REFRAMING AESTHETIC EXPERIENCE: THE INFLUENCE OF RACIAL BIAS, OPENNESS AND COGNITION ON PAINTING PERCEPTION

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A DISSERTATION

Submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy
in the Department of Psychology
in the in the Graduate School of
The University of Alabama

TUSCALOOSA, ALABAMA

2023

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ABSTRACT

The present study explores whether executive functioning, openness to experience and implicit and explicit racial bias influence painting judgements. Black and White adults (aged 30-66) and young adults (aged 18-29) evaluated paintings by Black and White artists and responded to items on like, comfort, valence, and value additionally, they completed a 44-item Big Factor Inventory, the Stroop task, the Implicit Association Test (IAT), and the Symbolic Racism Scale. The results yielded statistically significant interactions between Race and Art Type on the dimensions of comfort, like and value. Specifically, White participants were less comfortable with, liked and valued Black Mainstream and Black Political art less. Additionally, White participants compared to Black participants were more likely to use racialized language when describing art in the Black Mainstream and Black Political categories. These results were consistent with expectations. Moderation analyses determined that age did not moderate any of the effects. Meaning, age in this study was not a significant factor contributing to participants ratings of paintings, this was inconsistent with expectations. Additionally, a moderation analysis determined that age, explicit and implicit racial bias, inhibitory control, and openness did not moderate the effects of the Race x Art Type interaction, meaning that racism, personality, and cognitive ability were not significant contributors to ratings of art among participants. This research supports the need for future research that explores intracultural differences in art perception and the underlying factors contributing to these differences.

DEDICATION

This dissertation is dedicated to the little girl from 3634 Oak St. who dared to dream, to my parents Robert Jr. and Trina who planted seeds of educational attainment and watered them, to my brother and sister Robert Sean and Chasady for whom I thoughtfully forged a path; and to the host of ancestors – Leola, Elbert Sr., Barbara Jean, Robert Sr., Elbert Jr., Keon, Keona, and many others that I cannot name – who have been the wind at my back. Lastly, to my nephews, niece, and son – Kyron, Devonna, Kayson, and Xavier – may you know no boundaries to what you can achieve and may the great cloud of witnesses who have guided me, guide you as well. I am because you are and because you are, therefore, I am complete.

LIST OF ABBREVIATIONS AND SYMBOLS

a	Cronbach's index of internal consistency
df	Degrees of freedom: number of values free to vary after certain restrictions have been placed on the data
F	Fisher's F ratio: A ration of two variances
M	Mean: the sum of a set of measurements divided by the number of measurements in the set
p	Probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value
r	Pearson product-moment correlation
t	Computed value of t test
<	Less than
=	Equal to

ACKNOWLEDGEMENTS

To my committee who have graciously extended their minds, hands, and hearts to help develop my scholarship, thank you! I am forever grateful to my advisor and committee chair, Dr. Sheila Black for believing in me and encouraging the development of my research interests. To my mentor and friend Dr. James Kaufman, thank you for acknowledging the importance of this work and for being a guiding light at the end of the tunnel when I needed it the most. To Kirill, thank you for your mentorship and guidance on how to make sense of the data. To my undergraduate assistant, Cherith Sims, your diligence in assisting with data clean-up was invaluable – thank you for committing a semester to this project. To Drs. Emily Bibb and Stacy Morgan, thank you for sharing your expertise on Black art. To my confidants who have encouraged me throughout my journey and have challenged and elevated my thinking – Dr. Vincent C. Allen Jr., Roderick Borisade and Willie Porter Jr. – I have become better because of you, thank you! To my graduate school sisters – Dr. Cameryn Blackmore, Danielle McDuffie and Teairra Evans – to know I've gained you as life-long friends has made every moment of my doctoral journey worthwhile. I wish you all love and continued success. To my sisters of Delta Sigma Theta, thank you for always having my back and holding space for me. To Destinie, I appreciate you for being in the trenches – for celebrating every achievement and for holding me up when the weight of the process seemed too much to bear. I would not have wanted to do be on this journey without you. Thank you for being a constant in a world of inconsistencies.

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INTRODUCTION

Background

Implicit racial biases are beliefs, encoded in memory, about people belonging to a racial group other than one's own, that are formed unintentionally and outside of conscious awareness (Devine, 1989; Del Pinal & Spaulding, 2018). Historically, Black people in America have been the target of biases (Gonsalkorale et al., 2009; Amodio & Mendoza, 2010) with their phenotypical trait of skin-color (e.g., Black) being firmly tied, in American consciousness, to negative semantic concepts (e.g., violent) (Kahn & Davies, 2010). One of the earliest examinations of biased racial associations was presented in Clark & Clark (1940). This study reported that anti-Black and pro-White associations are formed by age 6. Recent research supports that despite best efforts, it is difficult to change early formed racial associations in adulthood (Baron, 2015) and even if one had a goal of doing so, cognitive inefficiency (might make reversing these associations difficult (Plant & Devine, 1998). Cassidy et al., 2020 suggests that for some older adults with low executive functioning it is useful to maintain anti-outgroup bias, as doing so facilitates the strengthening of in-group bonds.

Executive functioning, often described as an age dependent variable that is higher in younger adults and lower in older adults, has been closely linked in literature to both explicit and implicit racism, as cognitive ability is the filter of racist ideas; cognition, if efficient suppresses such ideas, or if inefficient it makes them more pronounced. The activation of biases negatively impacts intergroup interactions (Gonsalkorale et al., 2008) and is largely dependent on a person's

available cognitive resources and motivation to have positive intergroup interactions. A person with such motivations would have to be open to experience. Openness to experience is also linked in literature to explicit and implicit racism. People higher in openness are identified as less likely to be either explicitly or implicitly racist. Openness is also connected to age as older adults are less open to experience than younger adults.

Explicit and implicit racism is more likely to be expressed by older adults (Czarnek et al., 2015). With White older adult males identified in literature as the cohort that expresses the most anti-Black bias (Assari, 2018)

The stability of anti-Black associations across the lifespan is evident in relation to people perception. However, what is unclear, and relatively unexplored empirically, is how anti-Black biases influence the judgements of products that depict Black people such as representational paintings, and how this activation might be moderated by other factors such as openness to experience, age, and executive functioning ability.

This is an important issue to examine for several reasons; (1) implicit bias and aesthetics research have both identified the existence of underlying social determinants whose potential overlap has not yet been empirically examined (Payne et al., 2017; Pelowski et al., 2017; De Houwer, 2019); (2) both implicit racial bias and aesthetics research report that bias activation is dependent on the evaluation of visual stimuli; (3) openness to experience (Sibley &Duckitt, 2008), age cohort (von Hippel, 2007) , and executive functioning ability (Diamond et al., 2012) have all been independently explored for their relationship to bias activation, but have not been collectively examined. Thus, the present investigation fills this gap by examining the influence of age, openness to experience and executive ability on the activation of biases during the painting judgement.

Implicit racial bias literature examines biases in a variety of areas to include policing (Wilson, Hugenburg, & Rule, 2017) healthcare (*for a systematic review see* FitzGerald & Hurst, 2017; Chapman; Kaatz & Carnes, 2013), law (Levinson, Young, & Rudman, 2012.), education (Warikoo et al., 2016) and everyday person perception (Hugenberg & Bodenhausen, 2003). The methodological approach across various implicit bias examinations is to asks respondents to make judgements about a type of imagery (i.e., photograph, video, digitized image) with the goal of providing information about their racial attitudes.

Images used as stimuli in implicit bias research are typically images of faces (Greenwald & Banaji, 1995; Dasgupta & Greenwald, 2001; Joy-Gaba & Nosek, 2010), bodies against an objectless background (Wilson, Hugenburg, & Rule, 2017) or grainy video (Birck, 2018). Only a handful of studies examines people within a context that visually resembles a real-world scene.

Correll et al., 2014, for example, investigate the effects of a targets race on the decision to shoot using a computer-based simulation of a police encounter. Instead of presenting faces or bodies out of a context, they were presented in the context of an interaction. Similarly, a study conducted by Wittenbrink et al., 2001 supports that context matters in the activation of biases as their investigation determined that Black targets are evaluated more positively when they are placed in front of positive backgrounds (e.g., family gathering) vs. negative ones (e.g., gang gathering). Lai et al. (2013) found that the combined contexts of social role and place influence peoples biases. In this study a Black target was presented within a prison scene as either a lawyer or a prisoner. The Black lawyer elicited more positive evaluations than the Black prisoner.

The choice of stimuli used in these studies is a departure from stimuli used in other implicit racial bias studies. It is more comparable to the way people are presented in representational paintings, within a broader context. Afterall, people behaving with bias, are not responding to a

section of a person's face (i.e., eyes, nose, lips), as presented in the race IAT (Greenwald et. al., 1995) or digitized images as presented in Wilson, Hugenburg & Rule (2017), or low-resolution video as presented in Birck (2018). In society, people are responding to people presented in the scene of their physical environment. Therefore, more investigations that examine biases in a variety of real-world replications is needed. This study does so in the context of paintings.

Research Gap

Biases Connected to Personality, Age, Social and Cognitive Factors

Biases are perceptual responses resulting from a complex system of cognitive and behavioral processes. They are not static constructs (Schmader et al., 2022) and have a different facets, pathways, and forms of expression. They are produced by people who are dynamic in their personality, cultural and cognitive make-up. Biases have been linked empirically to other factors such as personality (Sibley & Duckitt, 2008), age cohort (Czarnek et al., 2015; Cassidy et al., 2020, and executive functioning ability (Plant & Devine, 1998). According to Sibley & Duckitt (2008) personality is connected to bias activation as people who are high in openness tend to be low in prejudice as the willingness to expose oneself to other cultures limits likelihood of anti-outgroup bias. Czarnek et al. (2015) & Cassidy et al. (2020) report that age is related to bias in that older adults tend to be more biased than younger adults as a function of their diminished cognitive ability and motivation to increase in-group connectedness. Plant & Devine (1998) contend that older adults can control or downregulate biases if they have enough cognitive resources indicating the relationship of cognitive ability to biases. The combined influence of each of these on the activation of biases is a clear gap in literature. Additionally, examining these concepts in relation to their contribution to bias activation in painting judgement is another. Both gaps are addressed in this study.

Study Aims

The present study was a follow up to a pilot study that examined the differences in White and Black participants judgements of art by Black and White artists, which found statistically significant differences in White's comfort and impression of Black mainstream art. This study's primary aim was to investigate factors believed to be contributing to this difference. Specifically, it explored how personality, executive functioning, age cohort, and racism influence the activation of racial biases during the process of art evaluation.

Research focus

This study utilized implicit racial bias theory to examine racial (Black - White) and age cohort (Young -Old adult) differences in people's ratings of paintings. This research, much like that of implicit bias scholar Jennifer Eberhardt and her colleagues (2004, 2006) is inspired by the many cases, past and present, of unjust police brutality acted on by unarmed Black persons by armed White police officers. These incidents, particularly in the present era where egalitarianism is normative, show the degree to which biases are activated during person perception and have profoundly influenced the central question underlying this work which is: *are the same biases that are activated during person perception also activated during the process of art perception, and if so, what factors are moderating the perceptual outcomes.*

Study Outline

This *aesthetic experience bias activation* hypothesis was the foci of the study. Specifically, the effects of executive functioning, personality, and explicit and implicit racism on judgements of paintings was examined. In the remainder of this document, we will review relevant literature, present findings of a pilot study, introduce a methodological outline, and present results and implications for the current study.

Historical Context for Present Examination

The present-day systematic maltreatment of Black people in American society is rooted in a history of oppression, degradation, and discrimination against members of this group. Black people have collectively been labeled, *unattractive, unintelligent, uncivilized, dangerous*, and *menacing*. These baseless labels have been perpetuated through oral traditions, laws, and mainstream media, so that in the societal hierarchical order of things, Blacks might be relegated to their *place* in a social caste (Wilkerson, 2020) as inferior to Whites as supported by these language associations.

Blackness, in many ways, has been a construction, that by design, was intended to exist beneath, a *greater* construction, Whiteness. Internalizing this racial paradigm is an unspoken rite of passage in American society (Kendi, 2017).

As illustrated by the landmark Clark & Clark doll tests (1940), by the age of six an American child, regardless of their race, knows to associate Blackness with negative attributes and Whiteness with positive attributes. That this concept is understood by a child, is an exemplar of how deeply engrained racial perceptions are within the American consciousness, how early they are adopted, and the degree to which a conscious and motivated adult would have to work to undo this learning.

The associations of Blackness with negative and Whiteness with positive is the foundational dichotomy to our social and economic systems. It is the ideology that allowed the *blacks as free labor* system of American chattel slavery to thrive. It is the ideology at the center of the Jim Crow laws which prevented Blacks from having equal access to high-paying jobs, and the ideology that supported the separate-but-equal mandate during the Civil Rights era that limited

Blacks' access to quality housing and education – two critical components of wealth building. It is the ideology of explicit racism, as it existed in an explicitly racist society. Consequently, it is also the ideology of implicit racism as it exists in a more egalitarian society, that suffers from the ability to fully rid itself of the byproducts of its racist constructions.

Illustration - Bias Activation During Two Real-World Instances of Person Perception

Implicit biases, as defined by researchers Greenwald & Banaji (1995), who introduced the term, are unconscious associations that people have about members of underrepresented groups. Often biases against groups are not detectable when looking at a one-off situation however, if two analogous situations are examined comparatively, where most factors are similar except for race, it can be deduced that race influences differential outcomes. Therefore, here I present *a tale of two images* in the cases of Tamir Rice and Dylan Roof, two societal person-perception events that occurred within the last 15 years. In the two incidents police perceived and acted on two individuals, Rice, and Roof, racially identified as Black and White respectively. However, despite the similarities, these scenarios led to two very different outcomes: the killing of Tamir Rice and the apprehension of Dylann Roof. An examination of the details of each incident points to issues of perception, and interpretation of a visual stimulus, that I believe are connected to racial biases.

Tamir Rice

On November 2, 2014, Cleveland, Ohio Police Officer Timothy Loehmann responded to a 911 call about a "male who had a gun." On the call the male was described as "probably juvenile", and the "gun" was described as "probably fake." In the 227 pages of witness testimony, it was reported that within minutes of reaching the recreation center park where

twelve-year old Tamir Rice was playing with a pellet gun, Officer Loehmann, without warning or question, fired two shots, one of which fatally wounded Rice (Shoichet & Newsome, 2015).

Dylann Roof

On June 17th, 2015, Dylann Roof, a 21-year-old armed White male, entered Mother Emanuel AME Church in Charleston, South Carolina and opened fire, killing 9 unsuspecting Black worshippers. His motive was to start a race war. Officers apprehended and arrested Roof, while he was still in possession of a firearm. They removed him from his vehicle, and escorting him into their custody, allowing him access to due process. Roof was treated fairly. He was not roughhoused, maimed, or killed.

There is a stark contrast between these two scenarios. Roof killed 9 people but was arrested and treated with humanity. Rice harmed no one and was murdered. The most salient conclusion that can be drawn from the difference in treatment by police is that race played a role in the varied approaches.

Implicit bias literature supports that White people overwhelmingly hold negative mental associations about Black people, which explicitly or implicitly influences how they perceive them, interpret their motivations, and respond to them. This cognitive process of person perception, that favors Whiteness over Blackness is a possible explanation for the contrast between these two incidents.

