOMP dimensions and each individual music genre correlated with the Big Five dimensions and six facets of each Big Five dimension. Zweigenhaft found that the openness facets most strongly correlated with liking folk, and to a lesser degree, liking blues or jazz, but there was no correlation with liking classical music. However, neither study examined whether the patterns of music preferences differed between racial groups. Racial comparisons were probably not examined because their sample compositions ranged from 65 to 83% White. Thus, past research was unable to test for the predictive power of race or the interactions between race and personality to understand differences in music preference. We would argue that the four STOMP dimensions may obscure important racial differences because the categories include genres that are preferred to different degrees by different racial groups. In fact, factor loadings are stronger for blues and jazz than classical and folk, but all are aggregated into the same reflective/complex subscale (see Table 1 from Rentfrow and Gosling (2003)). Therefore, our method investigates music preferences as they are associated to different racial groups, and does not use the STOMP methodology.

Rentfrow et al. also (2009) found that there are strong stereotypes of the fans of common music genres that include racial group or socioeconomic status. We extend this past work beyond stereotypes of music fans to examine whether real, spontaneous lists of music preferences can evoke similar prototypical fans, and, more importantly, whether they are accurate. This is another reason to avoid using the STOMP, as we are interested in the information conveyed through information one spontaneously might share when asked about their musical preferences as opposed to Likert ratings. Another novel extension of past work is our inclusion and examination of possible mechanisms that can explain within-race group differences. Specifically, we examine accuracy of racial judgments among the four major ethnic groups (Study 1) and within a sample of Black and White participants (Study 2). We also examine the role of racial centrality and several other relevant personality and demographics measures as they relate to within group differences in music preferences.

1.5. Current research

Given[1] the patterns of the last fifty years, first we hypothesized that we would replicate previous research and find differences in music preferences by race, especially between Black and White participants. Next, we predicted that those participants who preferred music genres associated with Whites (rock, heavy metal, country,

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[1] Neither study included in this manuscript was preregistered prior to data collection.

folk, classical) would be overwhelmingly judged by *observers* to be White while those who preferred music genres associated with Blacks (rap, hip hop, R&B, soul, gospel, reggae) would be judged as Black. Thus, observers would make the most accurate racial judgments when targets held music preferences prototypical of their racial group (i.e., White targets who prefer artists that are categorized within prototypically White-associated genres). Therefore, we predicted that targets with music preferences incongruent with their racial group (e.g., a Black participant preferring rock or country) would have their racial identity judged inaccurately. Furthermore, we hypothesized that those Black targets with socially incongruent music preferences (those judged incorrectly as not Black) would be those with lower levels of racial centrality. Finally, we predicted that White targets with socially incongruent music preferences would also have their race judged inaccurately (i.e, not White), but these differences in music preference may or may not be explained by White racial centrality.

2. Study 1

The first goal of Study 1 was to examine whether people's music preferences differ based on race and whether strangers can form accurate racial impressions based solely on a person's musical taste. To evaluate the accuracy of racial judgments, we relied on Brunswik's (1956) Lens Model which examines the cues that observers use (i.e., the lens through which they look) to form their impressions. Using the Lens Model, we examined whether a target's music preferences (the cues) correlate with the target's *actual* race (i.e., *cue validity*) and whether naïve raters', i.e., strangers', racial judgments correlate with the target's musical cues (i.e., *cue utilization*). Accurate racial judgments should result if raters use valid cues (e.g., cues that significantly correlate with the target's actual race) and ignore invalid cues (e.g., cues that do not significantly correlate with the target's actual race). We predicted that raters would be most accurate at judging Black and White targets because there have been persistent racial differences in preferences between these two groups for the past 50 years. Using this model, we also anticipated that raters would be able to somewhat accurately assess targets' personality based on their musical taste, replicating previous work (Rentfrow & Gosling, 2006) since raters would have access to the artists, and not just the music genres, that the targets preferred.

The second goal of Study 1 was to examine how racial centrality relates to music preferences. We predicted that Black and White targets who prefer little or no music associated with their racial group would be judged inaccurately (i.e., judged to be a different racial group). Because Black racial centrality has been linked to high overlap between the group and the self, we predicted that Black targets judged inaccurately would be those who had rated their race as less central to their identity compared to Black targets judged accurately. Given the more ambiguous role of racial centrality for Whites, we did not have a directional hypothesis for the relationship between racial centrality and preference for race-congruent music genres but planned to explore its role.

3. Method

3.1. Overview of procedures

Participants completed a survey that asked them to spontaneously write their current most and least preferred musical tastes and measured their personality, racial centrality, and demographics. Participants were then asked for consent to allow a group of raters to review their music preferences. Next, the separate group of raters judged the personality and demographics, including race,

of the targets on the basis of their music preferences. Finally, we had a research assistant use the iTunes and Billboard Music charts to classify the targets' liked and disliked artists into specific genres.

3.2. Participants

All of our predictions relied on the first hypothesis that race would predict music preferences, as found by researchers in previous decades (Bryson, 1996; Denisoff and Levine, 1972; Dixon, 1981; Epstein et al., 1990; North & Hargreaves, 2007a). Therefore, we used Denisoff and Levine's (1972) finding in which race predicted preferences for different genres of music to conduct a power analysis as the method was most similar to ours. Those researchers asked 1960s college student participants to list their own preferences, which were then categorized into popular genres of the time. They then ran a chi-square analysis to analyze whether music genre and race depended on one another. Their analysis found that music preference depended on race, χ^2 (15, $N = 860$) = 133.04, $\phi^2 = 0.155$.

Our research would go one step further and determine if the self-reported music genres depended on race (replicating the prior study) and if the raters' race determination depended on self-reported music genres (to assess whether the relationship between race and music is bidirectional). Our research would determine if racial group judgment (Asian, Black, Latino, White or other) from music preferences alone depends on self-identified race (Asian, Black, Latino, or White). Using G*Power (Erdfelder, Faul, & Buchner, 1996) with $df = 12$, $w = 0.393$ (calculated from ϕ^2), $\alpha = 0.05$ and power = 0.80, the total sample size needed is $n = 113$. We limited data collection for music preferences to one 10-week quarter and oversampled Latino and Black participants given their underrepresentation within the undergraduate population at UCLA – 18% and 3.8%, respectively (UCLA, n.d.). All methods were approved by the UCLA IRB.

A total of 163 participants (88 female, 73 male, two unknown) were recruited from public locations on the UCLA campus and received candy as compensation. Participants were 25.3% Latino, 23.9% White, 22.6% Asian, 12.9% Black, 6.1% Middle Eastern, and 10.4% who identified as "other" (two participants did not mark their race). There were 23 White females, 17 White males, 1 White participant who did not report gender, 16 Black females, 8 Black males, 20 Latina females, 19 Latino males, 18 Asian females, and 21 Asian males. Eleven females and 19 males identified as other racial categories. The average age of participants was 21.45 years ($SD = 5.05$ years) and ranged from 17 to 66.

Ten targets did not consent to having raters evaluate their music preferences allowing raters to judge the demographics of 153 (83 female, 69 male, one unknown) of the participants. The rated participants (i.e. targets) were 24.8% Latino, 23.5% White, 20.9% Asian, 12.4% Black, 6.5% Middle Eastern, and 10.5% who identified as "other" (one target did not mark their race and therefore could not be used in analysis).

3.3. Participant measures

3.3.1. Musical tastes

In contrast to past research that asked participants to list their top ten favorite songs with the musical artist and genre (Rentfrow & Gosling, 2006) we simplified the nomination process so that it mirrored a getting-to-know-you conversation in which someone would share their music preferences. We asked participants to list up to five of their "favorite artists/musicians/bands at this moment." Participants listed an average of 4.77 ($SD = 0.59$) liked artists. Participants then listed up to five artists that they actively *disliked*. To clarify a disliked artist, participants read: "If you were to hear this artist/musician/band or music genre on the radio you

would immediately switch it off." Participants listed an average of 3.43 (SD = 1.36) disliked artists or genres.

3.3.2. Coding music genres

A research assistant blind to the hypothesis used iTunes and Billboard Music Charts search features to classify the targets' liked and disliked artists into specific genres. If the artist was not present on either it was coded as "genre not found." Using the coded genres, we then formed liked and disliked composites for six major music genres that appeared most in participants' responses: country/folk, rock/alternative, pop, dance, rap/hip hop, and soul. Targets listed a total of 762 liked artists which were categorized as: 34% rock/alternative, 20% pop, 18% rap/hip hop, 10% soul, 6% dance, 4% country/folk, and 7% other genres (e.g., Christian, no genre found). Targets listed a total of 538 disliked artists categorized as: 30% pop, 26% rap/hip hop, 13% rock/alternative, 9% country/folk, 4% soul, 2% dance, and 14% other genres.

3.3.3. Racial centrality

After reporting their race, participants completed an 8-item racial centrality scale (α = 0.88) adapted from the Multidimensional Inventory of Black Identity (Sellers et al., 1998) using a 7-point Likert scale (where 1 = *completely disagree* and 7 = *completely agree*). Sample items include: "In general, my racial group is an important part of my self-image" and "Being a part of my racial group is unimportant to my sense of what kind of person I am" (reverse coded).

3.3.4. Ten item personality inventory

Participants completed a short version of the Big Five Inventory that included just ten items, two for each trait, and that has been used in previous research (Gosling, Rentfrow, & Swann, 2003). Each matching pair was averaged for each participant to make a score for openness, conscientiousness, extraversion, agreeableness, and neuroticism.

3.3.5. Demographics

In the last section of the survey participants reported their gender, age, and socioeconomic class and indicated whether or not they gave permission for their responses to be used for the second part of the study.

3.4. Rating procedure

Eight raters (2 Black, 2 White, 3 Asian, 1 Latina; 6 females) blind to the hypothesis reviewed each of the targets' self-reported musical likes and dislikes (typed to avoid the influence of handwriting) and rated each target's likely gender (results reported in supplemental materials), race, and personality traits on the TIPI.

Supplementary data associated with this article can be found, in the online version, at https://doi.org/10.1016/j.jrp.2018.07.008.