The idea that connects this incident to the primary question of this research is how the aesthetic qualities — appearance and racial identities— of the suspects contributed to the viewer's (police) bias activation, and whether the same activation of biases occurs when a viewer is in the position to judge a painting that is racialized and non-representative.

These illustrations of Rice and Roof are presented here as a frame of reference for a similar process that I believe is occurring in the assessment of artworks, which often visually symbolizes the constructs that are operating in society. I argue that in both scenarios what occurred is an evaluative aesthetic experience that led to a judgement outcome and ultimately a behavioral response. Comparatively, during a traditional aesthetic experience, a viewer gazes on an artwork and makes a judgment based on their schemas, beliefs, and ideologies about the world. This judgement occurs quickly. According to a study assessing the average time a viewer spends gazing at an artwork, Smith & Smith (2001) found that a person spends about 27.2 seconds taking in a piece. Within this short span of time a viewer can assess the components of a painting that are most salient to them and complete several internal cognitive processes that result in the output of a judgement. This judgement can range from a simple *like* or *dislike* to a full interpretation of the artists intentions and the painting's overall meaning.

The officers who perceived Rice's Black body and Roof's White body, operating within the scene of their perceived motivations and mental constructs, can be compared to viewers taking in the scene of a painting and making a judgement.

Cultures Influence on Perception

That culture is pervasive and automatic in its influence on people's mental processes and behaviors is so apparent that the idea latently underscores much cognitive research but is rarely treated as the focus of empirical investigations. Here, I will address two ways that culture influences mental processes: automatic activation of racial stereotypes via semantic activation and through perception.

In literature, one cognitive system seems to monopolize the scientific discussion of culture's cognitive influence: *perception*. Perception, defined as the process of recognizing and analyzing

sensory information has been found to differ cross-culturally. As reported in Bender & Beller (2013, p.47) perceptual differences between cultures include susceptibility to optical illusions such as the Muller-Lyer and Sander Parallelogram illusions (Segall, Campbell, & Herskovits, 1968; Ahluwalia, 1978), attentional processes (Chan & Bergen, 2005; Masuda & Nisbett, 2006), mental representations of time, (Haun et al. 2006) temporal frames of reference, (Bender, Beller & Bennardo, 2010), and numbers (Beller & Bender, 2008), and how people attribute and infer causal effectiveness (Norenzayan & Nisbett, 2000).

It is important to note, for the purposes of solidifying one aim of the present study, that each of these examples, as is characteristic of cross-cultural research, presents western vs eastern differences (Kastanakis & Voyer, 2014). Parallel to the western vs. eastern convention, however, is another: The Black - White differences in perception due to cultural influences.

Several Black-White perceptual difference findings have been reported in relation to perceived attractiveness (Stephen et al., 2012), body size perception and satisfaction (Kronenfeld et al. 2010; Powell & Kahn, 1995), views towards people with mental illness (Anglin et al., 2006), and responses toward ambiguously aggressive acts (Sagar & Schofield, 1980).
This study takes the position that (1) perception has determinants that are cued from culture, and (2) there are perceptual differences between racial groups existing within the same culture. Black-White identifiers are used within this study to signify two distinct groups with variant enculturation determined within society by their biological identity of race. Using the social cognitive methodology of the minimal group paradigm proposed by Tajfel (1979), individuals belonging to groups, as a function of race, are motivated to reinforce their own identity through their connection to a larger group. Through this in-group / out-group paradigm people tend to form positive perceptions about, and have a greater preference for, things that are representative

of their ingroup, and concurrently, negative, or neutral perceptions about, or lesser preference for, things that are non-representative. Social identity theory supports that people's natural need for belongingness is at the root of their goal-motivated behavior of forming preferences that signal their connection to their ingroup and subsequent distance from other racial groups. This causes the formation of positive biases about oneself and ingroup, and negative biases about others and outgroups, to become a somewhat natural occurrence.

Cultures Influence on Aesthetic Values

Culture influences all manner of perception including how people perceive stimuli. An argument put forth by this research is that an intentional and detailed look into how people within culture experience art, both cognitively and biologically, could give us insight into how aesthetic value systems and perceptions might be enculturated and further, how they might be maintained by cognitive and personality factors. An implication of this research is that a better understanding of how cognition influences aesthetic interpretation, and how people view and experience people and cultures other than their own, might be derived.

Psychologist Lev Vygotsky, who laid the groundwork for sociocultural theory, which focuses on culture's influences on children's intellectual development, wrote one of the earliest descriptions of Culture as a mediator of individual and group perception. In *The Psychology of Art* (1971) Vygotsky describes the perceptual processes of aesthetic experience and art interpretation as "determined and conditioned by the social man." He introduced the idea that the *social man — or* society or culture as a collective — plays a role in determining people's experiences and understandings of artistic renderings. This, Vygotsky alludes, happens through cultural conditioning, a process, as described by Markus & Kitayama, 1991, whereby culture succeeds in "providing sets of values, life expectations, and needs." that people learn to

implicitly desire. Cultural conditioning is reinforced by repeated exposure to these concepts and ideals as well as exposure to symbols that embody their meaning (Zajonc, 1968).

Vygotsky concludes that the aesthetic experience serves a specific purpose in "[systematizing] a very special sphere of [man's psyche] – his emotions" (Vygotsky, 1971). The emotional response elicited by an aesthetic experience is important to this research, as it contributes to art judgement as described by aesthetics (Shimamura, 2015), and neuroaesthetics (Vartanian & Goel, 2004; Chatterjee &Vartanian, 2014) research as well asl several aesthetics models (Leder et al., 2004; Pelowski et al., 2017).

Artworks are products of society that are solely created by people. They capture the essence of people, places, and practices that are important to the cultures they represent. They are cultural proxies that evoke viewer emotion (Shimamura, 2015).

Literature supports that people themselves serve as a source of aesthetic experience. In one study, Kahn & Davies, 2010 reported that high phenotypically in Black facial traits is linked to greater accessibility of racial stereotypes. In another study, Ratner et al., (2014) identified that in face perception adult's emotions are more positively valanced – eliciting feelings of trust, caring, attraction – when viewing an in-group member compared to an outgroup member. Similar research on infants determined that by 3 months infants have developed facial preference for own-vs-other race faces (Kelly et al., 2005; Liu et al., 2015; Kim et al. 2015). Literature also indicates that intersections of identity such as race, age and gender influence bias activation. For example, younger Black males are identified as producing a more racially negative response compared to older Black males who are perceived as less aggressive, and therefore less threatening (Kang & Chasteen, 2009; Kang et al., 2014; Kim et al., 2015; Chasteen et al., 2002).

Implicit bias research indicates the power of this preference and suggests that culture plays a role in shaping biased associations.

Culture, Semantic Memory, and Racist Associations

Cultural norms are transmitted implicitly and explicitly via messages communicated throughout a society. One of these norms is intergroup behavior that dictates people live within and operate within their social group, and these groups are supported by societal structures and maintained my individual neural processes (Amodio & Berg, 2022). Cognitive psychologists have argued that the structure of semantic memory is shaped by the way in which concepts co-occur together within culture (Collins & Loftus, 1975). Implicit biases develop insidiously as race and various negative characteristics become yoked together in semantic memory. Certain characteristics become unconsciously associated with groups of people because of the messages implicitly or explicitly communicated throughout the culture. For example, from early childhood, Americans are implicitly and explicitly told that Black people are less intelligent. According to the Collins and Loftus semantic activation Model (1975), cognitive linkages between two concepts form when they are regularly presented together. In the aforementioned case, linkages would develop between blackness and unintelligence.

To explain further, in the Collins and Loftus (1975) network model, concepts are represented in semantic memory via mental structures called nodes. Concepts which co-occur together (Black—bad) in the environment become linked together in semantic memory. Thus, whenever, a concept is spoken, heard, read, or thought about, the mental structure that underlies the representation of that concept, becomes activated. Activation then spreads via interconnecting links to related concepts. Because of pre-activation, concepts which are related or associated with the to-be-activated concept are processed more efficiently than concepts

which are unrelated. Essentially, any concepts that belong to the same category as the to-be-activated concept becomes more accessible. Thus, when a police officer sees a Black Man, according to this activation network model, the node which represents blackness will be activated. Excitation would unconsciously spread from Black to Bad to dangerous. The spread of activation would increase the accessibility and availability of these concepts, which might explain the propensity to shoot unarmed Black men. Because the spread of activation and the increase in accessibility of these concepts occur unconsciously, the police officer may not be aware of these biases and his/her propensity to shoot.

Implicit Bias Cognition

A significant amount of empirical effort in recent decades has been dedicated to exploring the characteristics of implicit biases, the often-negative associations automatically activated when a person encounters an individual from a different racial, cultural, or ethnic group. As supported by social identity theory, biases reflect preferences and associations that affirm a person's connection to their in-group and further disconnects them, through a minimal group paradigm, to the experiences of members of other groups (Tajfel,1979).

The in-group, out-group dichotomy of social grouping and categorization, leads to a lack of familiarity between members of groups. This lack of familiarity supports the formation and maintenance of automatically activated biases that influence the perception of people and symbols that represent an out-group.

Greenwald and Banaji (1995) pioneered the formal labeling of biases activated outside of conscious awareness as implicit after conducting a study on gender biasing in judgements of fame, which found people's activation of biases to be inconsistent with their explicit endorsement of egalitarian views. This concept was a continuation of several earlier studies.

In one study, Gaertner and McLaughlin (1983) measured participants strength of associations between two words, based on the assumption that "a stereotype is in part a collection of associations that link a target group to a set of descriptive characteristics" (Gaertner and McLaughlin, 1983, p. 23). Using response speed as an indicator, they found that White respondents were faster to identify White-positive word pairs than Black-positive word pairs (*e.g., White-smart vs. Black-smart*). The same effect was not found in trials that presented negative traits *(e.g., White-lazy vs Black-lazy).* These results were consistent across participants regardless of their scores (high or low) on explicit measures of prejudice. A related study, Dovidio et al. (1986) presented respondents with a prime (*Black* or *White*) followed by a target (a positive or negative trait). Participants were asked to make a *true* or *false* judgement about whether the target trait could be associated with the prime category. Consistent with Gaertner and McLaughlin (1983), participants responded faster to positive traits that followed the prime *White* and slower to those that followed the prime *Black*. Consequently, they also responded faster to negative traits that followed the prime *Black* and slower to those that followed the prime *White*.

Greenwald and Banaji (1995) cited Gaertner and Dovidio's (1986) work as rightly interpreting these findings as *aversive racism*, defined by the latter researchers as "a conflict between feelings and beliefs associated with a sincerely egalitarian value system and unacknowledged negative feelings and beliefs about Blacks" (Gaertner & Dovidio, 1986, p. 62).

Patricia Devine's (1989) work supports Gaertner and Dovidio's (1986) interpretation by proposing that stereotypes are automatically activated outside of conscious awareness. Devine's study presented a series of words to two groups of White subjects. The first group was given a series of words that were 80% stereotypically associated with Black Americans (e.g., poor,

slavery, Harlem, jazz). The second group was given a series of words that were 20% stereotypically associated with Black Americans. Following the presentation of words, both groups were given the seemingly unrelated task of making a judgement about a race-unspecified male's ambiguous actions. Participants in the 80% group judged the actions of the male to be more hostile compared to those in the 20% group. This result was consistent for all participants regardless of whether they scored high or low on a measure of explicit prejudice. Devine's finding indicates the implicit nature of associations. In her summary report of the study Devine concludes that all people, including those who are both low and high in prejudice, automatically activate stereotypes. However, those who are motivated and have enough cognitive resources can use controlled processes to inhibit these stereotypes.

Greenwald & Banaji (1995), Gaertner & Dovidio (1986), & Devine's (1989) work laid the foundation for our understanding of implicit bias cognitions. Additionally, they set the course for hundreds of studies to follow that explore how biased cognitions were racialized and had a particularly negative impact on the social perceptions of Black people.

Implicit Racial Bias

The body of work on implicit racial bias underscores the reality that the morals and values that people believe themselves to possess are not always an accurate representation of the underlying cognitive constructs that inherently influence their behaviors (Lai & Wilson, 2020). People's self-report of their own biases is inconsistent with societal conditions (Crosby et al., 1980; Lai & Wilson, 2020), hence the need for a measure of biases that relies on natural behavioral responses and not desirable ones. Comprehensively, implicit bias literature concludes that all people automatically activate stereotypes (Plant & Devine, 1998). Macrae, Stangor & Milne, 1994 contend that stereotype activation is a functional process that enables people to

quickly make judgements when navigating the social world. The issue, however, is that this efficiency in mental processing can at times become problematic when information is activated to the degree that a bias thought motivates a racist behavioral response. Anecdotal and research evidence indicates that despite equal in-group/ out-group activations, the activation of stereotypes by White individuals against marginalized people is more likely to lead to racist behavioral outcomes. To put this into context, a study conducted by Kahn and Davies (2010) reports bias effects for both Blacks and Whites against Black targets who are high in phenotypical traits associated with their racial group such as dark skin, broad nose, wide forehead, and thick lips. In a video game experiment intended to measure the response error in participants accurately or inaccurately choosing to shoot a target who either had a weapon or a neutral object, there were more errors made against the Black target male with high stereotypical features and no weapon, than against the Black male with low stereotypical features or the White male, regardless of whether they had a weapon, and consistently across race. This finding supports that there are harsher responses for darker Black males with typical stereotypical features just because of their phenotypical presentation. This finding is consistent with research conducted by Correll et. al., (2014) and Eberhardt et al. (2004), which found that visual processing, particularly as it relates to identifying weapons, is dependent upon people's solidified race-crime associations.

While the biases in the Kahn & Davies (2010) study was consistent across race it can be argued that the consequences of these biases manifest differently depending on the perceivers race. Power is correlated with race. White individuals are more likely to have the power to enforce their racist ideologies than Black individuals. It is less likely that a Black person's racial bias against another Black person will lead to a homicide.

Because of the power differential in America and the prevalence of anti-Black discrimination among Whites (Crosby, Bromley & Saxe, 1980), stereotypes that are not under conscious control can lead to dire consequences such as Blacks being disproportionately convicted of crimes (Eberhardt, 2006), receiving unfair healthcare treatment (FitzGerald & Hurst, 2017), being discriminated against in education (Staats, 2016) and corporate job systems (Matten and Moon, 2008), and being perceived as threatening, criminal, dangerous and, as a result, killed (Wilson, Hugenberg, & Rule, 2017).

Because of the historically strained relationship between Blacks and Whites in America, implicit bias, in recent years, has gained heightened attention in mainstream society. To date over 20 million people have participated in Harvard University's computer-based Implicit Associations Test (IAT) in an effort to detect their biases (Greenwald & Banaji, *ProjectImplicit* 1998). Such efforts on behalf of Americans, specifically those who identify as either Black or White indicate a collective desire to address what Patricia Devine refers to as "the great paradox;" the idea that America was founded on the principles of equality and justice for all but has somehow failed to extend these privileges to Black citizens. Because America has not successfully dismantled systemic constructs designed to keep Blacks oppressed, America has been complicit in supporting the attitudes of its individual citizens who either explicitly or implicitly hold negative views about Blacks, that are consistent with and supported by these constructs. Several studies presented here indicate the negative associations that Whites hold about Black features and behavioral motivations. Features and behavioral motivations are necessary to address because they are both important to the process of aesthetic assessment. Viewers of paintings make affective judgements and have emotional responses to several stylistic elements presented in an artwork to include, facial features, body positions,

interpretation of the action being carried out, and the motivations of the actors (Shimamura, 2015).