3.4.1. Race and gender judgments

Raters independently read each target's music likes and dislikes and judged each target's gender (female or male) and race (Black, White, Asian, Latino, Middle Eastern, American Indian, and Other). Despite having many racial/ethnic options, including the ability to write their own, coders only selected White, Black, Latino, and Asian racial categories for their racial judgments.

3.4.2. Racial consensus variable

To compile rater's racial judgments, we first computed the percentage of the eight raters who judged the target as White, Black, Latino, or Asian. For example, a target that was judged as White by seven raters and Black by one rater would receive a perceived White score of 87.5%, a perceived Black score of 12.5%, and per-

ceived Latino and Asian scores of 0%. If more than 50% of raters (5 out of 8 or 62.5%) judged the target using the same race, we created a new dummy-coded variable to identify the target's race that was judged with the most consensus. If agreement did not exceed 50%, the target's race was coded as 'no consensus.' Using the racial consensus variable, raters perceived 60% of targets as White, 14% as Black, 3% as Latino, and 1% as Asian. Twenty percent of targets were judged with no racial consensus (less than 50% agreement).

3.4.3. Personality ratings

The raters used the same Ten-Item Personality Inventory as the targets to assess each target's personality. These were then averaged across all raters for each target.

4. Results

4.1. Cue validity: racial differences in music preferences

To examine racial differences in music preferences, we computed the cue validity correlations between the number of liked (and disliked) genre composites and the targets' self-identified race. The point-biserial correlations where the targets' self-identified race is dummy-coded are reported in Table 1. Positive correlations indicate that targets from a given racial group were more likely to list artists in the coded music genre (compared to all other racial groups), while negative correlations indicate listing fewer artists in the coded category.

As can be seen in Table 1, compared to all other racial groups, White participants included more rock/alternative and country/-folk artists in their list of preferred artists, but were less likely to include pop and rap/hip hop artists. White participants were also more likely to include country/folk and pop artists in their list of disliked artists compared to the other racial groups. Black participants included more soul and rap/hip hop artists in their list of preferred artists, but were less likely to include rock/alternative artists. Black participants were also more likely to include pop artists in their list of disliked artists compared to the other racial groups. Latinos were not more or less likely to list liking artists from specific music genres; however, Latinos were more likely to list rock/alternative in their list of disliked artists relative to the other racial groups. Asian participants included more pop artists in their list of preferred artists.

Given that we replicated racial differences in music preferences among Whites and Blacks, we then computed two broader composites: 'White-associated genres' – the average of country/folk and rock/alternative artists listed – and 'Black-associated genres' – the average of rap/hip hop and soul artists listed. Dance and pop artists were excluded from these composites.[2] Among liked artists, White participants listed more artists in White-associated genres (M = 3.35, SD = 1.59) compared to Black participants (M = 1.57, SD = 1.66), $t(56)$ = 4.04, p = .00, d = 1.10. In contrast, Black participants listed more artists in Black-associated genres (M = 2.86, SD = 1.65) compared to White participants (M = 0.76, SD = 1.26), $t(56)$ = 5.45, p < .001, d = 1.44. The cue validity correlations for these composites are reported in the last two rows of Table 1. Notably, liking White-associated genres is strongly negatively correlated with liking Black-associated genres (r = −0.72, p < .001). There were no racial differences in the number of disliked artists from White- or Black-associated genres, all ts < 1.00, ps > .40.

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[2] While these terms may seem blunt, it is important to distinguish genres that are currently associated with one or the other racial group to determine if these genres convey race information *because of* those associations. We do not mean to imply that that these genres are only created by, or listened to, by these racial groups. As mentioned in the introduction, each genre has a long history that can help explain the roots of these associations.

Table 1
Cue validity correlations between targets' race and coded music genres.

Genre	White		Black		Latino		Asian	
	Like	Dislike	Like	Dislike	Like	Dislike	Like	Dislike
Country/Folk	0.23**	0.18*	−0.01	−0.01	−0.12	−0.08	−0.08	−0.02
Rock/Alternative	0.25**	0.03	−0.33**	−0.12	0.11	0.27**	−0.11	−0.06
Pop	−0.19*	−0.15	0.10	0.18*	−0.06	−0.12	0.18*	0.13
Dance	0.13	0.18*	−0.13	−0.10	−0.04	0.01	−0.06	−0.14
Rap/Hip Hop	−0.17*	0.01	0.23**	0.06	−0.02	0.11	−0.03	−0.09
Soul	−0.12	0.03	0.35**	−0.05	−0.05	0.02	−0.10	−0.02
White-associated genres	0.21**	−0.02	−0.27**	0.08	0.02	0.03	−0.01	0.04
Black-associated genres	−0.21**	0.02	0.38**	0.04	−0.05	0.11	−0.06	−0.08

Note. White-associated genres are the average of country/folk and rock/alternative genres. Black-associated genres are the average of rap/hip hop and soul genres.
* $p < .05$.
** $p < .01$.

4.2. Cue utilization: music preferences cue race

To examine the influence of music preferences on raters' *perceptions* of race, we computed the cue utilization correlations between the liked (or disliked) genre composites and the raters' perceptions of the targets' races (see Table 2). Positive correlations indicate that the more artists listed in a specific genre, the greater percentage of raters who perceived the target as belonging to a specific race. Negative correlations indicate that the more artists listed in a specific genre, the lower the percentage of raters who perceived the target as belonging to specific race.

Specific music genres do appear to cue race, with the strongest associations for being judged as White or Black and weaker associations for being judged as Latino. The more a target liked rock/alternative artists or country/folk artists the more raters perceived the target to be White. In contrast, the more a target liked rap/hip hop artists or soul artists the more raters perceived the target to be Black. Finally, the more a target liked dance artists and disliked country/folk artists the greater percentage of raters perceived the target as Latino.

To illustrate the size of the mean differences, we next compared the number of artists liked in White and Black-associated genres among any targets whom raters *perceived* as either Black or White (whether or not these judgments were accurate). Targets judged as Black listed more artists categorized in Black-associated genres ($M = 3.57$, $SD = 1.17$) than those judged as White ($M = 0.62$, $SD = 0.96$), $t(109) = 12.21$, $p < .001$, $d = 2.77$. Targets judged as White also listed more artists categorized in White-associated genres ($M = 3.57$, $SD = 1.25$) than those judged as Black ($M = 0.76$, $SD = 0.77$), $t(109) = 6.95$, $p < .001$, $d = 2.78$. Thus, the differences in preferences were larger (i.e., the effect sizes were larger) between those who were perceived as Black and White than between the actual Black and White participants.

4.3. Accuracy of racial judgments

The observed percentages for accurate and inaccurate racial judgments using the consensus variable are reported in Table 3. Each row indicates the percentage of targets within each racial category who were judged as White, Black, Latino, Asian or with no

Table 2
Cue utilization correlations between perceived race and coded music genres.

Genre	Perceived White		Perceived Black		Perceived Latino		Perceived Asian		No consensus	
	Like	Dislike	Like	Dislike	Like	Dislike	Like	Dislike	Like	Dislike
Country/Folk	0.23**	−0.04	−0.13	0.01	−0.08	0.17*	−0.15	−0.07	−0.04	0.04
Rock/Alternative	0.57**	−0.02	−0.54**	−0.03	−0.12	−0.05	−0.04	0.15	−0.22**	0.02
Pop	0.07	−0.05	−0.11	0.13	0.13	0.08	0.01	−0.14	0.02	−0.10
Dance	0.04	0.07	−0.18*	−0.13	0.25**	0.05	−0.09	−0.04	−0.05	0.00
Rap/Hip Hop	−0.52**	0.06	0.67**	−0.07	−0.06	0.01	−0.01	0.10	0.21**	0.07
Soul	−0.42**	0.11	0.42**	−0.16	−0.08	0.10	−0.05	0.04	0.06	0.06
White-associated genres	0.70**	−0.10	−0.63**	0.09	−0.08	0.12	−0.08	−0.02	−0.19*	−0.02
Black-associated genres	−0.66**	0.08	0.77**	−0.11	−0.09	0.05	−0.04	0.11	0.23**	0.10

Note. White-associated genres are the average of country/folk and rock/alternative genres. Black-associated genres are the average of rap/hip hop and soul genres.
* $p < .05$.
** $p < .01$.

Table 3
Average percent of targets judged within each racial category.

	% Perceived White	% Perceived Black	% Perceived Latino	% Perceived Asian	% With No Consensus
White targets	**84.6**	2.6	0.0	0.0	12.8
Black targets	31.8	**50.0**	0.0	0.0	18.2
Latino targets	55.3	5.3	**13.2**	0.0	26.3
Asian targets	58.1	9.7	0.0	**3.2**	29.0
Other race targets	57.9	21.1	0.0	5.3	15.8
% of total sample	60.4	14.1	3.4	1.3	20.8

Note. Accurate judgments are in bold and reported along the diagonal.

consensus. As seen on the diagonal, White targets were the most likely to be judged accurately, followed by Blacks, Latinos, and then Asians. However, the final row of Table 3 shows that raters perceived the majority of the 149 targets as White (60.4%), with the next most likely judgment as no racial consensus (20.8%), then Black (14.1%). Despite the fact that almost half of our sample was Latino or Asian (and that our raters were ethnically diverse on an ethnically diverse campus), raters judged very few targets as Latino (3.4%) or Asian (1.3%).

To test the accuracy of racial judgments, we used a 4×5 chi-square analyses to evaluate the relationship between the target's self-identified race (categorized: White, Black, Latino, Asian, therefore other targets were excluded) and the categorical variable of perceived race (White, Black, Latino, Asian, and No Consensus). According to the chi-square test, more targets than expected were judged accurately and fewer targets than expected were judged inaccurately, $\chi^2(12, N = 149) = 53.19$, $p < .001$, $w = 0.60$. We also computed Cohen's kappa to evaluate the degree of agreement between targets' races and raters' perceptions of their race. The kappa coefficient examining agreement across all sixteen cells suggests that there was fair agreement between the targets' actual race and the raters' perceptions, $\kappa = 0.21$, $p < .001$.