It is important here to draw a significant parallel between the assessment of the features of Blackness in society and the assessment of the features of Blackness on canvas. Both, as posited by extant research activate biased associations.

In a study on facial perception, Hugenberg & Bodenhausen (2003) presented participants with four computer-based videos of Black and White faces that morphed from unambiguous hostility to unambiguous happiness. Participants were tasked with indicating when the initial hostile expression was no longer perceptible. The results found that Black faces, displayed with similar benign or threatening expressions as White faces, were perceived as more hostile than White faces, this was indicated by response latencies in indicating when the initial hostile expression of Blacks was no longer perceptible. These latencies were longer for Black faces than White faces for those found to be high in implicit prejudice. A similar study assessing the faces of Black and White children found the existence of a racialized ager bias towards Black children. Black boys and girls were falsely perceived as angry more often than White boys and girls (Halbertadt et al., 2020).

In a study related to the previously mentioned Kahn & Davies (2010) study, Payne (2001) found that when primed with a Black face people identified, a subsequently shown, ambiguous object as a weapon more frequently and with greater speed then when primed with a White face. This finding suggests that the presence of a Black face automatically activates semantic associations of violence and criminality.

Studies conducted by Duncan (1976) and Sagar & Schofield (1980), examining student's responses to similar ambiguous actions performed by both White and Black actors, concluded

that the actions performed by Blacks were perceived as more aggressive than identical actions performed by Whites. This finding indicates that not only are the facial attributes of Blacks perceived negatively, but so are their ambiguous actions.

In a study assessing Black male formidability, Wilson, Hugenberg & Rule (2017) found that Black males were rated as older, larger, and stronger than White males of the same age, size, and strength. These perceptions led respondents to conclude that Black males were more threatening, and thus, deserving of excessive force by law enforcement. This finding supports those of the three previous studies. It indicates that beyond facial expressions the Black body is perceived as threatening, further it suggests that any actions acted out by a Black body, even those that are classified as ambiguous, would be perceived as threatening and requiring physical force.

Implicit Bias Study Stimuli

The above studies indicate that Blacks bodies and their ambiguous actions are perceived negatively by Whites on the social landscape. It is important to note that each of these studies uses stimuli that are representations of human faces and bodies to prime or elicit a response from participants. These representations included digital imaging (Wilson, Hugenberg & Rule, 2017; Hugenberg & Bodenhausen, 2003), photos (Greenwald & Banaji, 1995) and drawings (Sagar & Schofield, 1980). Because the stimuli used in these studies represent the real world, and contribute to our understanding of how biases function, it is logical to consider how biases might operate in the assessment of paintings that are not culturally representative of the viewer.

Although it is the case that many implicit bias studies utilize reproductions, no study exists, besides the current one that uses paintings as stimuli and whose inquiry focuses on the activation of biases during the cognitive process of art evaluation. This work is important because art is a unique cultural medium. Art elicits hedonic and emotional responses from its viewers.

Therefore, when considered together – implicit bias as a cognitive function of evaluating environmental stimuli and art as a presentation of environmental stimuli that invites evaluation – this line of research makes empirical sense.

The stimuli used in studies on implicit bias tend to manipulate color without adjusting any other characteristics that are emblematic of a Black facial aesthetic such as broader noses, fuller lips, and larger foreheads. This shows how important skin color is in shaping perception and activating associations. This idea was perhaps first illustrated in the seminal Clark and Clark (1940) doll baby study. In this study Black children (N = 253) between ages three and seven, were presented with two dolls whose features were consistent except for skin color — one was lighter, appearing White and the other was darker, appearing Black — and were asked to assign negative (e.g., ugly, dumb, mean) and positive (e.g., beautiful, smart, nice) traits to the dolls. The children overwhelmingly assigned negative traits to the darker doll and positive traits to the lighter doll. Clark and Clark (1940) determined that by age six children can associate Blackness with bad and Whiteness with good. Even more, poignant the study identified that by age six a Black child in America will developed a racial identity that is rooted in a preference for a mainstream standard of beauty and a rejection of their own aesthetic.

The rejection of a Black aesthetic is a concept rooted in the racialized American system, that uses skin color to enforce a caste system that favors those with White skin. Blackness, Black features, Black culture, and all things related to Black life and experience are marginalized in societal institutions, they are swallowed by the narrative that Whiteness is more beautiful, less threatening, noble, and preferred.

The stimuli used in this study fit within two major categories and four subcategories. The major categories are: (1) art with a White aesthetic and (2) art with a Black aesthetic.

The subcategories are White Mainstream, White Political, Black Mainstream and Black Political. The two former and two latter categories represent a White and Black aesthetic, respectively.

These stimuli are believed to be adequate tools by which to detect implicit biases and evaluate art preference amongst White and Black participants. Specifically, viewers' familiarity with objects and symbols featured in the painting and their lived experience, is expected to influence how they evaluate the painting. As indicated earlier, the art in the current study is expected to elicit a myriad of emotional and cognitive responses. In some instances, the participants will be aware of the automatic associations elicited from the painting and in some instances the participants will not be aware.

Automatic and Controlled Attentional Processing

A widely researched theory of human cognition postulates that human beings have two mental processing streams that allow stimuli to be assessed and an appropriate behavior to be performed. These two processing streams are *automatic* and *controlled*. The primary factor that determines whether automatic or controlled processing is used is the number of attentional resources required for processing.

Automaticity, in processing occurs outside of conscious awareness. The unconscious nature of this processing type is designed to preserve cognitive resources. Automatic processing allows a person to respond to a stimulus based on a history of prior responses to the same or a similar stimulus, preventing the need for expending cognitive resources unnecessarily.

Controlled processing is a conscious effort, that expends cognitive resources for the purposes of counteracting an automatic process typically in a way that is goal-directed.

Automatic and Controlled Processing in Bias Activation

The activation of biases is an automatic process that occurs outside of conscious awareness (Devine, 1989). Biases, produce behaviors that negatively impact intergroup interactions (Gonsalkorale et al., 2008). For an individual to counteract their biases and ensure more positive intergroup connections, they must first be aware that their biases exist. Bias awareness does not automatically change behavior (Shmader et al., 2022), as one's goals, motivations and cognitive resources are also a part of the equation of shifting behaviors long-term (Plant & Devine, 1998). If one is aware of their biases, are motivated, and cognitively agile, they can consciously engage in the process of controlling or downregulate biases (Plant & Devine, 1998).

Working memory resources are required to effectively control or downregulate biases. Working memory capacity, however, varies across age groups. Older adults typically have less working memory resources than do younger adults (von Hippel, 2000; Stewart et. al., 2009), and therefore are likely to decrease in their ability to mitigate biases as they age. Czarnek et al., 2015 report that older adults limited cognitive resources increases the likelihood that they will stereotype outgroup members compared to younger adults (Czarnek et al., 2015). One of the questions that I will address in this current work is how differences in cognitive ability between younger adults impacts their respective ratings of art.

Devine (1989) identifies that not all people have as their goal to mitigate biases. In fact, there is a subgroup of Americans that is comfortable with their biases and make no attempt to suppress them (Devine, 1989). Older adults who explicitly endorse biased ideals are not motivated to appear unbiased, therefore, controlling for biases is not necessary and does not require expending attentional resources. Another study suggests that older adults, in some cases, are more

motivated to maintain biases as a function of promoting in group connectedness (Cassidy et al., 2020).

This study examines executive control in relationship to both explicit and implicit bias in older vs. younger adults and how it influences their judgements of racialized artwork.

Familiarity

There are several possible factors that affect the degree to which biases are expressed toward outgroup members. One factor suggested in literature is the level of familiarity with outgroup members.

The familiarity, or mere exposure effect (MEE) (Zajonc, 1968), is the idea that a person's repeated exposure to a novel stimulus facilitates increased liking. There are mixed perspectives in literature about MEEs effectiveness in increasing cross-racial liking. Devine (1989) suggests that increased exposure to people within an out-group leads to an increased opportunity for positive experiences that over time might diminish the salience of negative associations. Zebrowitz et al., 2008 agree that exposure to other race faces increases liking for strangers of that race. Chow et al., 2022 contends that strong evidence does not exist for the mere exposure effect in young and old adults in some applied cases. The mixed views on the MEE indicate a mixed probability of its effect on bias activation in the present study.

Top-down processing

Related to familiarity is the concept of top-down processing. Top-down processing, in relationship to visual interpretation, is a person's judgement of a stimulus based on prior experience as opposed to their assessment of the stimulus based only on its components (Gregory, 1969). Put plainly, individuals do not process visual information objectively. Instead, their expectations, past experiences and schemata determine their visual perception. Thus, this

self-involved process often leads to the distortion information. For example, there is evidence that people perceive African American males as taller, larger, and more muscular than they are (Wilson, Hugenberg & Rule, 2017). This perception is not based on actual size and muscularity; however, it is based on the association of "black male with big, scary" that underlies biased perceptions. These perceptions are activated through top-down and not bottom-up (stimuli centered characteristics) processing. Greenwald and Banaji (1995) suggest that top-down processing visual processing is an implicit process by which past experience influences a person's judgement in a manner that is beyond their awareness. That is people are not consciously privy to the ways their past experiences are coloring their present judgements

Thus far, I have focused on the way in which unconscious cognitive processes (e.g., implicit bias) and top-down processing affect the interpretation of stimuli. Next, I will focus on how personality, explicit racial biases, and executive functioning affect the aesthetic experience.

Biases vs. Racism

Bias is closely connected to racism. The concepts are often used interchangeably in literature. However, Psychology makes a distinction between the two, identifying biases as negative associations, either explicit: overt or implicit: covert, about people belonging to a racial group other than one's own, and racism as a belief in the superiority of one's own race over another (Dovidio et al., 2016). Roberts & Rizzo (2020, p.2) define racism as "a system of advantage based on race that is created and maintained by an interplay between psychological factors (i.e., biased thoughts, feelings, and actions) and sociopolitical factors (i.e., biased laws, policies, and institutions)." By this definition racism is in part a product of biased thoughts, however being biased alone would not constitute being an active endorser of racism. To be a racist or to act in a way that signifies racism, one would have to also endorse ideologies that tout

the racial superiority of one's own racial group. Consequently, it is well evidenced in society, through entities like the Klu Klux Klan and other White supremacist organizations that, people who explicitly hold ethnic biases, in this societal era, are also highly likely to engage in racist acts. This study treats explicit bias as a signifier of racism. It identifies that, although holding ethnic biases is not always an indicant that someone is racist, it is a strong predictor that an individual might be.

Biases as a Function of Age

Older White adults, who are a part of a cohort who experienced explicit societal racism and have been long-standing benefactors of White supremacist ideologies, were anticipated to show greater evidence of explicit and implicit anti-Black bias compared to Black older adults, and younger Black and White adults.

Older adults are also more likely to suffer from cognitive decline limiting their control of biased activation and causing more instances of stereotyping and anti-Black bias (Stewart et al., 2009).

Implicit and explicit bias were examined as function of age in this study to illuminate the role executive functions play in reducing bias.

Age and Executive Functioning

Executive functioning is a collection of interworking cognitions that facilitate a number of higher order processes to include encoding and memory retrieval, identity formation, perspective taking, emotion regulation and inhibition (von Hippel, 2007). Executive function (EF) abilities have been found to decline with age with the onset beginning around age 45 (Diamond, 2012; Wang et al., 2011; Cabeza & Dennis, 2012) due to shrinking of the prefrontal cortex. This deficit impacts information processing related to implicit bias (Henry et. al., 2009).

That is, as people age, they become more likely to stereotype outgroup members because of the inability to control prepotent biases (Hasher, Zacks & May 1999).

Working Memory and Inhibition

The atrophy of the brain affects working memory, a cognitive system important for reasoning, learning, comprehension, and inhibition. Working memory is involved with goal-directed behaviors that require the retention and manipulation of information to complete a specified task. Of interest to this research is the working memory process of inhibition during the task of painting judgement. Specifically, this study examined whether cognitive deficits influenced negative judgements of non-representative art as a function of White older adults' difficulty controlling the interference of goal-irrelevant stimuli.

Openness to experience and racism

The Openness to Experience (OE) measure examines individual differences in personality. The OE scale has six dimensions: active imagination (fantasy), aesthetic sensitivity, attentiveness to feelings, preference for variety (adventurousness), intellectual curiosity, and challenging authority (psychological liberalism). Those high in OE are more likely to appreciate art, even art that is culturally non-representative. On the contrary, those low in OE tend to be less likely to appreciate art. Openness to Experience is also correlated with a greater willingness to interact with people from cultural groups other than one's own. Flynn, 2015 suggests that openness for cross-racial interaction has the potential to mitigate biases. Additionally, this trait is also correlated with low levels of racism. People who are high in openness tend to be lower on racism and people who are low in openness tend to be higher on racism (Flynn, 2005; Federico & Aguilera, 2018). Openness was expected to correlate with racism measures and contribute to

art ratings, with those higher in racism rating the art overall more favorably, regardless of cultural congruence.

Age and Openness to Experience

Research indicates that younger adults are more open to experience than older adults. The trait is stable across the lifespan but begins to decline in midlife and old age (Schwaba, et. al., 2018), similar to the age point of executive functioning decline. According to Gregory et.al., 2010. any significant changes in openness across the lifespan are correlated with changes in cultural activity.

Low openness in older adults indicdates they are less likely to engage new experiences or endorse views that were inconsistent with standing beliefs compared to younger adults (von Hippel, 2000). High openness has the opposite effect. Additionally, while aging's negative effects on openness are well known, recent research indicates an important inverse effect in that high openness has a protective effect on general knowledge and logical thinking in old age (Nishita et al., 2019).

Restatement of the Problem

In the current study, older adults were expected to be lower in openness compared to young adults. White older adults were expected to have lower ratings of culturally incongruent artworks as a function of both low openness and low executive functioning. Young adults were expected to be high in openness and therefore were expected to have higher ratings of the art overall compared to older adults. White young adults specifically, were expected to have higher ratings of Black art compared to White participants as a function of openness.

Biases, executive functioning, openness to experience, and aging are all topics thoroughly explored in literature. The possible correlations between these variables and their influence on art

judgement has not yet been empirically investigated. The current study addressed this gap by using older and younger Black and White adults' judgements of paintings by Black and White artists to investigate the contributions of personality, cognitive ability, and racism to painting ratings.

METHODOLOGY

Pilot Study

The present study is a follow-up to a pilot study that asked whether differences exist in Black - White ratings of paintings by Black and White artists. The pilot study was in part a replication of a set of art education studies by Ronald Neperud (Neperud, 1982, 1986) with a few methodological differences, namely the categorization of the art, type of ratings and overall goal of making inferences about racial bias activation.