Because Black and White participants were never judged as Latino or Asian, we conducted a restricted chi-square analysis using a 2×3 matrix examining the association between White and Black targets (who were judged as White, Black, or with no consensus). More targets than expected were judged accurately ($n = 44$) than inaccurately ($n = 16$), $\chi^2(2, N = 60) = 25.73$, $p < .001$, $w = 0.65$. Cohen's kappa increased slightly when only Black and White targets were included in the analysis, $\kappa = 0.25$, $p < .001$. (In comparison, the raters were not able to accurately judge participants' self-reported gender, as reported in the online supplemental materials.)

4.4. Inaccurate racial judgments due to low cue validity

We next tested whether Black or White targets who were judged accurately held different music preferences from those judged inaccurately. Specifically, we investigated whether being judged inaccurately was due to low cue validity—whether those targets had few or no preferences associated with their racial group. Targets judged by a majority of raters as the race they self-identified (e.g., Black targets judged as Black) were coded as being judged accurately while those judged by a majority of raters as a different race, or for whom there was no consensus, were coded as being judged inaccurately. We ran a 2×2 mixed ANOVA, where Judgment Accuracy (accurate, inaccurate) was a between-subjects factor and Music Genre Preference (White, Black) was a repeated within-subjects factor. We ran this analysis separately for White targets and Black targets (see Fig. 1).

Among White targets, there was a significant main effect of genre, such that White targets liked more artists from White-associated genres ($M = 2.68$, $SD = 1.36$) than Black-associated genres ($M = 1.22$, $SD = 1.45$), $F(1, 38) = 9.90$, $p < .01$, $d = 1.04$. However, this main effect was qualified by a significant interaction, $F(1, 38) = 11.93$, $p < .01$. As shown in the top panel of Fig. 1, accurately-judged White targets liked more artists from White-associated genres ($M = 3.64$, $SD = 1.34$) than Black-associated genres ($M = 0.58$, $SD = 0.97$, $d = 1.65$), but inaccurately-judged White targets (i.e., judged to be non-White) showed equal preference for artists from White ($M = 1.71$, $SD = 1.38$) and Black-associated genres ($M = 1.86$, $SD = 1.95$, $d = 0.06$).

Among Black targets, there were no significant main effects for judgment accuracy or music genre, all $Fs < 1.5$, $ps > .24$. However, there was a significant crossover interaction, $F(1, 20) = 20.75$, $p < .001$. As shown in the bottom panel of Fig. 1, accurately-judged
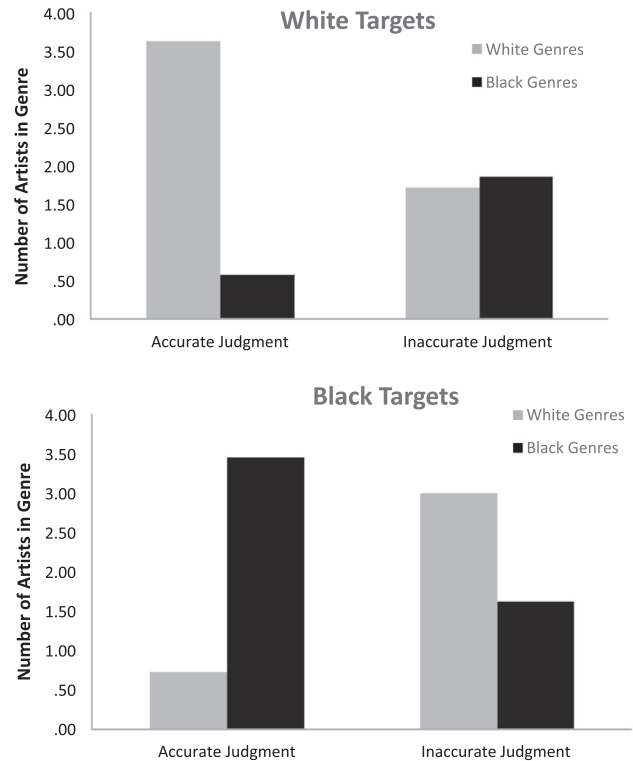

Fig. 1. Total number of artists listed within White and Black-associated genres if the White Target (top panel) or Black Target (bottom panel) was judged accurately or not.

Black targets liked more artists from Black-associated genres ($M = 3.45$, $SD = 1.35$) than White-associated genres ($M = 0.73$, $SD = 0.65$, $d = 2.37$), but inaccurately-judged Black targets (i.e., judged to be non-Black) liked more artists from White-associated genres ($M = 3.36$, $SD = 1.69$) than Black-associated genres ($M = 1.27$, $SD = 1.35$, $d = 1.38$).

4.5. Differences in racial centrality

Finally, we tested whether Black or White targets who were judged accurately had different levels of racial centrality from those judged inaccurately. We ran a 2 (Judgment Accuracy: accurate, inaccurate) $\times$ 2 (Target's Race: White, Black), between-subjects ANOVA to examine differences in self-reported racial centrality.

As would be expected, there was a main effect of target race, such that Black targets had a stronger racial centrality ($M = 5.04$, $SD = 1.28$) compared to Whites ($M = 2.96$, $SD = 1.02$), $F(1, 50) = 28.94$, $p < .001$, $d = 1.81$. However, this main effect was qualified by a significant interaction, $F(1, 50) = 6.23$, $p = .02$. As shown in Fig. 2, Black targets who were judged accurately held the highest levels of racial centrality ($M = 5.59$, $SD = 0.79$) compared to all other conditions, $t(57) = 5.83$, $p < .001$. Planned contrasts indicated that the Black targets judged accurately had a stronger racial centrality ($M = 5.59$, $SD = 0.79$) than Black targets judged inaccurately ($M = 4.28$, $SD = 1.48$), $t(20) = 3.12$, $p = .005$, $d = 1.15$. However, White targets judged accurately ($M = 2.93$, $SD = 1.05$) did not differ in racial centrality from Whites judged inaccurately ($M = 3.36$, $SD = 0.83$), $t(37) = 1.01$, $p = .30$, $d = 0.45$. Notably, racial centrality was positively correlated with liking artists in Black-associated genres ($r = 0.24$, $p < .01$) and negatively correlated with liking
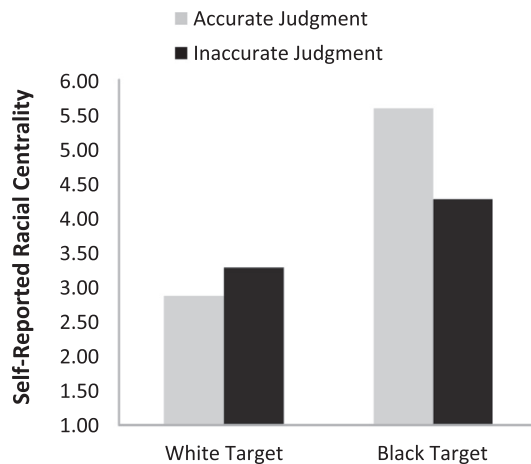
Fig. 2. Level of self-reported racial centrality as a function of the target's race and if they were judged accurately or not.

artists in White-associated genres ($r = -0.20$, $p = .01$) across all participants.

4.6. Personality judgments

We ran bivariate correlations between the targets' personality ratings for themselves and the averages of the ratings provided by the eight raters. Contrary to our hypothesis, we did not find evidence of raters being able to assess targets' conscientiousness, $r = -0.10$, $p = .23$, extraversion, $r = 0.11$, $p = .16$, agreeableness, $r = 0.12$, $p = .16$, or neuroticism, $r = 0.02$, $p = .77$, based on their music preferences. Raters ability to assess the targets' openness did reach marginal significance though the correlation was small, $r = 0.14$, $p = .09$

5. Discussion

5.1. Music preferences cue racial identity

We replicate past research demonstrating that there are racial differences in music preference (Bryson, 1996; Denisoff & Levine, 1972; Dixon, 1981; Epstein et al., 1990; North & Hargraves, 2007a). On average, Whites were more likely to prefer artists from rock/alternative and country/folk genres but not rap/hip hop. In contrast, Blacks were more likely to prefer artists from rap/hip hop and soul genres but not rock/alternative. Furthermore, when Black or White targets held race-congruent music preferences, their racial identity was judged more accurately compared to targets with race-incongruent preferences.

Moreover, this study demonstrates that individuals can use fine-grained music cues (i.e., individual musicians and bands) to, somewhat accurately, infer other's racial identities. However, music cues seem to prompt more information about being Black or White than about being Asian, Latino, or even male or female (see online supplemental documents). Our results suggest that being perceived as White is strongly associated with liking rock/alternative and, to a lesser extent, liking country/folk. Being perceived as Black is strongly associated with liking rap/hip hop or soul. In our study, the cue utilization correlations for the White- and Black-associated genre composites were in the 0.60–0.70 range (see Table 2), suggesting that people rely heavily on these music cues to infer race.

In contrast to judgments of Blacks and Whites, raters showed significantly lower accuracy judging Latino and Asian targets. Although all targets and raters were sampled from an ethnically

diverse campus, the raters were more likely to presume a target was White, ignoring the higher base rates of Latinos and Asians that make up the campus demographics. One plausible explanation is that our raters' racial judgments were implicitly anchored to the dominant White racial group (e.g., Devos & Banaji, 2005; Devos et al., 2010) and only adjusted their judgments when presented with enough disconfirming cues (e.g., listing many rap artists). Supp**orting this hypothesis, targets who were judged with the least racial consensus were also more likely to prefer rap/hip hop and not rock/alternative. Thus, it is possible that simply preferring even one Black artist or musician anchored raters' racial judgments to "Black."

A limitation of this study is that raters had to rely on their own music knowledge to make broader inferences about most liked music genres. Contrary to past research, our listeners provided specific liked and disliked artists and musicians, not broader genre preferences and not specific individual songs the raters could listen to. If a participant provided obscure artists or a rater was less familiar with certain genres of music, the rater would have less information to draw from to formulate his or her judgments. This may also be why there was no evidence that raters could assess the personalities of the targets. Specific artists are more informative than simply listing liked and disliked music genres, but may not provide enough music attributes to communicate personality traits, which may require actually listening to the artists. Although past research suggests researchers study music preferences at the level of broad music genres (Rentfrow & Gosling, 2003) or specific songs (Rentfrow & Gosling, 2006), we feel that our method of sharing liked and disliked artists is more closely parallel to typical getting-to-know-you scenarios in face-to-face and online settings.

Another possible explanation for poor racial categorization of Latinos and Asians is that there are far fewer consensually-held stereotypes about Latinos and Asians' music preferences. Our results support this notion: there were few valid music cues that correlated with identifying as Latino or Asian and raters only relied on one cue—dance music—to inform judgments about Latinos. That said, if a listener included readily-identifiable cultural music (e.g., *Banda* or *K-pop*), the raters made racial judgments that aligned with the music cue. For example, all five accurately judged Latino targets listed at least one recognizable Latina or Latino artist (e.g., *Shakira*). As ethnic music genres such as reggaeton and Latin pop (e.g., Luis Fonsi's *Despacito*) and Korean pop (e.g., Psy's *Gangnam Style*) become more mainstream (National Public Radio, 2014), music preferences could become more reliable cues to Latino and Asian racial identity. However, with increasing popularity and crossover into the mainstream music sphere, these songs or artists may no longer be reliable indicators of one's racial identity because they are enjoyed by all. More research is needed to investigate how Asians and Latinos associate themselves with a musical landscape that has been implicitly categorized as either Black- and White-associated genres.

5.2. Differences in racial centrality

In addition to replicating racial differences in music preferences, we are the first to show that racial centrality among Black participants is related to within-group music preferences. Specifically, we found that Black targets judged accurately as Black had the highest racial centrality and preferred the most number of artists in Black-associated genres. In fact, having a stronger racial centrality was correlated with liking more artists in Black-associated genres and fewer artists in White-associated genres across the entire sample. In contrast, Black targets who were judged inaccurately, i.e., judged to be non-Black, held lower levels of racial centrality and were more likely to prefer artists from White-associated genres than Black-associated genres. This rela-

tionship between racial centrality and music preferences supports the idea that music is an important part of expressing one's racial identity, at least among Black individuals.

Although there were differences in racial centrality among Black participants, we have less evidence to explain why some Whites hold race-incongruent preferences. In our study, inaccurately-judged White participants held more eclectic music tastes—liking artists in both White- and Black-associated genres. However, these misjudged targets showed the same levels of White racial centrality compared to accurately judged White participants. This suggests that racial centrality does not relate to differences in music preference in the same way that it does for Black music fans.

What might explain within group differences in music preference for White participants? Past research suggests that parents' or peers' music preferences or even one's education or social class could influence the type of music a person is exposed to and comes to prefer (Bryson, 1996). However, one limitation of our sample is that all of our participants were college students at an urban campus in southern California. Although the campus is considerably diverse in race/ethnicity and socioeconomic status, this specific sample may hold different music preferences than participants from other regions or social strata. For example, Rentfrow et al. (2009) posited that "people living in certain places are exposed to styles of music that are different from the styles of music individuals living in other cities or countries are exposed to…. what [music] is considered 'cool' in one place may be considered 'uncool' elsewhere," (p. 331).

To address this limitation, we decided to recruit participants for Study 2 using an online recruitment tool that samples from a more diverse participant pool in terms of age, education level, and social class. In addition to assessing participants' education and social class, we also planned to measure participants' perceived racial diversity of their high school. This measure serves as a proxy to assess whether participants' were exposed to racially-homogenous or racially diverse settings in adolescence, a critical time in the formation of music preferences (Frith, 1981). We predicted that White participants who grow up in more diverse neighborhoods may develop more eclectic music preferences because of greater exposure to non-White-associated musical genres. Specifically, in Study 2, we further explored several mechanisms to explain within-group differences in music preference within a national sample of Black and White participants.

6. Study 2

Using a community sample of Black and White Americans, the first goal of Study 2 was to replicate findings from Study 1 showing that differences in racial centrality are related to within-group differences in music preference for Black music fans. A second goal of Study 2 was to examine other possible correlates that could explain within-group differences in music preference. Specifically, we measured variables that we hypothesized might correlate with greater preference for music in Black-associated genres. For example, we measured differences in adventurousness, masculinity, and attitudes about the existence of racial equity, as well as self-reported racial composition of the participants' high schools.

Previous research suggests that there may be an association with music preferences and exposure to diverse people and diverse ideas. For example, Intergroup Contact Theory (Allport, 1954) posits that intergroup relations improve and prejudice declines when groups have the opportunity to interact under optimal circumstances (such as sharing equal status and working toward common goals). Therefore, we chose the high school context to measure a participants' degree of intergroup contact. We hypothe-

sized that White participants with more diverse social contexts in adolescence (and likely exposure to non-White music genres) would be more likely to prefer music in Black-associated genres. Additionally, we hypothesized that Whites higher in the adventurous facet of openness may be more likely to include preferences for artists within Black-associated genres, because they would be more likely to seek out new and different experiences, potentially including musical ones.

Previous research has also shown that people who hold more egalitarian values exhibit more eclectic music preferences (Reyna, Brandt, & Tendayi Viki, 2009). On the other hand, Whites who hold more bigoted beliefs typically exhibit dislike for rap and hip hop (Bryson, 1996; Reyna, et al., 2009). Bryson (1996) argued that expressing dislike of rap and hip hop was an acceptable and more indirect way of expressing racial bias. To assess participants' awareness of racial bias, we asked participants if they thought that Whites and Blacks had equal and fair shots at success in America (i.e., belief in the existence of racial equity). We hypothesized that Whites who believe that both racial groups experience the same access and equity in America would show greater preference for White-associated genres while those who believe there is unequal access to opportunity would show greater preference for Black-associated genres. Finally, past research has also shown that people consider rap and hip hop music more masculine (Shabazz, 2014). We predicted that listeners higher in masculinity would be more likely to prefer music associated with Black-associated genres.

A final goal of Study 2 was to examine whether participants believed their music preferences accurately communicated various social identities, including their race. That is, we examined participants' meta-perceptions, or how a person thinks others view them on the basis of their music preferences. Specifically, we asked participants to estimate how well other strangers would be at judging their race, gender, education, age, and personality simply from their list of musical artists. Given past research in this domain (Berger & Heath, 2007; Rentfrow & Gosling, 2003; 2006), we expected participants would believe their music preferences were strongly reflective of their personality. However, because there are also strong associations between race and certain music genres, we also expected participants to believe that strangers could discern their race from their music preferences alone. Finally, we examined whether individuals have a sense of how accurately their music preferences represent their social identities. If participants are aware of how others use music cues to judge race, then we would expect the participants to make correct meta-perceptions about how others will judge their race. Said differently, listeners who hold race-congruent music preferences should be aware that their music *correctly* communicates their racial identity. Conversely, those with race-incongruent preferences should also be aware that their music preferences *incorrectly* communicate their racial identity.

7. Method

7.1. Procedure

Participants completed an online survey where they reported their personal musical tastes and responded to questions about the importance of music in their life as well as meta-perceptions about what others could learn about them from their musical tastes. Next, participants responded to questions about various aspects of their personality including racial centrality, adventurousness, masculinity, and beliefs in the existence of racial equity. Finally, participants completed demographics including estimating the racial composition of their high school.

7.2. Participants

Since the main hypothesis in Study 2 was a positive correlation between a predictor and the number of Black or White-associated genres a participant listed we used a small correlation ($r = 0.30$) for the power analysis. Using G*Power (Erdfelder et al., 1996) with $r = 0.30$, $\alpha = 0.05$, and power = 0.80, the total sample size needed is $n = 72$. However, because we were investigating these correlations for both Black and White participants, we decided to recruit this number for each racial group. We limited data collection to a sample obtained through Mechanical Turk Prime's panel service that recruits participants that only included American participants who had identified as either Black or White in a previous survey.

We used Mechanical Turk Prime to specifically recruit a total of 150 Black and White participants. Of the 150 participants, there were 72 White participants (43 females, 29 males) and 78 Black participants (28 females, 50 males). Per Amazon's fee structure, Black participants were compensated $2.25 and White participants were compensated $2.00. The average age of participants was 33 ($SD = 9$ years). The average level of educational attainment was an associate's degree ($M = 3.93$, $SD = 1.31$) and socioeconomic status (SES) was working class ($M = 2.16$, $SD = 1.09$). There were no racial differences for age, educational attainment, or SES, all $ps > .05$.

7.3. Measures

7.3.1. Musical tastes

First, to add psychological realism to the study, we asked participants to rate how much they listened to music in their free time, how important music was in their daily life, and how much they thought music was a reflection of their identity or "who they are" using a 7-point scale where 1 = *not at all* to 7 = *very much so*. Next, participants were asked to list up to five of their "favorite artists/musicians/bands at this moment." In the entire sample, participants listed a total of 700 artists, with an average of 4.67 ($SD = 0.82$) favorite artists listed per participant. Participants were then asked to categorize their responses into the "broad music genre that would be meaningful and understood by most people". Participants were given the following options: Alternative, Classical, Country, Electronic, Folk, Heavy Metal, Hip Hop, Jazz, Latin, Pop, Rap, Rhythm and Blues, Reggae, Gospel, Religious, Rock, Soul/Funk, and Other. Once categorized, the most commonly listed artists fell into the following genres: 17% pop, 17% rock, 14% rhythm and blues, 8% rap, 8% alternative, and 3% other. Religious and Latin genres had fewer than 1% of artists listed.

7.3.2. Musical meta-perceptions

After nominating and categorizing their favorite artists, participants then estimated how well other strangers would be at judging their gender, age, race, education, and personality simply from their list of musical artists. Participants responded using a 5-point scale where 1 = *not well at all* and 5 = *extremely well*.

7.3.3. Racial centrality

Participants completed a 6-item racial centrality scale ($\alpha = 0.89$) adapted from the Multidimensional Inventory of Black Identity (Sellers et al., 1998) using a 7-point Likert scale where 1 = *completely disagree* and 7 = *completely agree*. Sample items include: "In general, my racial group is an important part of my self-image" and "I don't believe it is important to identify with a racial or ethnic group" (reverse-coded).