Stimuli selection & validation

The Delphi expert rating methodology was used to arrive at a consensus for art pieces to be used in the study (Hernandez-Leal et al., 2021; Niederberger & Spranger, 2021). The initial phase of the methodology involved selecting a panel of experts. For this study a four-person panel of art and psychology experts was selected. Combined they hold Ph.Ds. in American Art, African American Art, Cognitive Psychology, and a M.A. in museum studies. The experts went through several rounds of selecting, reviewing, discussing, and categorizing artworks from the University of Alabama's Paul Jones art Collection and the general American cannon. A total of fifteen representational paintings were and the art categories were determined to be Mainstream, Blackstream, Activist, and Political. Mainstream and Blackstream art depicted White and Black people respectively, in everyday activities (e.g., eating dinner, having tea). Political and Activist art depicted White and Black people respectively, engaging in political acts (e.g., picketing, pledging to the flag).

The fifteen paintings were allocated to the following categories: Mainstream (4), Blackstream (6), Activist (2) & Political (3). After selection, the committee acknowledged the uneven number of art pieces per category and decided to continue the study with the selected number of images per category based on the reality that these four categories are representing two main aesthetic categories: Black and White. The number of combined images for the Black Aesthetic (Blackstream, Activist) is 8 and the number of combined images for the White Aesthetic (Mainstream, Political) is 7. It was the belief of the experts that a difference by one less White-centric image would not have a bearing on the results. Table 14 (appendix, pg. 104) provides a complete list of the images selected for this study. It includes the year in which each piece was created, the name of the artist and the category in which they were included in the study.

Pilot study general hypotheses

The general hypothesis of the pilot study was that a difference would exist between Blacks' and Whites' aesthetic experience as a function of familiarity. Specifically White participants would rate Black art less favorably than White art, but the adverse would not be true for Black participants in their ratings of White art.

Pilot study research hypotheses

For Whites, it was anticipated that the art categories representative of their cultural sensibilities — Mainstream and Political — would be responded to positively and those categories that weren't—Blackstream and Activist— would be responded to negatively. For Blacks, it was anticipated that the art categories representative of their cultural sensibilities — Blackstream and Activist — would be responded to positively and those that weren't— Mainstream and Political— would also be responded to positively, just at a lesser degree than

their response to representative works. This was expected as a function of Black people being more frequently exposed and espoused to a White aesthetic in society more frequently than are White's exposed to a Black aesthetic.

Pilot study participants & procedure

Eighty-nine students (Black – 33; White – 56) with an average age of 18.97 years (SD 1.08) from the University of Alabama subject pool, completed a computer-based study in partial fulfillment of the requirements for their Introduction to Psychology courses. The participants were granted three units of research credit as compensation.

Prior to the beginning of the study, prospective participants were given an eligibility questionnaire to determine their fit for participation. Participants were ineligible to participate if they did not self-identify as Black or White, if they had formal art training or education and if they were not eighteen or older. Data were not collected for any excluded prospective participant. After the eligibility questionnaire, participants were asked for their consent to participate. If informed consent was given, they were invited to begin the study.

The study required participants to rate art within four categories: Mainstream, Blackstream, Activist and Political, on dimensions of *like, comfort* and *valence.* In total, participants viewed fifteen images (see Table 1 in the appendix) individually presented on the screen (see Table 1in the appendix for each image's pixel dimensions) and responded to three corresponding questions; (1) On a scale from 1 to 7 (1 being extremely comfortable and 7 being extremely uncomfortable), how does this painting make you feel? (2) On a scale from 1 to 7 (1 being not at all and 7 being extremely), how much do you like this painting? And (3) Describe what is happening in this painting / what this image represents.

Pilot study analysis and results

An analysis of data supported the general hypothesis that a difference exists between Blacks' and Whites' aesthetic experience. Specifically, significant results were found within the Blackstream art category on the dimensions of *comfort* and *valence*. On the *comfort* dimension in the Blackstream category Whites were found to have lower ratings compared to Blacks, indicating that Whites were less comfortable with Black art compared to Blacks. On the *valence* dimension within the Blackstream category, the analysis indicated a main effect of art type as well as a race by art interaction, with Whites having a less positive *valence* rating of Black art compared to Blacks, meaning their overall impression was less positive. The other categories of art, Mainstream, Activist and Political, yielded no significant results on either dimension for Blacks or Whites.

One of the primary goals of the pilot study was to examine the comfort level of participants as a function of race and art type. White participants were expected to have lower comfort ratings than Blacks for art in the Black art categories. Ratings of comfort across White art categories was expected to be equal across race. Findings of a 2 Race (Black vs. White) x 4 Art Category (Activist vs. Blackstream vs. Mainstream vs. Political) ANOVA on the comfort measure yielded a significant Race x Art Category interaction (1,87) = 4.44, MSE = .636, p = .005. Figure 1 below shows the results of this analysis.

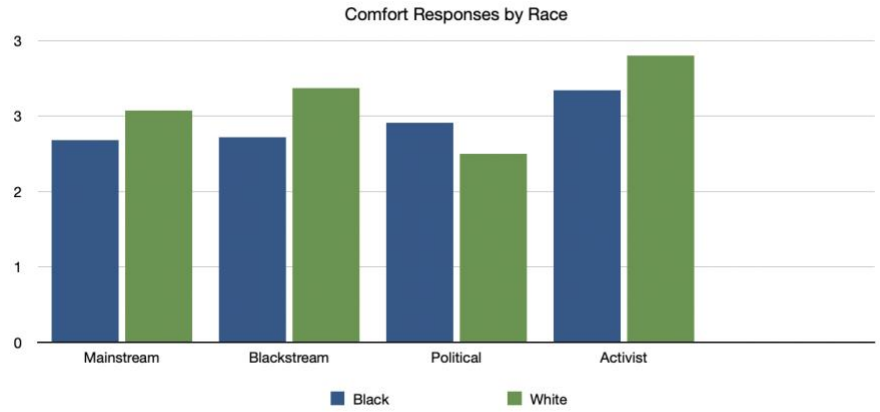


Figure 1

Comfort responses by race for each art category

Note. Higher numbers indicate greater discomfort

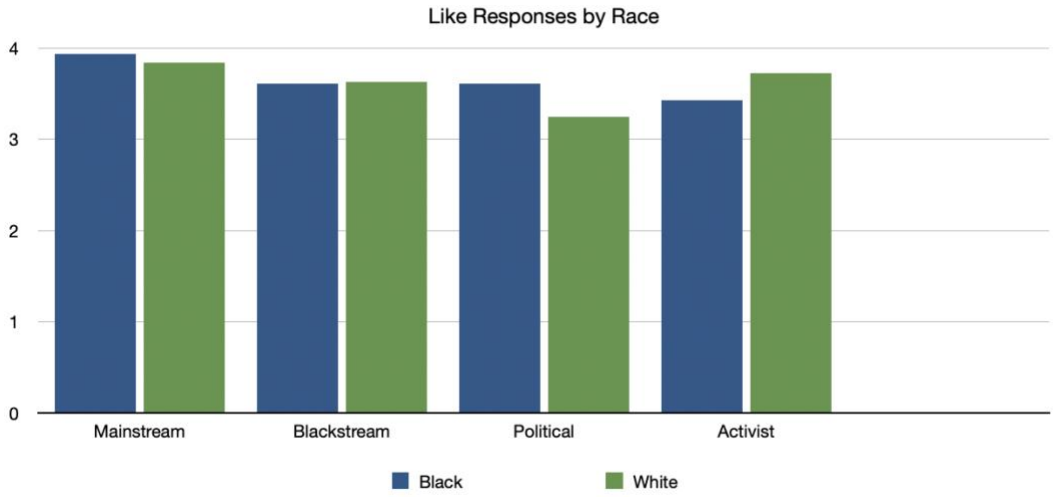
An independent samples t-test (t(87) = 2.7, p = .009) confirmed that the race x art category interaction was due to Blacks rating Black art higher on comfort than Whites (Blacks, M = 2.31, SD =.812; Whites, M=2.83, SD = 1.00). This was consistent with expectations. Also consistent with expectations was that Blacks' ratings of comfort were favorable across all art categories.

In addition to being interested in participants' comfort level with art, I was also interested in the degree to which Black and White participants liked art across categories. Like the hypotheses for the like dimension, White participants were expected rate paintings in the Black art categories lower on like than paintings in the White art categories, while Black's ratings on like were expected to be comparable across art categories. To investigate I conducted a 2 Race (Black vs. White) x 4 (Blackstream, Mainstream, Activist, Political) ANOVA. Figure 2 shows that there were generally similar ratings between the groups on the *like* dimension across the art categories; Mainstream (Black, M= 3.54, SD =1.09; White, M =3.44, SD = 1.12), Blackstream (Black, M= 3.25, SD = .985; White, M=, SD =3.26), Political (Black, M = 3.25, SD = 1.20; M =2.92, SD =1.20) and Activist (Black, M = 3.08, SD = 1.48; White, M = 3.34, SD =1.23). This was

inconsistent with expectations as White participants were not expected to rate Black art equally on like.

Figure 2

Like responses by race for each art category



Note. Higher numbers indicated increased like

The analysis for like failed to yield a Race x Art Type interaction, F (1,87) = 1.47, MSE = 1.29, p = .223 meaning that the *like* of art by category was not dependent on race.

In addition to the analyses on *comfort* and *like* of art by race and category, I conducted an analysis on written descriptions of the artwork. The expectations were that White participants would describe Black art more negatively than Black participants; and Black participants would be more neutral or positive in their responses across all art categories.

The results of the 2 Race (Black vs. White) x 4 (Blackstream, Mainstream, Activist, Political) repeated measures ANOVA, on the narrative descriptions, yielded a main effect for art

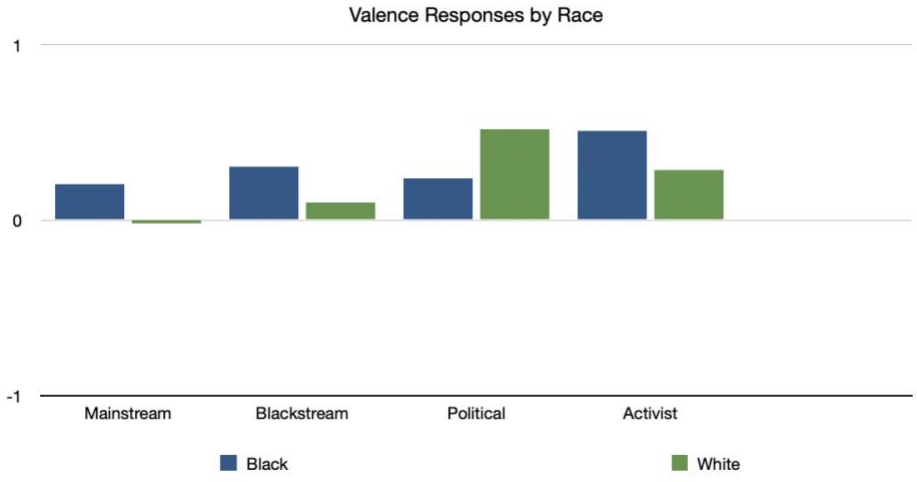
F (3,87) = 3.994, *p* = .008 indicating that art type had an impact on the negative, positive, and neutral word choice in the descriptive responses. Additionally, interaction effects were significant *F* (3 ,87) = 3.92, p = .009, indicating that race determines how participants affectively responded within each category of art.

An analysis of means for each race by category of art for image descriptions is represented in Figure 3. The initial hypotheses were that Black people would positively rate both representative and non-representative artworks, while White people would rate representative artworks favorable and non-representative artworks negatively.

The findings were largely consistent with expectations. Figure 3 reflects that Black participants had a more positive response to art in the categories that were symbolically representative of Blackness (Blackstream and Activist) and responded positively within the categories that were symbolically representative of Whiteness (Mainstream and Political).

Figure 3

Valence responses by race for each art category



Note. Responses are rounded to the highest whole number. The range is between -0 and 1.

White participants however, (1) did not respond to Mainstream art favorably. Their ratings of Mainstream art were the lowest ratings across either group for either category of art on either dimension in the study. White participants' responses within the Mainstream category were particularly unexpected considering a concurrent finding that (2) Whites had a positive response to art in the Blackstream and Activist categories.

Descriptive responses in the Blackstream category yielded significant results. It was determined that Whites had a positive mean score of 0.10 for Black art and that Blacks had a positive mean score of 0.31. Although both were positive, there is a 20 percent difference between these ratings indicating that Blacks responded more positively to Black art compared to Whites. This was consistent with the significant finding of White participants reporting greater discomfort with art included in the Blackstream category compared to Black participants.

Pilot study assumption

An underlying assumption of the pilot study was that implicit biases are activated during the process of art judgment. It is believed that this activation of biases influences people's perception of representative and non-representative artworks. Following the trend represented in much implicit bias work, it was assumed that White and Black participants would be influenced by the greater societal conditions, which support aesthetic Whiteness as preferred and aesthetic Blackness as less preferred, in their evaluations of art. Implicit bias research indicates that regardless of race, people activate anti-Black biases, but it is more prevalent for Whites' behavior responses to be reflective of this activation, and often the consequences are much greater. For this reason, in the present study, White participants were expected to activate anti-Black bias, and their bias was expected to be reflected in their lower ratings of Black art compared to White art. Conversely, for Blacks, it was expected that anti-Black biases would not

be activated frequently during the process of art assessment, and if they were, they would not be severe enough to influence ratings of Black art. Additionally, anti-White bias was not expected on behalf of Blacks as a result of exposure affects to White aesthetics in culture, and anticipated ratings of White art by Blacks was expected to be favorable and comparable to their ratings of Black art.

While the activation of biases was assumed in the pilot study, the scope of the research did not include implicit or explicit measures of biases. The findings of the pilot study however, made it clear that additional investigations were needed to make clearer the mechanisms underlying racial differences in art ratings. Thus, measures of biases, openness to experience, and executive functioning will be included in the current study as they are factors believed to be contributing to the difference between Blacks' and Whites' assessment of art, particularly Black art.

Current Study

Aim of current study

Whereas the pilot study was conducted to detect the presence of differences between Blacks' and Whites' art ratings, the present study was conducted to explore the variables believed to be moderating this difference. Specifically, this study focused on whether (age, race), cognitive (executive functioning ability) and personality (openness to experience, implicit/ explicit racism) contribute to differential aesthetic perceptions between Blacks and Whites and older and younger adults.

Current study research hypotheses

It was expected that there would be a difference between Black and White participants ratings of Black art. Specifically, Older White adults, were expected to rate Black art more negatively, compared to any other cohort, as a function of race and age effects.

The research hypotheses were that (1) Older White Adults (OWA) would rate Black art lower on dimensions of comfort, like and value, and would use Black racialized language in the narrative descriptions of art in Black art categories (Black Mainstream, Black Political) more frequently than Black (young Black adult, older Black adult) participants; (2) OWAs ratings of Black art were expected to be moderated by low ratings on EF and Openness and high ratings on implicit and explicit racism scales; (3) Older Black adults (OBA) were expected to rate art in Black and White categories equally on dimensions of like, comfort, and value as a function of their familiarity with both Black and White art through societal depictions. They were expected to use Black racialized language less than OWAs. Additionally, moderating effects of executive functioning and age – two variables for which bias activation are dependent - were not expected to impact OBAs ratings, as anti-Black bias was not anticipated to be a factor in their judgements. (4) Young White adults (YWA) were expected to rate art in Black art categories higher than OWAs. However, based on my thesis, I did not expect White young adults to rate Black art as favorably as Black young adults with regard to comfort, value and narrative description. However, I expected White Young adults to evaluate the art more favorably than White older adults. I predicted that the age effect for White individuals would be moderated by executive functioning, openness, and implicit and explicit bias scores. Young Black adults were expected to rate Black and White art equally.