7.3.4. Adventurousness

Participants completed the 6-item adventurousness subscale ($\alpha = 0.77$) taken from the International Personality Item Pool (IPIP;

Goldberg, 1999; Goldberg et al., 2006). Participants responded using a 7-point Likert scale where 1 = *completely disagree* and 7 = *completely agree*. Sample items include: "I will try anything once" and "I prefer to stick with things that I know" (reverse-coded).

7.3.5. Masculinity

Participants completed a 7-item masculinity scale ($\alpha = 0.83$) adapted from the playboy, emotional control, toughness, and avoidance of femininity subscales of the Conformity to Masculine Norms scale (Mahalik, Burns, & Syzdek, 2007) using a 7-point Likert scale where 1 = *completely disagree* and 7 = *completely agree*. Sample items include: "To be a guy, you've got to be tough" and "It's fine for a man to cry" (reverse coded).

7.3.6. Beliefs about existing racial equity

Participants completed a 4-item scale ($\alpha = 0.86$) adapted from the 'racial privilege' subscale of the Colorblind Racial Attitudes Scale (Neville, Lilly, Duran, Lee, & Browne, 2000) using a 7-point Likert scale where 1 = *completely disagree* and 7 = *completely agree*. Sample items include: "I think racial/ethnic minorities have the same opportunities to succeed as White people in America" and "I think the system stacks the decks against racial minorities in terms of having an equal chance to succeed" (reverse coded). Higher numbers indicate greater belief that Whites and Blacks experience equitable access and opportunity to succeed in America.

7.3.7. High school racial composition

Participants estimated the percent of the students in their high school who came from the following racial groups: Asian/Asian American, Black/African American, Latino/Hispanic American, White/European American, and Other groups not listed. Participants' estimates were required to equal 100%. In the entire sample, participants reported high school demographics that averaged 49% White, 29% Black, 12% Latino, 7% Asian, and 2% other race/ethnicities.

There were significant racial differences for estimated White and Black compositions in high school. White participants ($M = 65.04$, $SD = 26.05$) reported attending high schools with greater percentages of White students than Black participants did ($M = 35.37$, $SD = 25.66$), $t(148) = 7.02$, $p < .001$. Black participants reported attending high schools with greater percentage of Black students ($M = 43.79$, $SD = 29.50$) than White participants did ($M = 15.12$, $SD = 16.42$), $t(148) = 7.25$, $p < .001$.

7.4. Composite measures

7.4.1. Music genre composites

Because participants' categorized their five preferred artists into the music genres we used in Study 1, we were table to take the sum of their artists and form 'White-associated genres' and 'Black-associated genres' composites. Participants received two sum scores—one for White-associated genres and one for Black-associated genres. Each composite total ranged from 0 to 5.

7.4.2. Single-measure music exclusivity

Next, we computed a difference score between Black- and White-associated genres to create a single outcome measure of music exclusivity. We subtracted the number of artists listed in White-associated genres from the number of artists listed in Black-associated genres. Scores on this 'music exclusivity' measure range from -5 to + 5. Positive scores indicate liking more artists in Black-associated genres (and fewer in White-associated genres) while negative scores indicate liking more artists in White-associated genres (and fewer in Black-associated genres).

7.4.3. Race-music genre congruence

To label participants as holding either 'race-congruent' or 'race-incongruent' music preferences, we used the music exclusivity composite. Participants who identified as Black and had a positive score (i.e., listed more Black- than White-associated genres) score were labeled as "congruent" while those who had a negative score score were labeled as "incongruent." Participants who identified as White and had a negative score (i.e., listed more White- than Black-associated genres) were labeled as "congruent" while those who had a positive score were labeled as "incongruent." Participants who listed equal numbers of Black and White-associated genres were labeled as "neither." Across the entire sample, 113 participants were labeled as "congruent," 23 were labeled as "neither," and only 14 were labeled as "incongruent."

8. Results

8.1. Racial differences in music preferences

Across the entire sample there were no significant differences in the number of preferences from Black-associated genres ($M = 1.51$, $SD = 1.70$) and from White-associated genres ($M = 1.74$, $SD = 1.84$) that participants preferred, $t(162) = 0.89$, $p = .37$. However, as predicted, Black and White participants preferred the music genres to different degrees. We conducted a 2×2 mixed-model ANOVA with participant's race as the between-subjects factor and number of artists in genre type as the within-subjects factor. There was a significant interaction such that Black participants listed more music in Black-associated genres ($M = 2.72$, $SD = 1.66$) than White-associated genres ($M = 0.51$, $SD = 1.09$) while White participants listed more music in White-associated genres ($M = 2.63$, $SD = 1.66$) than Black-associated genres ($M = 0.63$, $SD = 1.09$), $F(1,148) = 122.01$, $p < .001$, partial $\eta^2 = 0.45$.

To simplify analyses (by moving from two outcome measures to one), we examined differences in participants' music exclusivity composite score (i.e., exhibiting greater preference for one genre type over the other). Using an independent-samples t-test, we compared Black and White participants' scores on the music exclusivity composite measure. Black participants were likely to exclusively prefer music from Black-associated genres, as indicated by their positive mean, ($M = 2.09$, $SD = 2.34$) while White participants' negative mean ($M = -2.09$, $SD = 2.32$) indicated a greater likelihood of exclusively preferring music from White-associated genres, and this difference was significant $t(148) = -11.05$, $p < .001$, $r^2 = 0.45$. The histograms shown in Fig. 3 clearly illustrate how each racial group shows greater and more exclusive preference for music associated with their own racial group. Very few participants listed *more* preferences associated with the other racial group than their own.
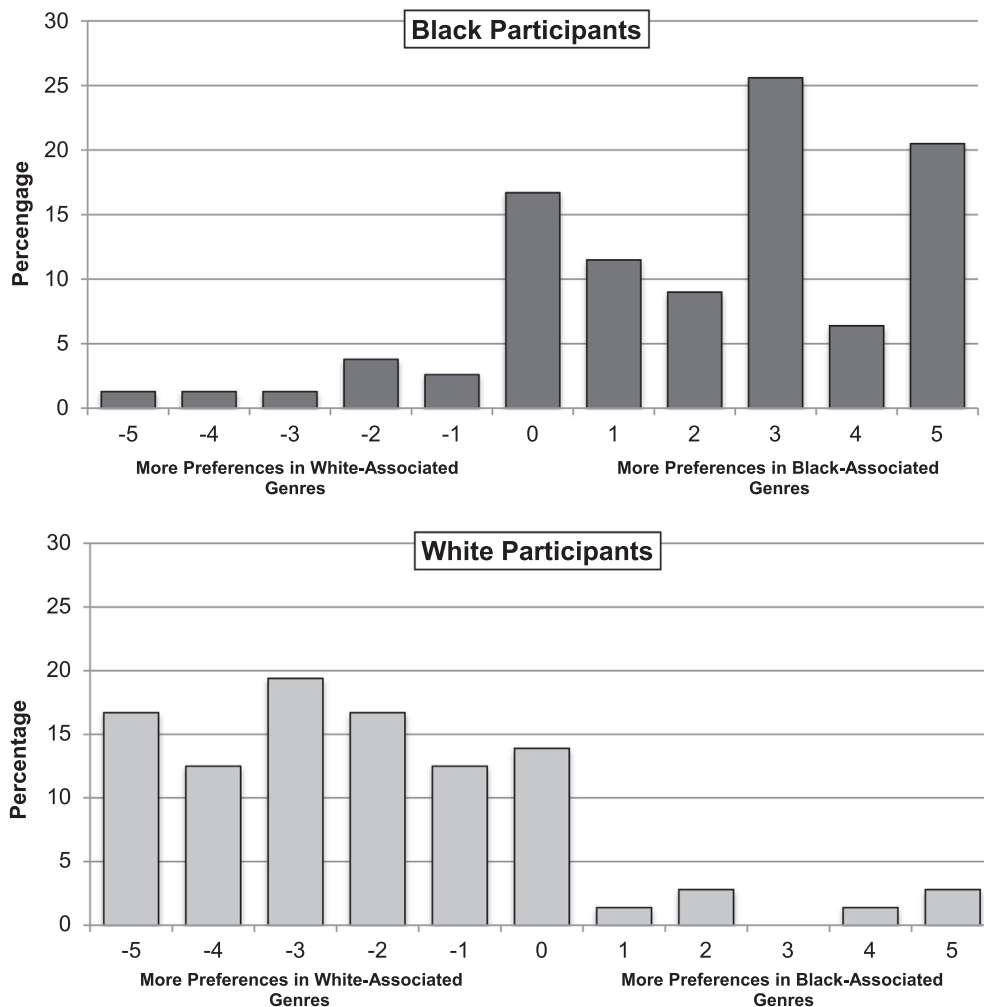

Fig. 3. Histograms illustrating exclusivity in music preferences among Black participants (top graph) and White participants (bottom graph).

8.2. Within-group differences in music preferences

8.2.1. Correlations

We ran bivariate correlations between listeners' music preferences, listeners' demographics, and personality measures including racial centrality, adventurousness, masculinity, and beliefs about existing racial equity. Zero-order correlations among all variables are presented in Table 4.

Replicating Study 1, we found a negative correlation between preferring Black-associated genres and preferring White-associated genres, $r(148) = -.59$, $p < .001$. There were gender differences in music preference; males tended to prefer music from White-associated genres. Greater educational attainment was related to greater preference for music from Black-associated genres and less preference for White-associated genres. There were no age or socioeconomic status differences in music preference.

High school racial composition did correlate with music preferences. Attending a high school with a greater percentage of Black classmates correlated with more preferences from Black-associated genres. Attending a high school with a greater percentage of White classmates correlated with greater preference for White-associated genres. The relationship between race and music preference mirrored these patterns; Black participants attended high schools with greater percentages of Black classmates and fewer percentages of White participants and vice versa (means reported in the Method section).

The relationships between music preferences and personality measures were as expected. Those with higher racial centrality showed greater preference for Black-associated genres and lesser preference for White-associated genres. Participants higher in adventurousness were more likely to prefer Black-associated genres, but adventurousness was not related to preference for White-associated genres. Participants higher in masculinity were more likely to prefer Black-associated genres, but masculinity was not related to preference for White-associated genres. Participants who believed that both racial groups experienced the same access and equity in America also showed greater preference for White-associated genres and lesser preference for Black-associated genres. Notably, Black participants scored higher on racial centrality, adventurousness, and masculinity and lower on beliefs about existence of racial equity suggesting that racial group membership may moderate relationships between personality and music preference.

8.2.2. Multiple regressions

Next, to control for multicollinearity among the variables, we conducted a multiple regression including all of the variables listed in Table 4 to predict differences in the music preference composite in the full sample, and then separately in each subsample. The standardized betas from each of the regressions are reported in Table 5.

The model in the full sample was significant, $F(11, 132) = 14.31$, $p < .001$, adjusted $R^2 = 0.51$. Race remains the strongest predictor of music preferences ($\beta = 0.55$); Black participants preferred Black-associated genres more and White participants preferred Black-associated genres less. Notably, high school racial composition was no longer a significant predictor and likely shared significant variance with the participants' racial identification. However, level of educational attainment remained a significant predictor; the more education the participant had attained, the greater preference for Black-associated genres. The only personality variables that remained significant predictors were racial centrality and beliefs about the existence of racial equity.

The model in the Black sample was also significant, $F(10, 63) = 2.62$, $p = .01$, adjusted $R^2 = 0.18$. The only predictor that reached significance was level of education, $r = 0.40$, $p < .01$, indicating that

Table 5
Standardized betas from multiple regression analyses including all demographic and personality measures.

Predictor variables	Full sample β	Black sample β	White sample β
Race (1 = Black)	0.55**	–	–
Gender (1 = male)	−0.00	0.00	−0.01
Age	−0.03	−0.14	0.05
Socioeconomic Status	−0.07	−0.16	−0.02
Level of Education	0.20**	0.40**	0.17
High School - % White	0.11	0.08	0.12
High School - % Black	0.04	0.06	0.06
Racial Centrality	0.16*	0.24†	0.03
NEO Adventurousness	0.08	0.02	0.11
Masculinity	0.06	0.05	0.16
Beliefs about Racial Equity	−0.15*	−0.22†	−0.18

Higher scores on the music preference composite indicate greater preference for music associated with Black-associated genres while lower scores indicate greater preference for music associated with White-associated genres.
† <.10.
* $p < .05$.
** $p < .01$.

Table 4
Correlations between music preferences, demographics, and personality measures.

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Race (1 = Black)													
2. Black-associated genres	0.61**												
3. White-associated genres	−0.59**	−0.59**											
4. Music Preference Composite	0.67**	0.90**	−0.88**										
5. Gender (1 = male)	−0.24**	−0.13	0.24*	−0.20*									
6. Age	−0.10	−0.15	−0.04	−0.06	−0.22**								
7. Socioeconomic Status	0.09	0.10	0.04	0.04	0.05	0.04							
8. Level of Education	0.12	0.28**	−0.24**	0.29**	−0.09	0.15	0.26**						
9. High School - % White	−0.50**	−0.18*	0.27**	−0.25**	0.11	0.07	−0.07	0.15					
10. High School - % Black	0.51**	0.21*	−0.30**	0.28**	−0.13	0.01	0.06	−0.11	−0.84**				
11. Racial Centrality	0.54**	0.39**	−0.42**	0.45**	−0.32**	0.07	0.11	0.10	−0.34**	0.29**			
12. IPIP Adventurousness	0.17*	0.23**	−0.10	0.19*	−0.01	−0.11	0.17*	0.20*	−0.05	0.14	0.00		
13. Masculinity	0.18*	0.20*	−0.07	0.15	0.41**	−0.14	0.25**	0.10	−0.07	0.06	0.27**	−0.09	
14. Beliefs about Racial Equity	−0.19*	−0.20*	0.24**	−0.24**	0.24**	0.06	0.18*	0.00	0.13	−0.10	−0.01	−0.02	0.35**

$N = 150$, $df = 148$. Higher scores on the music preference composite indicate greater preference for Black-associated genres while lower scores indicate greater preference for White-associated genres.
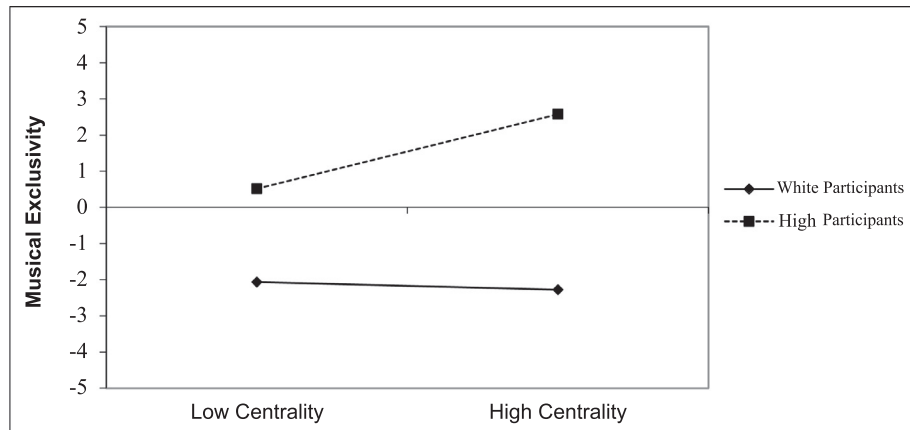* $p < .05$.
** $p < .01$.

Fig. 4. Preference for Black or White music genres as a function of participant's race and racial centrality. Music preference is coded where positive numbers indicate greater preference for music in Black-associated genres while negative numbers indicate greater preference for music in White-associated genres.

Table 6
Differences in meta-perceptions

Meta-perception based on music preferences	Mean (SD)	Mean difference with meta-perception of race	t	p	r²
Race	3.12 (1.38)	–	–	–	–
Level of Education	2.17 (1.15)	−0.95	7.93	<.001	0.29
Gender	2.69 (1.33)	−0.43	3.38	<.01	0.07
Age	2.87 (1.25)	−0.25	1.96	.05	0.05
Personality	2.94 (1.10)	−0.18	1.36	.18	n/a

Note. N = 150. df = 148.

for Black participants, the greater educational attainment, the more they preferred music from Black-associated genres. Both racial centrality and belief in the existence of racial equity approached significance, $ps < .10$. The model in the White sample was not significant, $F(10, 59) = 0.52$, $p = .87$, adjusted $R^2 = −0.08$. None of the predictors approached significance. That there were different patterns of significance within each subsample suggests that race likely moderates these relationships. Therefore, we conducted moderated multiple regressions for the three variables that remained significant predictors in the full sample—education, racial centrality, and belief in the existence of racial equity.

8.2.3. Moderations

The interaction between race and education level was not significant ($\beta = 0.05$, $t(146) = 0.89$, $p = 37$); both race and education remained significant main effects. The interaction between race and belief in the existence of racial equity level was not significant ($\beta = 0.05$, $t(146) = −0.82$, $p = 42$); both race and belief in existence of racial equity remained significant main effects.

The interaction between race and racial centrality was significant ($\beta = 0.14$, $t(146) = 2.27$, $p = .03$), qualifying the main effects of race and racial centrality. Fig. 4 depicts the interaction using simple slopes of racial centrality plotted at −1 SD (low centrality) and +1 SD (high centrality). As shown in Fig. 4, racial centrality was not related to musical preference for Black- or White-associated genres for White participants, but was for Black participants. Among Black participants, the higher their racial centrality the more they preferred artists from Black-associated genres.

8.3. Meta-Perceptions based on music preferences

8.3.1. Comparison of meta-perceptions

In order to test if participants were aware that their musical preferences could serve as identity cues for their racial identity, we ran a one-way repeated-measures ANOVA comparing answers

on the meta-perceptions questions. The omnibus F test was significant, $F(3.78, 613.09)$[3] $= 18.96$, $p < .001$, suggesting that there was at least one significant difference among the five meta-perceptions. As shown in Table 6, participants believed that strangers would be most likely to be able to judge their race, followed closely by their personality, on the basis of their music preferences. Follow-up paired samples t-tests revealed that participants believed that a stranger would not be able to guess their race any better than their personality, but would be less able to judge their level of education, gender, and age based on their music lists. T-tests between Black and White participants indicated that there were no racial differences in meta-perceptions for either race, $t(148) = 0.77$, $p = .45$, or personality, $t(148) = 1.05$, $p = .30$.

8.3.2. Meta-perceptions as a function of race-congruent preferences

Next, we divided the sample using our race-music genre congruence categorization into participants who held race-congruent preferences ($n = 113$), race-incongruent preferences ($n = 14$), and those listing equal numbers of Black- and White-associated genres ($n = 23$; labeled as 'neither'). Using a 2 × 3 mixed-models ANOVA, we examined whether congruence categorization (between-subjects) interacted with meta-perceptions for racial judgments and personality judgments (within-subjects factor). There was a significant interaction, $F(2,147) = 9.52$, $p < .001$.

As shown in Fig. 5, there was a linear trend illustrating that race-congruent participants ($M = 3.45$, $SD = 1.29$) held the highest confidence in strangers' ability to judge their race from their music preferences and race-incongruent participants held the lowest confidence in strangers' racial judgments ($M = 2.07$, $SD = 1.07$), $F(1,147) = 14.33$, $p < .001$, $d = 1.17$. Notably, participants with race-incongruent preferences and participants in neither category believed that strangers would be less accurate in judging their race,

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[3] Because Mauchley's test of sphericity was significant, $p < .001$, and we could not assume equal variances, the results are reported with the Huynh-Feldt correction.
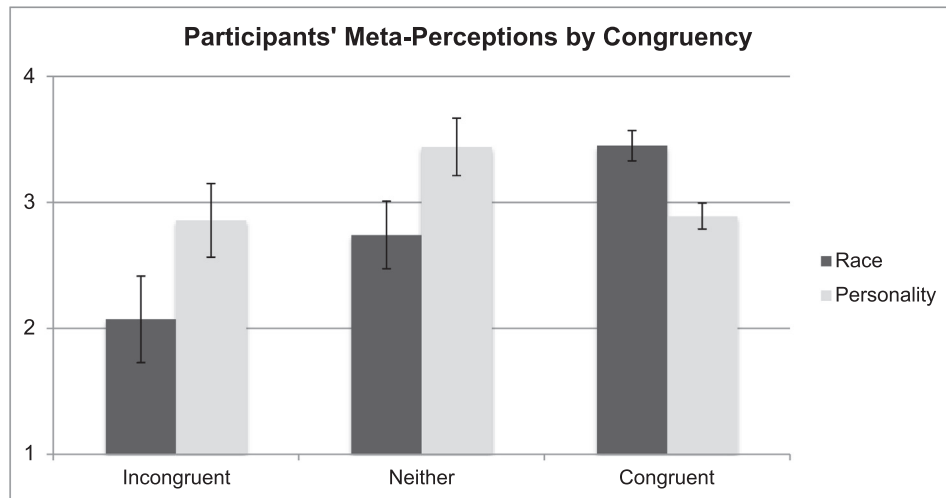
Fig. 5. Participants' ratings of how well strangers could assess their race (dark gray bars) and their personality (light gray bars) from their music preferences based on whether those preferences were congruent with their actual racial group membership.

but more accurate in judging their personality from music preferences. Participants that were neither category believed strangers could judge their personality better than both those categorized as congruent and incongruent.