Participants

While the current study intended to survey younger vs. older Black and White adults, true older adults (aged 65+ according to NIH) were not represented in the sample, therefore, participants will henceforth be referred to as adults (aged 30-66) and young adults (aged 18-29) (see discussion for further information). Table 1 below shows the sample characteristics.

Table 1

Sample characteristics

Variable	*N* (%)	*M (SD)*
Gender		
Males	61 (26.75%)	—
Females	166 (72.80%)	—
Gender non-conforming	1 (0.004%)	—
Race		
Blacks	34 (14.91%)	—
Whites	194 (85.09%)	—
		—
Education		
High school	3 (0.01%)	—
Some college	175 (76.75%)	—
Completed undergrad	32 (14.04%)	—
Some graduate school	7 (0.03%)	—
Completed graduate school	11 (0.05%)	—
Age (years)	—	27.68 (13.38)
Museum visits (annual average)		
Whites	—	1.53 (1.81)
Blacks	—	1.12 (1.27)

Note. Total sample size: $N = 228$.

A total of *N*=228 participants completed a computer-based study on art perception. Of the total participants, 194 self-identified as White and 34 self-identified as Black. Participants had an average age of M=27.68, SD = 13.38. Based on age cohort groupings *N* =151 were young adults (age 18-29) and *N* = 77 were adults (age 30 – 66). Based on race and age cohort groupings *N* =25 were Black young adults, *N* =126 were White young adults, *N* = 9 were Black adults and *N* = 68 were White adults. Collectively, 98.68 percent of participants had at completed at least one semester of college, 14.03 percent had completed undergrad, and 4.82 percent had completed graduate school. With cohort breakdowns of education, 100 percent of young Black and White adults had completed at least some college, 88 percent of Black adults had completed at least some college and 97 percent of White adults had completed at least some college. All participants indicated having no formal art experience and had almost negligible yearly attendance at art museums (Whites, M = 1.53, SD = 1.81; Blacks, 1.12, SD = 1.27; Young Adults, M = 1.23, SD = 1.63; Adults, M = 1.94, SD = 1.87).

Exclusion Criteria

To participate in this study prospective participants had to (1) be at least 18 or older, (2) self-identify as Black or White, (2) have no formal art experience (e.g., have taken an art or art history course, have practiced art professionally). Participants were given a qualification survey at the beginning of the study to determine their fit for participation. If an item was answered that identified them as ineligible, prospective participants were thanked for their interest in the study and informed of their ineligibility to participate. No data or information was collected for these participants.

Table 2 below shows sample cohort groupings by age and race.

Table 2

Cohort Groupings of Sample

	M	*SD*	*Age Ranges*	*Total N*
Black Adults	44.67	7.09	30-44, *N*=5; 45-66, *N*=4	9
White Adults	44.90	8.82	30-44, *N*=37; 45-66, N=31	68
Black Young Adults	19.36	3.20	18 – 30, *N*=25	25
White Young Adults	18.83	1.85	18-30, *N*=126	126

Note. Gender was not considered in the analysis, but the gender breakdown is as follows: White Adults (M = 34, F = 34); Black Adults (M = 4, F = 5); White Young Adults (M = 18, F = 108), Black Young Adults (M = 5, F = 19).

Young adults were recruited from the University of Alabama subject pool and were compensated with 3 units of research credit for their participation. Adults were recruited through Amazon's Mechanical Turk (MTURK) database and were compensated with a $5 monetary stipend. A total of 247 participants were confirmed eligible and attempted to complete the study. Nineteen participants were excluded because submitted data were incomplete. 228 participants data were analyzed.

Materials

Five factor model of personality

Openness to experience, a dimension of the five-factor model of personality (FFM) was assessed using a modified BFI scale (John & Srivastava, 1999). This 44--item version was designed to be more sensitive to measuring the facet of aesthetic sensitivity. Additionally, it provides a more robust hierarchical structure that is believed to have greater predictive power than the larger BFI. The reliability of this revised inventory has not been thoroughly tested. However, it is the chosen model because of its focus on openness and perceived predictive

power. In the present study the openness subscale had a satisfactory internal consistency reliability (ω_t = .71, 95% CI [.62, .81]).

Symbolic racism 2000 scale

The Symbolic Racism 2000 Scale (Henry & Sears, 2002) is an eight-item questionnaire that assesses racial attitudes. In responding to this scale participants completed Likert scale type items intended to measure their explicit racial attitudes. The Symbolic Racism 2000 Scale has been found to be high in both reliability and construct and predictive validity (Henry & Sears, 2002). In the present study, a total score on the modern racism scale also had an excellent internal consistency reliability (ω_t = .96, 95% CI [.91, 1.00]).

Race implicit associations test

The Implicit Associations Test (IAT) (Greenwald et. al., 1995) is designed to show the strength of associations between an attribute and target. In the race IAT the target stimuli are images of faces (Black & White) and the attributes are negative and positive words (e.g. negative: sadness, ugly, rotten, scorn; positive: enjoy, celebrate, adore, happy). Participants were first expected to identify, as quickly and as accurately as possible, the racial category the image belongs to (Black or White). They were then tasked with completing multiple trials where they are shown a face — either Black or White — given an attribute — either negative or positive — and asked to quickly pair the attribute with the face using keystrokes. The theory underlying the measure is that the quicker the reaction time of the attribute-target pairing, the stronger the association. Alternatively, the slower the reaction time the weaker the association. Therefore, if someone were biased towards Blacks they would most consistently, and with quicker response, associate Black faces with words such as negative, sadness, ugly, rotten, scorn and would most consistently, and with quicker response, associate White faces with words such as celebrate,

adore, happy and enjoy. If someone were biased towards Whites, the opposite effect would occur. Nosek & Hansen (2008) conducted meta-analyses of the IAT and found the test to be valid in measuring the latent variable (bias) that it is intended to measure. Additionally, a meta-analysis conducted by Hofmann et al., (2005) found the IAT to be highly correlated with other measures of implicit bias, indicating that the constructs that the various implicit bias measures are intending to measure are consistent with other implicit bias instruments.

Stroop Task

The Stroop task (Stroop, 1935) is a measure of executive functioning and ability to inhibit cognitive interference. In this task participants were presented with color words such as green, red, yellow, blue, and asked to respond with the ink color of the presented word and not the semantic representation of it. In some cases, the color of the color word was consistent with its semantic representation, meaning sometimes the color word green appears as green. In other cases, the color of the color word was inconsistent with its semantic representation, meaning sometimes the color word green appeared as red (i.e., green). This task was designed to measures a person's ability to inhibit their natural response. A person's ability to name the ink color and not the word indicates cognitive flexibility and high executive functioning skills. The Stroop task has been found to have high construct validity and predictability.

Stimuli Selection & Validation

The same method (Delphi expert rating method; Hernandez-Leal et al., 2021; Niederberger & Spranger, 2021) and panel of experts used in the pilot study were used in the present study to select artworks. Artworks were selected again from the University of Alabama's Paul Jones art collection and the general American cannon. Several artworks were retained from

the previous study, while a process of selection for fit and category inclusion was conducted to select new images to be included.

In the present study there were several suggestions, among the panel, for modifications to be made in the design based on the pilot study (1) it was suggested that artworks be analogous in style, and content and period of creation between the Black and White comparable categories but differ only in the race of characters portrayed. The expectation that this design would help to narrow the causal outcome, indicating that ratings were a product of racialized perceptions and not a preference for a certain style. For example, in the White Mainstream and Black Mainstream category there are two images of groups of people dancing: Thomas Hart Benton's The Twist, 1963 and Archibald Motley's Nightlife, 1943. The major distinction between the two paintings is the racial presentation of the subjects, one group is Black and the other, although arguably racially ambiguous, mostly represents as White. Table 15 (appendix, pg. 105) provides a complete list of the images selected for this study. It includes the year in which each piece was created, the name of the artist and the category in which they were included in the study. ; (2) The number of images across category was evened to four images per category making the total number of images in the study 16; (3) The names of the categories themselves were changed for better ease of communicating findings, although the criteria for category inclusion did not change. Blackstream is now Black Mainstream, Mainstream is now White Mainstream, Activist is now Black Political and Political is now White Political.

Procedure

The computer-based study was designed through the Qualtrics platform. It began with completing an eligibility questionnaire and signing an informed consent. Once those steps were done, participants proceeded to the experiment.

The experiment began with the administering of three measures: The Symbolic Racism Scale, an abbreviated Openness to Experience questionnaire, and the Stroop task. Following these measures participants evaluated 16 randomized images of paintings for their likability, comfort, valence, and value. Beneath each image were four questions; (1) on a scale from 1 to 7; 1 being not at all and 7 being a lot, how much do you like this image? (2) on a scale from 1 to 7; 1 being uncomfortable and 7 being comfortable, how comfortable are you with this image? (3) what do you believe is happening in this image/ what does this image represent and (4) If you had $100 how much you would spend on this painting? After answering the 4 questions, participants had to click an arrow to proceed to the next image and set of questions. Participants were not able to return to previously answered items. Once the final image was shown, and the set of corresponding questions was answered, participants were shown a screen that encouraged a break. Once participants commenced the study by clicking an arrow to the next screen, they were given the Implicit Associations Test (IAT). After completing the IAT, they then read a debriefing statement before reporting whether they wanted their responses to be included in analysis. On average participants took 88.59 minutes to complete the study. There were no participants who indicated that they did not want their data included in the analysis.

Data analysis

I conducted several analyses to test my hypotheses. First, I examined the relationship between measures of explicit racial bias, implicit racial bias, openness to experience, and inhibitory control using correlational analysis. Then I examined differences in art perception between Black and White participants performing two-way mixed ANOVA and chi-squared test. Next, employing mixed-effects models, I tested how age, racial biases, openness, and inhibitory control moderated the relationship between race and art perception and explored how age

impacts art perception and whether their relationship is moderated by racism, openness, and inhibitory control. Lastly, I conducted cohort mean and simple effects analyses to determine cohort differences in art ratings. All analyses were carried out in SPSS 28.0 using standard features and PROCESS plug in.

RESULTS

The relationship between racial biases, openness, and inhibitory control

Several analyses were conducted to understand the relationship between racism, openness and inhibitory control and their combined effects on ratings of paintings as a function of race and age. The analyses were conducted in two primary fashions (1) analyses were conducted across White and Black participants using age as a continuous variable and (2) analyses were conducted across cohorts with respect to race and age intersections; Black adults (BA), Black young adults (BYA), White adults (WA) and White young adults (WYA). These two directions of analyses were chosen to allow for a clearer picture of broader and more specific variable relationships across the sample.

I began the analysis by examining correlations between explicit racial bias, implicit racial bias, openness, and inhibitory control. Some measures individually and pairwise demonstrated moderate violations from univariate and bivariate normality, as indicated by histograms and perspective plots. Visual inspection of scatterplots revealed no influential outliers and linearity across all variable relationships. One exception was the Stroop task, with two extreme values that were excluded. In sum, I conducted a correlational analysis using Spearman's correlation coefficient and associated 95% confidence intervals. Benchmarks for small, medium, and large effect sizes were defined as .10, .20, and .30 (Gignac & Szodorai, 2016). Table 3 presents the results of a correlation analysis of the relationship between explicit and implicit racism, openness, and inhibitory control.

Table 3

Correlation matrix

Variables	1	2	3	4	*M*	*SD*	Range
1. Implicit racism scale (IAT)	—				-0.28	0.41	2.33
2. Explicit racism scale (SRS)	-.02	—			10.45	8.55	29.00
3. Openness to experience	.09	-.38***	—		3.59	0.64	3.50
4. Stroop test	.01	.08	-.05	—	234.83	692.25	7,800.42
5. Age	-.05	-.73***	.29***	-.08	27.77	13.41	48.00

Note. All correlations in the matrix are Spearman's correlation coefficients.

There were three significant correlations worth noting in Table 3. First, there was a large negative correlation between openness and explicit racism (r_s = -.38, 95% CI [-.48, -.26]). That is, participants lower in openness to experience were more prone to demonstrating explicit racial bias. Additionally, age had a weak positive correlation with openness (r = .29, p < .001) and a strong negative correlation with explicit racism (r = -.73, p <.001), indicating that as age increases openness increases (this is inconsistent with literature and will be addressed later in the limitations) and that when age increases explicit racism decreases. Evidence for this exists in literature that supports a difference in implicit and explicit prejudice expression in older adults, with older adults, in some cases, being motivated to be less explicitly bias (Lai et al., 2018). Most other correlations were close to zero, indicating no strong relationships between those variables. There were, however, negligible correlations between Symbolic Racism Scale (SRS) and IAT (r_s = .02, 95% CI [-.15, .11]) and between openness and IAT (r_s = .09, 95% CI [-.04, .21]). Likewise, the Stroop task had trivial correlations with explicit racism (r_s = .08, 95% CI [-.05, .20]), openness (r_s = -.05, 95% CI [-.18, .08]), and IAT (r_s = .01, 95% CI [-.12, .14]). Additionally, correlations between age implicit racism (r = -.05, p = .462) and Stroop (r = -.08, p = .256) were found to be negligible.

Finally, it deserves to be mentioned that the distribution of values for the Stroop task was abnormal, which could have caused variance shrinkage and—consequently—reduced correlations. The magnitude of potential shrinkage in correlation coefficients is, however, unknown.

Art perception in Blacks and Whites

Comfort, like, and value

One of my primary predictions involved the relationships among Age, Race, and several dependent variables: comfort, like and value. Thus, my first analysis was an ANOVA to examine the impact of race on participant's comfort with the painting; participant's ratings on the extent to which they liked the painting; and participant's rating on the extent to which they valued the paintings.

I predicted that Black participants would be rate Black art higher on like, comfort and value compared to White participants. In the next analysis, using a two-way mixed ANOVA, I examined differences in ratings of comfort, like, and value across four art categories between Blacks and Whites. Race and Art Type were defined as between- and within-subjects factors, respectively. In all models, the normality assumption was slightly to moderately violated, as indicated by skewness, kurtosis, and Q–Q plots. However, these violations remained within limits where ANOVA is considered robust in terms of Type I errors (Blanca et al., 2017; Schmider et al., 2010). Despite drastic difference in group sample sizes (Blacks: $n = 34$; Whites: $n = 194$), which could magnify variance heterogeneity, I safely proceeded with an ANOVA as there was a variance ratio lower or close to 1.5, which usually bears no detrimental consequences on obtained results (Blanca et al., 2018). When the assumption of sphericity was violated, the Huynh–Feldt correction was applied (Haverkamp & Beauducel, 2017). The homogeneity of

covariances—checked via Box's *M*-test with a *p*-value lower than .001 set as a criterion for significance—was violated only in models where value was a dependent variable. Post-hoc comparisons were performed with Welch's *t*-test. Benjamini–Hochberg procedure was used to control the false discovery rate in both ANOVA and *t*-test (Cramer et al., 2016). Benchmarks for small, medium, and large effect sizes for generalized eta squared (η^2_G) and Cohen's *d* on unpooled standard deviation were defined in accordance with Cohen (1988) and Gignac & Szodorai (2016), respectively.