9. Study 2 discussion

In Study 2, we narrowed our focus to examining differences between self-identified Black or White Americans to better understand preferences for different music genres and whether participants thought their music preferences accurately conveyed their racial identity. Replicating Study 1, we found that Black participants do in fact prefer more music in genres such as soul and rap/hip hop and White participants prefer more music in genres such as rock and country. In addition, we replicated a strong negative correlation between preferring genres associated with White Americans and preferring those associated with Black Americans. Furthermore, only 15% of participants listed equal amounts of music preferences from both types of genres and only 10% of participants listed more preferences associated with the racial group they did not identify as. Said differently, 75% of the participants' music preferences were categorized as congruent with what is socially associated with their racial group and there was little within-group variation.

Although only a few listeners crossed the figurative music "color line" we examined several possible explanations for within-group differences in music preference. We also replicated findings from Study 1 showing that racial centrality correlated with music preferences among Black participants. Finally, we extended Study 1 findings by showing that higher educational attainment and lower belief in the existence of racial equity were also correlated with greater preference for music in Black-associated genres.

When examining the correlates within each racial group, we found that the overall effects differed within each group. Among the Black subsample, level of education remained the strongest predictor for preferring music from Black-associated genres, while higher racial centrality and lower belief in racial equity explained some variance. One possibility for the relationship between education and Black-associated genres is that Black Americans may feel especially marginalized as they acquire more education, as many colleges are made up of predominantly White students with largely White, middle-class values (Covarrubias, Herrmann, &

Fryberg, 2016; Stephens, Townsend, Markus, & Phillips, 2012; Walton & Cohen, 2007). In addition, some Black students who excel academically are accused of "acting white" (Fordham & Ogbu, 1986). Perhaps music can be used to create and maintain a strong Black identity in contexts in which an individual feels they are becoming culturally distant from an important racial group, such as contexts of higher education. Future research can investigate whether music can be used by marginalized group members to cope in majority contexts.

Among the White subsample, we found that the initial correlates (education, racial centrality, and belief in racial equity) no longer remained significant. As discussed earlier, there is limited research on White participants' attachment to, and performance of, their own racial group. As shown in Fig. 4, racial centrality among Whites held no explanatory power with music preferences. The other possible explanatory variables, level of education and belief in existence of racial equity, correlated in the same direction as in the Black subsample, but were weaker and not significant (see Table 5). This may suggest that Whites exposed to postsecondary coursework have their beliefs about meritocracy, egalitarianism, and equity challenged, thus developing improved understanding of the ethnic minority experience and showing greater appreciation for music in Black-associated genres (see Brannon & Walton, 2013). However, these explanations are speculative; very few White listeners showed greater preference for Black-associated genres than White-associated genres. Future research will need to include targeted recruitment of White participants who publicly prefer Black-associated genres, such as at concerts or fan spaces online.

As a final step, we also explored whether participants thought strangers could judge their race simply from their music preferences. Differences in meta-perceptions showed that participants believed their music preferences communicated their race and personality best, but gender, education level, and age less well. Notably, participants who held race-congruent preferences believed that strangers would be most accurate in judging their race, even more so than their personality. Participants with race-incongruent preferences believed strangers would be better at judging their personality than their race. In other words, those with racially incongruent preferences were aware that their music preferences were not typical for their racial ingroup. These findings suggest that even people who do not fit the prototypical ingroup mold have some self-awareness in how others may perceive or misperceive them. Given the strong association between race and

specific music genres, some people may be less willing to reveal their music preferences because they fear being miscategorized or misperceived. Moreover, this may stop music fans from listening to, enjoying, or publicly preferring music genres that are not congruent with their racial ingroup, in order to avoid committing a social transgression.

10. General discussion

Taken together, the results of these two studies suggest that one's racial identity does have some influence on music preferences. Further, those music preferences also act as significant cues to a person's racial identity, serving as evidence of the strong social associations that exist between certain genres and certain racial groups. Therefore, those few participants who "crossed the color line" and included preferred genres of another racial group were thought to identify with a different racial group than their own. To explore why some people might have more diverse music preferences, we examined individual differences in racial centrality, masculinity, and adventurousness as well as differences in high school racial composition and education level. In multiple regression analyses, race still remained the strongest predictor of music preference. In follow-up analyses, within-group differences were better understood within the Black subsample, particularly as they related to racial centrality, than the White subsample.

10.1. Understanding Black americans' music preferences

Across two studies, we replicated the pattern of effects showing that stronger racial centrality is correlated with greater preference for music in Black-associated genres and weaker preference for music in White-associated genres. This effect held most strongly within the Black subsample. For those most identified with their Black identity, music appears to be strongly linked with one's race. There are several possible explanations for why race is a particularly important predictor of music preferences among Black individuals.

First, past research has suggested that music preferences can serve to validate a person's experiences (Sullivan, 2003). Given that many of the music genres associated with Black Americans touch on themes related to being an oppressed group, it is no surprise that highly identified individuals relate to and enjoy these styles of music. Furthermore, one's music preferences may be used to communicate the centrality of one's race. Past research has shown that music preferences act as symbolic badges to convey similarity and commitment to peers and other ingroup members (Frith, 1981). Certain genres' strong associations with Black Americans make them particularly useful badges of racial identity.

In this vein, another possible explanation relates to the concept of self-stereotyping, a psychological process situated within Self-Categorization Theory (SCT; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). Self-stereotyping describes the process of trying to move toward or emulate the prototypical ingroup member of a social group that a person strongly identifies with (van Veelen et al., 2016). In most self-stereotyping studies, self-stereotyping is operationalized as rating one's self similarly to an ingroup stereotype. For example, Latrofa, Vaes, Cadinu, and Carnaghi (2010) found that members of low-status groups (e.g., females, but not males) were more likely to ascribe stereotypically-feminine traits as self-descriptive in an explicit task as well as categorize stereotypic traits much more quickly in an implicit task. In terms of music preferences, we have demonstrated that people hold strong associations between the genres of hip hop, rap, and soul/funk and being perceived as Black. Therefore, strongly-identified Black individuals may be motivated to mirror the proto-

typical music preferences as a way to show pride and affiliation with their ingroup (e.g., van Veelen et al., 2016).

The results from Study 2 support the idea that participants might be self-stereotyping since they indicate that people are very aware when their music preferences overlap with those considered prototypical for their racial group. Participants whose music preferences were congruent with those associated with their racial group presumed that others would be able to guess their race, whereas those whose music preferences were incongruent with those associated with their racial group were aware that their music would not be a very good indicator of their racial identity. Therefore, it is clear that people have an idea of how much their tastes overlap with those of a prototypical, or stereotypical, racial ingroup member. Notably, for the few individuals whose music preferences were incongruent with their race, they presumed others would be better about judging their personality more than their race.

Self-stereotype research has also shown that individuals with high ingroup identification are less susceptible to identity threats while those with low ingroup identification try to distance themselves from appearing to have stereotypical ingroup characteristics (Spears, Doosje, & Ellemers, 1997). This may be why Steele and Aronson (1995) found that when some Black participants' experienced stereotype threat, i.e., had negative Black stereotypes activated, they momentarily distanced themselves from stereotypic hobbies such as liking rap or playing basketball. Considering this, weakly-identified Black individuals may feel threatened about being negatively stereotyped due to their race so they may distance themselves from the prototype by expressing greater preference for music from other genres such as rock, alternative, or heavy metal.

Another related phenomenon—having one's identity denied—may be relevant to strongly-identified Black individuals. *Identity denial* refers to a perceiver denying or minimizing the strength of another's social identity, typically race or ethnicity, because they are non-prototypical (Cheryan & Monin, 2005). One clear example of identity denial is being chastised for "acting White" (e.g., Fordham & Ogbu, 1986), a phrase considered to be an extremely derogatory insult (Neal-Barnett, Stadulis, Singer, Murray, & Demmings, 2010). Black participants with high levels of racial centrality may be especially sensitive to having their racial identity denied (colloquially referred to as having one's "Black card"[4] revoked). As a result, they may be very cautious about how they present themselves to others, feeling pressure to "act Black" and not "act White." For example, they may go as far as concealing their interest in other music genres not commonly associated with Black Americans.

Overall, these possible explanations suggest that Black individuals may be thoughtful about how they present their music preferences to others, taking special consideration if they share their preferences with other ingroup members. Future research can investigate what the consequences are for those who prefer music outside of those usually associated with one's racial group. For example, Black Americans who like rock music may feel the need to defend their tastes or struggle with feeling like an outsider. Take Martin Douglas, a Black American columnist for MTV who writes about rock music: "When I listened to rock music as a kid, it often felt like I was sneaking past the guards of racial barriers and into a cool party I wasn't invited to," (2013). It seems that music preferences are not based just on individual taste, but may be largely shaped by what is socially acceptable for one's social identities, such as race. For psychologists interested in how popular culture and identity reflect one another, it would be important to examine

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[4] The online urban dictionary (https://www.urbandictionary.com/define.php?term=black%20card) defines this as: "An imaginary card that all black people are born with and that mixed people have to earn that is constantly under threat of being revoked if said black person does not act black enough or in proper black ways."

how Black Americans perceive other Black listeners' music preferences that are race-congruent or race-incongruent to see if the threat of identity denial occurs in this context and what individuals do to prevent or cope with identity denial.