Descriptive statistics are provided in Table 4. A two-way mixed Race (Black vs. White) x Art Type ANOVA (White Mainstream vs White Political vs. Black Mainstream vs Black Political) yielded statistically significant interaction between Race and Art Type for ratings of comfort (F (3, 678) = 8.74, $p < .001$, $\eta^2_G = .013$). Post-hoc comparisons revealed that Black participants rated comfort for Black Mainstream art moderately higher than White participants (t (42) = 2.77, $p = .008$, $d = 0.54$, 95% CI [0.14, 0.94]). The same trend, though smaller in magnitude and non-significant, was observed for Black Political art (t (42) = 1.51, $p = .140$, d = 0.30, 95% CI [-0.10, 0.69]). Similarly, Whites' ratings of comfort for White Mainstream art tended to be slightly higher than Blacks' ratings (t (41) = -1.33, $p = .190$, d = -0.27, 95% CI [-0.66, 0.13]). In White Political art, ratings of Whites and Blacks were indistinguishable. My predictions concerning Race and Black art were mostly confirmed as White participants ratings indicated that they were less comfortable with, liked less, and valued less art in the Black Mainstream and Black Political categories. My predictions that Black participants, as a function of familiarity, would rate White art equally to their ratings of Black art were disconfirmed as Black participants were mostly lower in comfort, liking and value ratings of White art compared to White participants.

Table 4

Descriptive statistics for art perception in Blacks and Whites

Variable	Blacks (n = 34)		Whites (n = 194)	
	M	*SD*	*M*	*SD*
Comfort				
White Mainstream	4.22	1.43	4.57	1.16
White Political	4.18	1.35	4.17	1.04
Black Mainstream	5.43	1.29	4.78	1.12
Black Political	4.46	1.43	4.07	1.20
Like				
White Mainstream	3.77	1.40	4.24	1.19
White Political	3.76	1.29	3.85	1.01
Black Mainstream	5.23	1.23	4.66	1.13
Black Political	4.10	1.37	3.72	1.11
Value				
White Mainstream	15.61	21.23	20.43	21.35
White Political	19.10	25.17	16.54	18.68
Black Mainstream	44.66	27.76	27.98	23.84
Black Political	30.22	28.58	14.77	18.17

I also conducted a two-way ANOVA 2 Race (Black vs. White) x 4 Art Type (Black Political, Black Mainstream, White Political, White Mainstream) for like ratings. Analysis showed a statistically significant interaction between Race and Art Type for ratings of like (F(3, 678) = 8.87, $p < .001$, $\eta^2_G = .016$). Post hoc analysis showed that Black participants rated like for Black Mainstream art moderately higher than White participants (t(43) = 2.50, p = .016, d = 0.48, 95% CI [0.09, 0.86]). In a similar vein, Blacks compared to Whites perceived items of Black Political art as more likable (t(41) = 1.52, p = .136, d = 0.30, 95% CI [-0.09, 0.70]). However, Whites' ratings of like for White Mainstream art tended to be slightly higher than Blacks' ratings (t(41) = -1.84, p = .073, d = -0.36, 95% CI [-0.75, 0.03]). In White Political art, ratings of Whites and Blacks were indistinguishable. Thus, there was not a significant racial

difference in the rating of White Mainstream art but there were racial differences in ratings of Black art.

This analysis also showed that there was a statistically significant interaction between Race and Art Type for ratings of value ($F(3, 678) = 12.59$, $p < .001$, $\eta^2_G = .022$). Post hoc analysis showed that Black participants compared to White participants gave significantly higher ratings of value for both Black Mainstream ($t(42) = 3.30$, $p = .002$, $d = 0.64$, 95% CI [0.23, 1.05]) and Black Political art ($t(38) = 3.05$, $p = .004$, $d = 0.65$, 95% CI [0.20, 1.08]). However, there was not a significant racial difference in the extent to which Blacks and Whites valued White Mainstream art ($t(45) = -1.22$, $p = .229$, $d = -0.23$, 95% CI [-0.59, 0.14]). In White Political art, ratings of Whites and Blacks were indistinguishable.

Race and racialized language use

There is an abundance of support in literature for race, as a phenotypical feature, being associated with negative semantic linguistic representations (Gaertner & McLaughlin, 1983; Kahn & Davies, 2010). Moreover, racism in America is grounded in language stereotypes that support the classification of people and their representations in both society and individual memory. Thus, racialized language use in the descriptions of racialized (racially categorized) paintings was of interest here.

Racialized language is operationalized here as the use of a stereotypically race-specific word such as White or Black. The use of this language to describe artworks was analyzed to quantify how frequently these descriptors were used to describe Black vs. White characters in artworks. The belief was that, as a function of racism, racial language use would be more prevalent amongst White people in their descriptions of Black figures in art. My rationale for that prediction was that White adults would consider White representations in art as the norm and

Black representations as an aberration of the norm this is supported by the combined findings of literature on cognitive associations and implicit bias.

In the racialized language analysis, I separately applied a chi-squared test for each art category (see Table 5). Considering that each art category had four items, I averaged frequencies across items for each value of racialized language use and then rounded them to whole numbers. Also, I had to omit certain levels of racialized language use for Black Mainstream art because they appeared less frequent than needed for valid computations. As a result, Race was very weakly related to the racialized language use across all art categories: Black Political art ($\chi^2(3, N = 224) = 1.90$, $p = .593$, Cramer's $V = .092$), White Political art ($\chi^2(3, N = 225) = 0.98$, $p = .806$, Cramer's $V = .066$), Black Mainstream art ($\chi^2(1, N = 226) = 1.74$, $p = .188$, Cramer's $V = .088$), and White Mainstream art ($\chi^2(3, N = 229) = 0.62$, $p = .892$, Cramer's $V = .052$). Although I didn't find evidence of racial effects when I examined racialized language across age groups, I did find an effect in subsequent analyses when I examined the effects of Age and Race on the use of racialized language, which are discussed later in the section Age and racialized language use.

Table 5

Contingency table for race and racialized language use across art categories

	No racialized language	Black racialized language	White racialized language	Black & White racialized language
Black Political				
Whites	117	57	3	14
Blacks	24	7	0	2
Black Mainstream				
Whites	140	52	0	0
Blacks	29	5	0	0
White Political				
Whites	183	4	2	3
Blacks	32	1	0	0
White Mainstream				
Whites	178	1	14	2
Blacks	32	0	2	0

Moderation analysis

Next, I explored whether age, racism, inhibitory control, and openness could moderate the effects of Race and Race × Art Type interaction on ratings of comfort, like, and value, using linear mixed-effects models. In brief, I adopted the hierarchical approach for testing moderation effects and fitted two nested models for each moderator and dependent variable. Model 1 included a random effect of participant and a fixed effect of Race or fixed effects of Race, Art Type, and their interaction. Model 2 added fixed effects of a moderator (e.g., Age) and a moderation effect of interest (e.g., Race × Age or Race × Art Type × Age interaction). Race and Art Type were dummy-coded, with Whites and Black Mainstream art selected as reference levels. In all models, there were no influential outliers, except for two extreme outliers for Stroop

test that were removed beforehand, residuals closely resembled normality distribution, and visual inspection of graphs depicting residuals against fitted values demonstrated no patterns of variance heterogeneity. Model parameters were estimated via the maximum likelihood method. The overall fit between models was compared with the likelihood ratio test (LRT), Akaike Information Criterion (AIC), and Bayesian Information Criterion (BIC). Fixed effects were tested with Wald *t*-test based on Satterthwaite approximation and profile-likelihood confidence intervals.

Results are summarized in Table 6 below. Although there were four potential moderation effects, neither of them satisfied all formal criteria. Some models showed no statistically significant improvement over the base model, while other models had too high values for BIC. Thus, moderation analyses for race did not reveal any noticeable effects.

Table 6

Results of moderation analysis for race

Model	$\Delta\chi^2$	*df*	*p*	AIC	BIC	Moderation
Comfort ~ Race						
Model 1	—	—	—	2676	2695	—
Model 2						
Race × Age	20.40	2	< .001	2660	2688	No
Race × Explicit Racism	21.30	2	< .001	2658	2687	No
Race × Implicit Racism	5.04	2	.081	2675	2703	No
Race × Openness	5.11	2	.078	2674	2703	No
Race × Stroop	0.25	2	.882	2679	2708	No
Comfort ~ Race × Art Type						
Model 1	—	—	—	2549	2597	—
Model 2						
Race × Art Type × Age	73.63	8	< .001	2491	2578	No
Race × Art Type × Explicit Racism	85.66	8	< .001	2480	2566	No
Race × Art Type × Implicit Racism	13.64	8	.092	2552	2638	No

Race × Art Type × Openness	10.24	8	.249	2555	2642	No
Race × Art Type × Stroop	6.23	8	.621	2559	2646	Yes
Like ~ Race						
Model 1	—	—	—	2773	2792	—
Model 2						
Race × Age	11.46	2	.003	2766	2795	No
Race × Explicit Racism	19.14	2	< .001	2758	2787	No
Race × Implicit Racism	3.24	2	.198	2774	2803	No
Race × Openness	12.47	2	.002	2765	2794	No
Race × Stroop	1.49	2	.474	2776	2805	No
Like ~ Race × Art Type						
Model 1	—	—	—	2597	2645	—
Model 2						
Race × Art Type × Age	67.66	8	< .001	2545	2632	No
Race × Art Type × Explicit Racism	64.69	8	< .001	2548	2635	No
Race × Art Type × Implicit Racism	18.72	8	.016	2594	2681	No
Race × Art Type × Openness	21.49	8	.006	2591	2678	No
Race × Art Type × Stroop	8.88	8	.352	2604	2690	Yes
Value ~ Race						
Model 1	—	—	—	8008	8027	—
Model 2						
Race × Age	15.80	2	< .001	7996	8025	No
Race × Explicit Racism	15.32	2	< .001	7997	8026	No
Race × Implicit Racism	3.34	2	.188	8009	8038	No
Race × Openness	14.84	2	.001	7997	8026	No
Race × Stroop	1.87	2	.393	8010	8039	No
Value ~ Race × Art Type						
Model 1	—	—	—	7887	7935	—
Model 2						
Race × Art Type × Age	30.57	8	< .001	7872	7959	No
Race × Art Type × Explicit Racism	42.29	8	< .001	7861	7947	Yes
Race × Art Type × Implicit Racism	18.77	8	.016	7884	7970	Yes
Race × Art Type × Openness	35.48	8	< .001	7867	7954	No
Race × Art Type × Stroop	5.66	8	.685	7897	7984	No

Note. Moderation column reflects whether beta coefficients corresponding to moderation effect were statistically significant ($p < .05$).

Age differences in art perception

Comfort, like, and value

To test how age affected ratings of comfort, likability, and value across four art categories, I applied linear mixed-effects models (LMM). LMM was the chosen analysis because it has fewer restrictions than ANOVA. Specifically, LMM allowed for moderators (e.g., age, implicit bias, explicit bias) to be measured on a continuous scale, while ANOVA can only be used for moderation analysis when moderators are nominal (e.g., race, gender).

The LMM included a random effect of participant and fixed effects of Age, Art Type, and Age × Art Type interaction. In all models, there were no influential outliers, residuals closely resembled normality distribution, and visual inspection of the graph depicting residuals against fitted values demonstrated no patterns of variance heterogeneity. The only exceptions were models for ratings of value, where one multivariate outlier was removed. Model parameters were estimated in the same way as in the previous analysis. Art Type was dummy-coded, with Black Mainstream art selected as reference level.

Results are summarized in Table 7 below. There was a statistically significant Age × Art Type interaction for ratings of comfort, like, and value. The older the person was, the higher they rated comfort in artworks of Black Political (b = 0.031, 95% CI [0.021, 0.042]) and White Mainstream art (b = 0.012, 95% CI [0.002, 0.023]) as compared to Black Mainstream art. Similarly, the older the person was, the higher they liked artworks of White Mainstream art as compared to Black Mainstream art (b = 0.028, 95% CI [0.017, 0.039]). Finally, the older the person was, the lower they valued White Political art compared to Black Mainstream art (b = -0.24, 95% CI [-0.46, -0.02]), and the higher they valued White Mainstream art compared to White Political art (less than 50% overlap between 95% CIs; Cumming, 2009).

Table 7

The effect of age on ratings of comfort, like, and value across art categories

Model parameters	Model 1: comfort	Model 2: like	Model 3: value
Fixed effects			
Intercept	4.60***	4.42***	20.33***
Age	0.01	0.01*	0.35***
Art Type: Black Political	-1.62***	-0.74***	-9.33**
Art Type: White Mainstream	-0.70***	-1.35***	-14.93***
Art Type: White Political	-0.62***	-0.65***	-6.63
Age × Black Political	0.03***	-0.01	-0.14
Age × White Mainstream	0.01*	0.03***	-0.16
Age × White Political	0.003	-0.01	-0.24*
Random effects			
τ_{00} (participant)	0.67	0.57	202
σ^2 (residuals)	0.60	0.67	248

*$p < .05$. **$p < .01$. ***$p < .001$.

Age and racialized language use

Semantic activation literature supports the strength of cognitive associations (Collins & Loftus, 1975), implicit bias literature shows the power of automatized cognitive associations in influencing prejudiced behaviors (Devine, 1989), and aging literature supports that with age people's cognitive skills decline and their ability to inhibit prepotent prejudiced responses diminishes (Czarnek et al., 2015). Taken together, this literature inspired my interest in age and racial differences in the use of racialized language when describing artworks. Thus, another dependent variable focused on participant language when answering the study item "What is happening in this image / What does the image represent," with particular focus on the use of racial identifiers in their narrative responses.

To figure out how age impacted racialized language use depending on art category, I have chosen the framework of generalized linear mixed-effects models (GLMM). GLMM was the chosen analysis because it allowed for the estimation of fixed and random effects and for the

analysis of the dependent variable that had four possible outcomes and was abnormally distributed. Lastly, GLMM was used because the racialized language dependent variable involved repeated measures. I ran three models where racialized language use was a dependent variable, modeled with a binomial distribution (logit link function), and the level of "*no racialized language used*" was chosen as a reference level. More concretely, the first, second, and third models estimated odds ratio (OR) for the use of Black racialized language, White racialized language, and a combination of Black and White racialized language, respectively. The effect of a participant was entered as a random effect, whereas fixed effects included Age, Art Type, and Age × Art Type interaction. Age was mean-centered, and Art Type was dummy-coded, with Black Political art selected as a reference level. All model assumptions of GLMM were satisfied. Model parameters were estimated using Laplace approximation. Fixed effects were tested with the Wald *Z* test.