10.2. Understanding White Americans' music preferences

In our two studies, we found that White participants were more likely to prefer rock/alternative and country/folk and less likely to prefer rap/hip hop or soul artists. In addition, in Study 1, raters used those genres to judge, with some accuracy, which participants were White. Although there were clear variations in music preference, there were less clear explanations for why some White individuals might prefer music from Black-associated genres. In Study 2, we tested whether these individual differences could be explained by differences in racial centrality, masculinity, or adventurousness. None of these measures held any explanatory power among the White subsample. We also explored whether differences in high school racial composition may have exposed some White individuals to more diverse settings. However, we found that both Black and White participants were likely to attend schools with largely same-race student populations and there was no relationship to music preferences.

One possible explanation for Whites' lack of music preferences in Black genres may have to do with racial bias or negative racial attitudes. Bryson (1996) examined the diversity of participants' musical preferences and categorized people into those who were musically tolerant (i.e., liking many musical genres) and those who were musically exclusive (i.e., liking few genres). She found that Whites who had exclusive preferences were more likely to dislike genres disproportionately preferred by racial minorities. Furthermore, this musical exclusivity correlated with more racist attitudes. Bryson argued that this musical exclusion is one way in which individuals can acceptably express their dislike for a racial group without appearing overtly bigoted—a phenomenon similar to the psychological concept of aversive racism (Gaertner & Dovidio, 1986). Similar to Bryon's findings, Reyna et al. (2009) found that anti-rap attitudes correlated with anti-Black racism.

The closest proxy to racial attitudes in the present research is the "belief in racial equality" measure included in Study 2. We found that a greater belief that Whites and Blacks experience equitable access and opportunity to succeed in America was related to more music preferences in White-associated genres and fewer in Black-associated genres. Therefore, White Americans' music preferences could be a conscious or unconscious expression of their implicit attitudes for various racial outgroups. However, this relationship was not significant when analyses were run for each subsample, implying that the effect is small but does hold across racial groups. Further research could investigate the role of critical consciousness or awareness of racial inequity in the formation of music preferences and willingness to be exposed to and publicly prefer music associated with other racial groups.

10.3. Lack of personality correlates

Although our current research extends previous work (Rentfrow & Gosling, 2003, 2006), we did not find that personality measures correlated well with the various genres across the sample in Study 1. In addition, the raters were not able to accurately judge the participants' personalities from their music preferences, which does not correspond with previous findings (Rentfrow & Gosling, 2003; Rentfrow & Gosling, 2006, Study 2). However, our methods differ in significant ways and may explain why some of our findings differ from past work. Specifically, we intentionally did not use the STOMP as it aggregates across genres that we categorized into Black-associated or White-associated genres. For

example, the reflective/complex dimension includes two White-associated genres (classical and folk) and two Black-associated genres (blues and jazz) and is strongly correlated with the dimension of openness. Therefore, it could be that some genres have underlying personality correlates that we muddled when organizing genres by racial association. However, given that the original studies used majority White samples future research should evaluate whether personality correlates differ by race within each of the four STOMP categories and across each individual music genre. For example, Whites who are more extraverted may show greater preference for rap/hip-hop, but extraversion may not be correlated with liking rap/hip-hop within a Black sample.

Another difference between the current research and past research is the method by which our judges formed their impressions of race. In Study 1, our naïve raters made judgments based on each participant's list of preferred artists or favorite songs. This required the raters to make inferences about the broader musical genres and relied on their knowledge of musicians and genres. This method differs substantially from that used in Rentfrow and Gosling (2006) where naïve judges listened to a compact disc of the listener's ten favorite songs and then made ratings of personality (but not race). Listening to the actual songs exposes judges to far more information such as the song's tempo, melody, and content and tone of the lyrics. These additional cues likely provided more nuanced information that may have led to greater accuracy in their personality judgments. Again, our research differed because we were primarily interested in naïve raters' ability to form accurate racial judgments based on spontaneously created lists that better mimic a typical getting-to-know-you interaction in which strangers discuss their music preferences.

We would argue that actually being exposed to and listening to the songs a person likes comes with longer acquaintance. When first meeting, people are more likely to make snap judgments based on the minimal, but meaningful, information provided by broader music genres, artists, or songs mentioned in everyday conversation. We have demonstrated that genre/artist/song cues carry enough information to provide meaningful information about race. As one reviewer suggested, future research could examine whether naïve judges could form more nuanced impressions of personality if they knew the listener's race. For example, would naïve judges evaluate the personality of a Black listener who likes rap/hip-hop differently than a Black listener who likes soul/funk? Again, we would argue that this type of study would require much more targeted recruitment at music festivals or through online channels because most listeners have overlapping music preferences. Instead, we suggest an experimental study that manipulates the target's race and specific genre preferences and measures judge's evaluations of personality and racial centrality.

10.4. Music preferences indicate different social worlds

One implication of these findings is that diverging musical tastes can lead different racial groups to exist side by side but live within vastly different social worlds. Music preferences, and spaces in which that music is enjoyed, may demarcate spaces in which people are segregating themselves and leaving little chance for meaningful interracial interactions. Perhaps it is the case that crossing the racial music line leads to rejection from both one's racial ingroup and the racial outgroup —those who see the individual as leaving the group and those who see the individual as trespassing into their group. Take the case of Beyoncé, a massively popular Black artist sometimes categorized as pop and other times as R&B, who performed her own country-inspired song with the White, female trio country band The Dixie Chicks at the Country Music Awards in November of 2016. Many conservative country fans were outraged at Beyoncé's presence on "their" awards show

and the Dixie Chicks were practically labeled as traitors for bringing her onstage (Roberts, 2016).

This implication sounds much like that of Denisoff and Levine's conclusion in 1972, who noted: "The notion of mass culture as used by both proponents and opponents alike has suggested that homogenization will lead to some form of 'melting pot' or consensus…Our study is but one further indication that the existence of two apparently antagonist racial units will greatly offset any form of conscience collective at least in the cultural sphere…" (p. 253). The idea that music alone may bring people together across racial lines may be unrealistic due to music's ties to racial identity and specific racial histories. Recent research has shown that music can be a way to reduce prejudice, but it requires a friendly and extended interaction between people of different racial groups (Brannon & Walton, 2013). Those findings tied with Rentfrow and Gosling's findings that *listening* to another person's top ten favorite songs (2006, Study 2) can convey an individual's personality traits suggests that music alone may not be able to create a "melting pot" of tastes, but that music may be able to play an important role within more intimate interactions between people of different racial groups.

10.5. Constraints on generality and future directions

Our samples were college students in a highly selective college in southern California (Study 1) and Black and White Americans across the United States who have an interest in taking online surveys (Study 2). These samples limit how much we can generalize to the American population at large, and of course to those outside of the U.S. However, college students are often meeting new people and getting to know them, making them a good sample to use for this type of research. In Study 2, we were able to get a slightly older sample from more diverse regions of the country and replicated the predictive power of race as the college sample, at least for Black and White participants. Obviously, there are more than just White and Black Americans whose racial identities might be conveyed via music preferences. Therefore, more research should examine the choices that non-Black ethnic minorities make given that there are fewer musical genres in mainstream music that are associated with these racial groups (see Study 1). Music may play a different role in how members of these groups come to understand and communicate their racial identities. Racial minorities that are not Black may be drawn to genres that are associated with Black Americans in a demonstration of identifying as racially oppressed or may be drawn to music genres associated with White Americans as a demonstration of their motivation to assimilate to White culture. Or perhaps their music preferences are more influenced by the racial make-up of their neighborhoods. As more culturally diverse music genres become popular, perhaps non-Black minority group members will turn to music as one way to keep a strong bicultural identity (Benet-Martínez & Haritatos, 2005)—one that is both American as well as a racial minority group member with a specific history in the United States.

Future research could also examine the degree of musical tolerance versus exclusivity in all racial groups as it may differ for majority and minority group members. For example, among racial and ethnic minorities, musical exclusivity to ingroup genres may correlate with a stronger racial centrality, stronger attitudes toward racial separation (Berry, 1990), or stronger nationalist or minority ideologies (Sellers et al., 1997). In contrast, ethnic minorities with more eclectic and musically tolerant tastes may express more bicultural attitudes (Berry, 1990) and experience greater ease "cultural frame-switching" in social situations (e.g., Benet-Martínez, Leu, Lee, & Morris, 2002). Finally, ethnic minorities who prefer musical genres of a racial outgroup may hold weaker racial centrality or endorse an assimilationist ideology. Results

from both studies provide initial support for the former—Black participants whose music preferences were more similar to White preferences did hold weaker racial centrality compared to Black participants with race-typical preferences.

Other aspects of one's social identity, such as social class or regional differences, may also influence the type of music people prefer. Preferences for our genre groupings did not correlate with socioeconomic status, but this could be because music styles vary so much within each group, and we were only interested in how they were associated with specific racial groups. One aspect of music preferences that we did not take into account was region of the country in which participants live. Snibbe and Markus (2005) found that White participants from different social classes preferred music genres that communicate different cultural values. Working class Whites were more likely to prefer country music with its interdependent messaging while middle class Whites were more likely prefer rock music with its independent messaging. These social class differences also likely correlate with regional differences in the United States. In addition, regional pride, for example being proud of living in a rural area or an urban area, and which music genres reflect that pride may also shape people's music preferences. How identity can be communicated with shared regional knowledge, and how one's identity can be *mis*communicated without shared regional knowledge, should therefore be further explored in future research.

11. Conclusion

Music taste is not simply based on what sounds objectively best to one's ear. Developing and sharing one's music preferences is also an identity process due to the associations that specific genres have with certain social groups. Our findings follow decades of research that demonstrate that race is one of the biggest predictors of one's music preferences. People hold strong racial associations with different genres of music and can therefore use them as a communication tool about one's own race and even the strength of one's racial identity. Researchers should further investigate the ways that pop culture preferences are ways to develop important social identities and communicate them to the world.

Conflict of interest

The authors have no competing interests to declare.

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