Results are summarized in Table 8. The first model revealed a statistically significant interaction between Age and Black Mainstream art (OR = 1.03, Wald $Z = 3.51$, $p < .001$). That is, getting older by one year increases the probability of using Black racialized language when describing items of Black Mainstream art compared to Black Political art by 3.3%. Despite the presence of a statistically significant Age × Black Mainstream interaction in the second model, it was of little value because I was not interested in the change in the use of White racialized language when comparing Black Mainstream and Black Political art. The reason is that artworks from these categories had to feature Black persons as representative items. Thus, it is meaningless to highlight and interpret this interaction. Finally, the third model revealed statistically significant interactions of Age with Black Mainstream art (OR = 1.06, Wald $Z = 68.47$, $p < .001$), White Mainstream art (OR = 1.003, Wald $Z = 3.65$, $p < .001$), and White

Political art (OR = 0.96, Wald Z = -46.69, $p < .001$). It means that getting older by one year was associated with an increase in the probability of using Black or White racialized language when describing items of Black and White Mainstream art compared to Black Political art by 5.5% and 0.29%, respectively, and with a decrease of 3.6% in the probability of using Black or White racialized language when describing items of White Political art compared to Black Political art.

Table 8

GLMM results for the effect of age on racialized language use across art categories

Model parameters	Racialized language		
	Model 1: Black	Model 2: White	Model 3: Black & White
Fixed effects			
Intercept	0.36^{***}	0.01^{***}	0.05^{***}
Age	1.00	0.97	1.01^{***}
Art Type: Black Mainstream	0.58^{***}	$< 0.001^{**}$	0.03^{***}
Art Type: White Mainstream	0.005^{***}	2.46^{**}	0.05^{***}
Art Type: White Political	0.02^{***}	< 0.001	0.07^{***}
Age × Black Mainstream	1.03^{***}	$< 0.001^{**}$	1.06^{***}
Age × White Mainstream	0.98	1.05	1.003^{***}
Age × White Political	1.00	0.50	0.96^{***}
Random effects			
τ_{00} (participant)	1.50	1.84	1.70

Note. Fixed and random effects presented in the table were exponentiated.
$^{**}p < .01$. $^{***}p < .001$.

Moderation analysis

Lastly, I explored whether racial biases, inhibitory control, and openness could moderate the effects of Age and Age × Art Type interaction on ratings of comfort, like, and value. For these purposes, I used LMM and adhered to the same analytical strategy as described in the moderation analysis for race. In all models, there were no influential outliers, except for two extreme outliers for Stroop test that were removed beforehand, residuals closely resembled

normality distribution, and visual inspection of graphs depicting residuals against fitted values demonstrated no patterns of variance heterogeneity.

Results are summarized in Table 9. Although there were three potential moderation effects for openness, neither of them satisfied formal criteria as all models had BIC higher than in base models. Thus, moderation analyses for age did not reveal any noticeable effects. My findings were not consistent with my predictions, as I predicted that older adults who were high in explicit and implicit biases would rate the art more unfavorably than younger adults. I also predicted that older adults' rating of the art would vary as a function of openness to experience in that older adults who were higher in openness would rate the art more favorably than older adults who were low in openness to experience. Finally, I predicted that older adults who were low in explicit racism with poor inhibitory control would rate the art pieces more unfavorably than individuals who were low in racism but high in inhibitory control.

Table 9

Results of moderation analysis for age

Model	$\Delta\chi^2$	*df*	*p*	AIC	BIC	Moderation
Comfort ~ Age						
Model 1	—	—	—	2656	2676	—
Model 2						
Age × Explicit Racism	4.25	2	.120	2656	2685	No
Age × Implicit Racism	5.42	2	.067	2655	2684	No
Age × Openness	0.93	2	.629	2659	2688	No
Age × Stroop	2.65	2	.266	2658	2684	No
Comfort ~ Age × Art Type						
Model 1	—	—	—	2504	2552	—
Model 2						
Age × Art Type × Explicit Racism	19.70	8	.012	2500	2587	No
Age × Art Type × Implicit Racism	1.51	8	.095	2507	2593	No
Age × Art Type × Openness	12.64	8	.125	2507	2594	Yes

Age × Art Type × Stroop	8.58	8	.379	2511	2598	No
Like ~ Age						
Model 1	—	—	—	2762	2781	—
Model 2						
Age × Explicit Racism	8.63	2	.013	2757	2786	No
Age × Implicit Racism	4.17	2	.124	2762	2791	No
Age × Openness	7.63	2	.022	2758	2787	No
Age × Stroop	1.79	2	.408	2764	2793	No
Like ~ Age × Art Type						
Model 1	—	—	—	2557	2606	—
Model 2						
Age × Art Type × Explicit Racism	27.15	8	.001	2546	2633	No
Age × Art Type × Implicit Racism	20.77	8	.008	2553	2639	No
Age × Art Type × Openness	22.78	8	.004	2551	2637	Yes
Age × Art Type × Stroop	5.78	8	.672	2568	2654	No
Value ~ Age						
Model 1	—	—	—	7970	7989	—
Model 2						
Age × Explicit Racism	2.07	2	.356	7972	8001	No
Age × Implicit Racism	7.89	2	.019	7966	7995	No
Age × Openness	8.64	2	.013	7965	7994	No
Age × Stroop	2.34	2	.311	7971	8000	No
Value ~ Age × Art Type						
Model 1	—	—	—	7870	7918	—
Model 2						
Age × Art Type × Explicit Racism	20.96	8	.007	7865	7951	No
Age × Art Type × Implicit Racism	25.40	8	.001	7860	7947	No
Age × Art Type × Openness	38.05	8	< .001	7847	7934	Yes
Age × Art Type × Stroop	5.35	8	.719	7880	7967	No

Note. Moderation column reflects whether beta coefficients corresponding to moderation effect were statistically significant ($p < .05$).

Art Perception in Black and White Adults and Young Adults

Whether implicit bias, explicit bias, openness to experience, and executive functioning contributed the age effects on painting ratings was a primary question of this study. The

moderation analyses as outlined in Table 9 indicated that these variables were not significant moderators. Further analyses were conducted to examine scores on each measure by race and age cohorts. Table 10 below shows the results of these analyses.

Table 10

Descriptive Statistics by Race and Age Cohorts for Scores on Bias, Openness and Executive Functioning Measures

Measures	*M (SD)*	*Range*	*Min*	*Max*
Black Adults				
Implicit Racism Scale (IAT)	-.17 (.30)	.90	-.55	.35
Explicit Racism Scale (SRS)	16.44 (6.70)	17	10	27
Openness to Experience	.34 (1.57)	5.48	-3.27	2.21
Stroop Test	2.07 (1.45)	3.86	1.01	4.87
Age	44.67 (7.09)	22	36	58
White Adults				
Implicit Racism Scale (IAT)	-.33 (.39)	1.94	-1.20	.74
Explicit Racism Scale (SRS)	16.06 (5.84)	20	9	29
Openness to Experience	.39 (1.10)	5.48	-3.27	2.21
Stroop Test	1.37 (0.88)	4.47	0.16	4.90
Age	44.90 (8.82)	36	30	66
Black Young Adults				
Implicit Racism Scale (IAT)	-.13 (.55)	1.96	-.86	1.10
Explicit Racism Scale (SRS)	13.24 (4.28)	15	8	23
Openness to Experience	.11 (.95)	4.11	-2.48	1.63
Stroop Test	2.00 (1.26	5.93	0.74	6.67
Age	19.36 (3.20)	12	18	30
White Young Adults				
Implicit Racism Scale (IAT)	-.28 (.39)	1.88	-1.22	.66
Explicit Racism Scale (SRS)	16.33 (4.97)	21	8	29
Openness to Experience	-.26 (.82)	3.72	-2.09	1.63
Stroop Test	1.49 (1.27)	10.65	0.59	11.24
Age	18.83 (1.85))	10	18	28

Note. On the IAT D scores were used in the analysis, on the SRS scores range from 8-31 with higher scores meaning more symbolic racism, on Openness to Experience z scores were used, and on the Stroop the scores in seconds for incongruent trials were used.

Table 10 suggests that overall moderation effects were not found because cohorts responded similarly across all measures. If cohorts had a greater age difference, and a true older

adult and younger adult cohort were represented by the sample, it is believed that age-dependent differences across measures would have been significant and moderation effects would have been found.

Lastly, three analyses of means were conducted to examine cohort differences in art perception. The first analysis examined Black young adult (BYA) vs. White young adult (WYA) ratings of art per category, the second examined Black adult (BA) vs White adult (WA) ratings of art per category, and the third examined White adult (WA) vs White young adult (WYA) ratings of Black art. Black and White young adults were expected to have comparable ratings across all art categories. White adults and Black adults were expected to rate the art differently, specifically White adults were expected to rate Black art lower than Black adults. Finally, WAs and WYAs were expected to rate Black art differently as a function of differences in bias activation and cognitive capabilities. Specifically, if the hypotheses were correct WAs would activate anti-Black biases more and have fewer cognitive resources to inhibit them, leading to lower ratings of Black art compared to WYAs.

Table 11 shows the first analysis of means, providing descriptive statistics for BYA and WYA ratings by art category.

Table 11

Descriptive statistics for Black and White Young Adult Ratings of White and Black Art

Variable	Black Young Adults (*n* = 25)		White Young Adults (*n* = 126)	
	M	*SD*	*M*	*SD*
Comfort				
White Mainstream	4.11	1.48	4.35	1.13
White Political	4.12	1.40	4.08	1.00
Black Mainstream	5.35	1.33	4.69	1.16
Black Political	4.05	1.34	3.63	1.08
Like				
White Mainstream	3.50	1.35	3.85	1.05
White Political	3.58	1.27	3.82	.960
Black Mainstream	5.09	1.29	4.54	1.19
Black Political	4.11	1.42	3.64	1.08
Value				
White Mainstream	10.83	15.88	15.84	18.74
White Political	15.47	22.49	15.47	16.60
Black Mainstream	40.09	28.44	24.90	22.90
Black Political	29.55*	30.02	12.40*	15.01

Note. Asterisks indicate means of significant difference in Black and White young adult ratings of Black Political Art.

The analysis on Black vs. White young adult ratings of White and Black art showed that data were mostly consistent with expectations in that ratings were relatively equal across art

categories for BYA and WYA. After a series of ad hoc examinations, to investigate any significance in mean differences between the groups, an independent samples t-tests of WYA means determined, that there was a significant difference between Black (M = 29.55, SD = 30.02) and White (M = 12.40, SD = 15.01) young adults' value ratings of Black political art $t(226) = 3.899$, $p = .001$; $d = 20.11$, 95% CI [5.16, 15.72]. This was inconsistent with expectations as WYA and BYA were expected to have comparable ratings across all art categories; instead, WYA rated Black Political art significantly lower than BYA.

A second mean analysis for Black adult (BA) and White adult (WA) ratings of art was conducted. White adults were expected to be lower in their ratings of Black art compared to Black adults. Black adults were expected to rate Black art higher than White adults and White art comparably to White adults. Table 12 below shows the output of this analysis.

Table 12

Descriptive statistics for Black and White Adults Ratings of White and Black Art

Variable	Black Adults (n = 9)		White Adults (n = 68)	
	M	*M*	*M*	*SD*
Comfort				
White Mainstream	4.52	1.29	4.95	1.09
White Political	4.33	1.26	4.32	1.09
Black Mainstream	5.63	1.19	4.93	1.01
Black Political	5.61	.969	4.88	.969
Like				
White Mainstream	4.52	1.29	4.95	1.09
White Political	4.25	1.27	3.90	1.10
Black Mainstream	5.61	.969	4.88	.969
Black Political	4.05	1.29	3.84	1.15
Value				
White Mainstream	28.89	28.85	28.93	23.34
White Political	29.19*	30.65	18.50*	22.02
Black Mainstream	57.36	22.45	33.68	24.65
Black Political	33.08	25.69	19.15	22.36

Note. Asterisks indicate means of significant difference in Black and White adult ratings of White Political Art

The expectations for this analysis were met with one exception; BAs (M = 29.19, SD = 30.65) rated value of White Political art significantly higher than WAs (M = 18.50, SD = 22.02) as confirmed by an independent samples t-test ($t(226) = -1.914$, $p = .005$; $d = 19.63$, 95% CI [-25.93, .375]). It was expected that BAs would rate White art comparably to WA ratings, however significantly higher was not anticipated, especially not in the White Political category where views were intended to be more polarizing that the White Mainstream category comparatively.

In the third analysis of means WA and WYA ratings across art category were compared. It was expected that WAs would rate Black art lower than WYA. Table 13 below shows the results of the mean comparisons. The results are inconsistent with expectations as WA, and WYA ratings of Black art were comparable.

Table 13

Descriptive Statistics for White Adults (WA) and White Young Adults (WYA) Ratings of Black Art

Variable	White Adults (n = 68)		White Young Adults (n = 126)	
	M	*SD*	*M*	*SD*
Comfort				
Black Mainstream	4.93	1.01	4.69	1.16
Black Political	4.88	.969	3.63	1.09
Like				
Black Mainstream	4.88	.969	4.54	1.19
Black Political	3.84	1.15	3.64	1.08
Value				
Black Mainstream	33.68	24.65	24.90	22.90
Black Political	19.15	22.36	12.40	15.01

DISCUSSION

The goal of the present study was to examine whether explicit and implicit racism, openness to experience and cognitive ability influenced the evaluations of racialized artworks among Black and White adults and young adults. In the following section I will summarize the key findings by reintroducing the major hypotheses and stating whether each was supported by the data. Then, I will present the study limitations and implications, and lastly, introduce future directions.

Summary of Key Findings

A foundational prediction was that racism, openness and cognitive ability would be correlated and thus have a combined effect on aesthetic ratings. This was largely not supported by the data. Openness was found to be correlated with explicit bias; however, the correlation was not found to contribute to art ratings.

Consistent with the pilot study, there was significant evidence of a difference in art ratings between White and Black participants, with White participants specifically rating Black art lower than Black participants. The current study set out to expand the participant demographics to include older adults, however an older adult sample was not represented in this sample. Instead, adult, and young adult comparative analyses were conducted, which found a differences in art ratings at the intersection of age and race. However, the moderating factors hypothesized to contribute to the effects of the age and race interactions, were not found to be significant.

The research hypotheses were that (1) White Adults (WA) would rate Black art lower on dimensions of comfort, like and value and would use Black racialized language in the narrative descriptions of art in Black art categories (Black Mainstream, Black Political) more frequently than Black participants. This hypothesis was supported; (2) White adults' (WA) ratings of Black art were expected to be moderated by low ratings on EF and Openness and high ratings on implicit and explicit racism scales. This hypothesis was not supported as EF openness and racism were not found to be moderators of the race x art type interaction; (3) BAs were expected to rate art in Black categories higher than White adults and art in White art categories comparable to White adults on dimensions of like, comfort, and value as a function of their familiarity with both Black and White art through societal exposure.

Also, BA were expected to use Black racialized language less than WAs. Additionally, moderating effects were not expected to impact BAs ratings, as anti-Black bias was not anticipated to be a factor in their judgements. These hypotheses were mostly supported with one exception, BAs rated value of White Political art higher than Whites. (4) Based on my pilot study, White young adults (WYA) were expected to rate Black art comparably to Black young adults and more favorably than White adults. I predicted that the age effect would be moderated by higher EF and openness scores and lower implicit and explicit bias scores. This hypothesis was not fully supported by the data. While across most dimensions for Black art White young adults rated art comparably to Black young adults, they rated art in the Black Political category lower in value compared to Young Black adults. Additionally, counter to expectations WYA rated Black Political art comparably to WAs on all dimensions. (5) BYAs were expected to rate Black and White art equally. This hypothesis was not supported as BYAs rated Black Political art higher on value than White Political art.

Interpretation of Findings

The expected and unexpected results of this study raise several important questions and supports the need of further investigation. Foremost the sample size raises a question about the study's predictive power. While the total sample size satisfied a g power analysis threshold of predictive power, the cells of smaller cohorts are underpowered, particularly Black adults (N = 9). This is believed to be contributing to shrinkage of anticipated effects. A potential antidote for this issue in future studies is to ensure that each cell is adequately powered. Additionally, another major issue was that the cohort groupings were not wholly representative of what is identified in literature as older vs. younger adults (Schaie & Willis, 2000).

Age, Inhibition, and Openness to Experience

The fact that I had a sizeable proportion of middle-aged adults in this sample made a significant difference with regard to outcome measures (openness, EF, and explicit racism). Over half of the Black (55%) and White (54%) adult cohorts were middle aged adults (40-65).

Several unanticipated results are related to this lack of statistical power, and unrepresentative cohorts. First, the absence of strong correlations between explicit and implicit racism, openness to experience and cognitive ability are interpreted as being indicative of a deduction that could not be adequately measured by the sample. Because various literature reports relationships between these variables one to another (e.g., openness to explicit racism, Sibley & Duckitt, 2008; cognitive ability to implicit racism, Gonsalkorale, 2008; cognitive ability to explicit racism, Cassidy et al., 2019) and highlights their combined effects on a variety of ordinary perceptual experiences, it was hypothesized, that collectively they might influence a very specific type of perceptual experience, art rating. This was not the case in this study.

However, one positive aspect of my sample is that it provided an opportunity to examine cognition, prejudice, and art perspectives among middle-aged adults. This sample was unique in terms of cognitive ability (e.g., no age differences). Although the results from this study cannot be generalized to all individuals who are middle-aged, it provides some insight into individuals who meet the demographic characteristics of the participants in this study.

Middle age is understudied in cognitive psychology, and developmental psychology in general. Nevertheless, there are studies documenting EF during middle age. The literature indicates that cognitive decline in EF starts in middle-age (Nielson, Langenecker, & Garavan, 2002; Spreng & Turner, 2019) but is moderated by several factors. For example, openness to experience moderates the extent to which cognition declines among middle-aged and older adults with those higher in openness, and thus willingness to engage with culture in a variety of ways, seeing slower decline in episodic memory and verbal ability (Hogan et al., 2012; Stolz et al., 2022; Villalva-Sánchez et al., 2022). There are reasons to believe that the participants in this study might be high in openness to experience relative to other individuals within this age group.

Mechanical Turk (MTURK) and Self-Selection Bias

Participants in MTURK can choose from a variety of studies presenting a strong possibility of self-selection bias. That is, individuals that chose to participate in this study advertised as a study on "art perception" probably score higher on the openness to experience dimension of the Big Five than typical middle-aged and older adults. Because they were interested, they may already have a skewness toward openness relative to typical adults in this age cohort. In fact, the older adults scores on openness to experience in this study were not significantly different from the younger adults, although openness to experience generally declines with age. Finally, education moderates the effect of aging on cognition (Lövdén et al.,

2020) . Mturk samples tend to be highly educated in comparison with typical middle-aged older adults who are recruited in the community (Huff & Tingley, 2015; Ogletree & Katz, 2021). Additionally, research has reported a difference between the older adult Mturk population and the general population, indicating that findings about the behaviors of older adults gathered through assessment of the Mturk population should not be overgeneralized (Huff & Tingley, 2015; Ogletree & Katz, 2021).

Expected results

Black vs White

The significant race x art type interactions for White participants ratings of comfort, like, and value were consistent with pilot study findings. These results further substantiate that comfort, like and value ratings of art are dependent on the interaction between race and type of art for White participants. Further, it supports that race congruent art is preferred by White participants over race incongruent art, which is consistent with the theory that lack familiarity with or exposure to racial symbols featured in Black art might contribute to art ratings, at least for White participants specifically. While evidence supports that art ratings are dependent on a race and art type interaction, it remains unclear what factors are moderating this effect. It is important to note that these results were far more powered than smaller cohort findings.

Black and White adults and young adults

In the cohort analyses the expectation that White adults would rate Black art lower and use racialized language more often to describe Black art, compared to Black adults was met. Additionally, Black young adults, as anticipated, rated Black and White art equally.

Unexpected results

Black vs White

Black participants were expected to rate White and Black art comparably to White participants as a function of exposure. However, this study found that Black participants rated White art lower than Black art on comfort, like and value. This finding could exist for several reasons; (1) societal exposure to Whiteness as the preferred aesthetic, might not be as pronounced in media and culture as it once was (2) according to recent research by Chow et. al., 2022, exposure effects might be situational and (3) exposure may need to satisfy certain criteria (i.e., consistent, intense, goal- oriented) in order to be effective (4) Lastly, Blacks might have a greater appreciation for the Black aesthetic and therefore had greater enjoyment when reviewing art that reflected Black culture. Evidence is cross-cultural studies supports the idea of a preference for art with cultural congruency (Bao, 2016)

Black and White adults and young Adults

Black adults were expected to rate Black art higher than White adults and White art comparably to White adults. However, while Black adults' ratings of Black art was consistent with expectations, their rating of White Political art higher than White adults as opposed to comparable, was not expected. One possible reason for this finding is that Black adults recruited for this study had a more favorable view of political art and art in general compared to Whites; to further substantiate this claim, a total of 12 Likert scale ratings across category (White Mainstream, Black Mainstream, White Political, Black Political) and dimensions (like, comfort, value) were assessed. Of those 12 ratings, Black adults were higher in their ratings on 9 compared to White adults, only lower than White adults in comfort, like, and value ratings of

White Mainstream art. As indicated earlier, the Black older adult data must be viewed with some caution, because of the small underpowered sample.

White young adults rated value for Black political art lower than Blacks. I interpret this to mean that I overestimated cohort effects when I expected young adults in general to have higher ratings of art compared to adults as a function of arts ubiquity in society and young adults' consistent exposure to artistic media.

Additionally, the finding that White adults' and White young adults' ratings of Black art were comparable, was not anticipated as a function of White adults being expected to have lower EF (von Hippel, 2000; Stewart et al., 2009), lower inhibitory control (Plant & Devine, 1998), higher racism (Czarnek et al., 2015, Cassidy et a., 2019) and lower openness (Sibley & Duckitt, 2008). However, since EF, racism, and openness were not significant moderators, this finding is attributed to the lack of distinct cohort separation. Specifically, over half of the WA cohort (55%) were middle aged in this study.

Lastly, moderating effects of openness, EF function and explicit and implicit bias were not found. An analysis of the scores on these measures showed similarities across racial cohorts, meaning that Blacks and Whites' scores on these measures were statistically similar as indicated by mean, SD and range of these variables as outlined in Table 10. Because these measures were age-dependent, as previously mentioned, the closeness in age of the young adult and adult cohorts is presumed to be contributing to this statistical outcome.

As stated earlier, however, this cohort of middle-aged and older adults was atypical in some respects. In fact, in a sense it is a misnomer, to refer to this sample of individuals 45 and over as "older adults," given their average age was 44. This would mean that a sizeable proportion of the sample included individuals from the cohort "generation x." Generation X

grew up during the 1970s and were young adults during the 1980s and 1990s. Their experiences would be very different from the experiences of baby-boomers. Generation X didn't grow up during a time in which there was legal massed segregation. Instead, society was being integrated and this generation would have had more exposure to people of different races and cultures. It is not surprising that the more open-minded individuals of Generation X wouldn't differ from young adults. In fact, for the most part, the adults and young adults were alike, except that the adults were less biased in art nonrepresentational art judgement than the young adults.

Measuring Implicit and Explicit Bias via art.

Given the pattern of data, I believe that it is necessary to reconsider my original assumption that the selected art pieces would elicit the bias reflected in the real world.

Theoretical Issues

One primary theory of this research is that art elicits emotions similar to those of real-world experiences. This idea is supported throughout empirical aesthetics (Shimamura, 2015, Menninghaus et al., 2017; Pelowski et al., 2017) and neuroaesthetics literature (Vartanian & Goel, 2004; Chatterjee & Vartanian, 2014), and was critical to the belief that symbols in art that were incongruent with a viewer's racial identity would elicit negative emotions, especially if the viewer held racists beliefs toward the people the symbols represented.

Konečni, 2015 refutes this idea and reports that the emotions evoked during art viewing and ordinary life contexts are not the same. According to Konečni, 2015 perhaps what I am measuring as like, comfort, and value is an assessment of bottom-up perceptions such as form, color, and shape used in the art and cannot be adequately contributed to higher order cognitions because as, Konečni, 2015 purports, the situational schema of art reception creates a framing for

the art that does not allow for the presence of emotions as bringing emotions into an arts space knowingly is too psychologically costly for a viewer.

Menninghaus et. al., 2017 propose a very interesting theory about emotion activation during art viewing is in line with Konečni, 2015, as far as the viewpoint that real world and art world emotion activations are different is concerned. Menninghaus et. al., 2017 communicate that not only are emotions activated during art reception, but negative emotion activation is a necessary part of art viewing that increases like judgements through a process of distancing and embracing. The distancing and embracing model relies on situational emotion activation. The viewer examines art with an "art framing" understanding that their emotions are context dependent and separate from "self". This allows negative emotions such as fear, disgust, and anger to be activated, but distanced from the personal self, facilitating like.

One possible conclusion for the results of this study based on the Menninghaus et al., 2017 model, is that since the emotion activation during art reception is different from emotion activation during people perception, as I proposed in the design of this study, then the mechanisms involved in measuring the bias responses as the outcome variable of the emotion activation, cannot be reasonably used. That is, the Symbolic Racism Scale (SRS) the Implicit Associations Test (IAT) and Stroop, might not be measuring explicit and implicit biases and executive ability in the way that they exist during the art viewing process. Further, the use of like, comfort, valence, and value ratings to assess constructs such as racism, cognitive ability and personality, might not produce results with any real meaningfulness. This is so because according to Menninghaus et al., 2017 the art judgements would be more removed from the "self" than other variables, making attribution of one outcome as dependent on another difficult, as the findings of this study indicate. One way to address this issue in a future study would be to

ask more self-report questions related to their experience with the art that assess valence with broader metrics than like, comfort and written descriptions. Additionally, maybe even asking a question like "how do you feel when you see someone artistically represented that does not look like you" and adding a more concrete measure of emotion such as the Discrete Emotions Questionnaire (DEQ; Harmon-Jones et al., 2016).

Limitations

There are several significant limitations of this study, beyond the ones already mentioned -sample size and cohort age range – that I believe have contributed greatly to the finding that racism, executive functioning, and openness did not moderate age and race effects of art ratings in this sample. I will discuss these limitations here.

Sample

The sample of this study was $N = 228$ participants. Classified by race cohort the study included White adults ($N = 194$) and Black adults ($N = 34$). Classified by age and race cohort the study included Black adults (BA; $N= 9$), White adults (WA; $N = 68$), Black young adults (BYA; $N = 25$) and White young adults (WYA; $N = 126$). The total sample was adequately powered but underpowered cells possibly caused the shrinkage of any meaningful effects. The cohort samples, particularly the Black older adults, were severely underpowered, making it impossible to see any real effects that might have existed had a more robust grouping of cohorts been surveyed. For future studies, an equal number of participants per cohort with adequate power is necessary.

Also, the cohort separation was intendent to measure the effects of age on the interaction of race and art responses. Aging literature is clear that aging affects openness (Sibley & Duckitt, 2008; Schwaba et al., 2018), executive functioning (Diamond et al., 2012, Cassidy et al., 2020),

and expressions of racism (von Hippel et al., 2000, Czarnek et al., 2015). Therefore, it was critical to the results that distinct age cohorts of younger and older adults were represented by the sample. The age cohort separations, as outlined in aging literature (Schaie & Willis, 2000), were not satisfied. The "older" adult sample was more of a middle-aged adult sample with a mean age of (M = 44.87, SD = 8.59). This mean age did not satisfy the threshold for the beginning of cognitive decline, which according to most of aging literature, begins around age 45, or the threshold of when cognitive decline becomes more pronounced at 65+ (Schaie & Willis, 2000).

Additionally, the sample participants were both University of Alabama students and citizens from around the country recruited through MTURK. Regional differences in respect to art appreciation, exposure to aesthetics in environment (i.e., someone who lives in New York might have more exposure to art in society than someone who lives in Wyoming, and therefore would be more efficient at processing and making a judgement), and variables such as these that are person-specific and could have had an impact on aggregate results, were not controlled for. Perhaps a community sample might be better for future studies to control for possible confounds.

Lastly, gender was not analyzed as a covariate in this study. This should not be the case in future studies as Assari, 2018 reports that race and gender intersect to influence implicit bias against Blacks. They indicate that White males tend to exercise the highest level of anti-Black bias among any cohort in America. However, only 52 White men, 34 of which were older, were surveyed in this study compared to 142 White women, 34 of which were older. If White men show more prevalence for bias, then this White men, particularly older White men cohort of this study was more than likely too underpowered to detect any meaningful differences. In future research gender, and its effect on racial bias, should be taken into consideration during the design.

Stimuli

This study was the first study, that I am aware of, that assesses the relationship between racism, openness, executive functioning ability and aesthetic preference. This study uses art ratings as evidence for the existence of racist attitudes, EF deficits and high or low openness. For this reason, there are questions about the validity of the stimuli used, particularly their ability to elicit responses that could be measured and attributed to the proper constructs. For future studies, should be a proper validation of stimuli.

Considering a previous discussion about emotional activation during art processing, there is also a concern of whether art conceals bias as opposed to exposing it. If, as Menninghaus et al., 2017 proposed, art requires a distancing from self in the process of facilitating a judgement, then perhaps the distancing of racial bias, different from inhibition of racial bias, occurred during art judgement. Inhibition facilitates the suppression of racial biases, while distancing would put the perceiver in an art context, so that they would be primed not to expend the psychological resources to activate biases to begin with. This may be consistent with Davidson & Edgar, 2003 who found no evidence of racial bias activation in the judgement of Western art music performance.

Another concern regarding the stimuli is whether the figures in the art are soliciting the same level of bias. Literature supports that people who occupy multiple social categories (e.g., Black, man, old) activated bias dependent on those intersections (Kim et al, 2015). For example, Black men are perceived negatively in many implicit bias studies (Wilson, Hugenburg & Rule, 2017) especially Black males with higher Black phenotypically (Kahn & Davies, 2010) however, evidence shows that older Black males are evaluated more positively than younger Black males by both young (Kang & Chasteen, 2009) and old (Kang et al., 2014) adult perceivers. And other

evidence shows that elderly people in general garner positive evaluations from young and old perceivers (Chasteen, Schwartz & Park, 2002) This positive bias towards older Black males, and older people, in general, could have skewed the liking of nearly half of the images. Of the 16 images included in this study 7 of them present figures that can be perceived as elderly. This lends itself as further support for the need of a validation study of the stimuli. Further it begs the question of the need for an investigation of positive bias in art perception.

Measures

This study was programmed using Qualtrics and was not compatible with programs of the measures used in the study. Therefore, I had to build measures. I used iatgen (Carpenter et al., in press) to create the race IAT, I created trials of Stroop in Qualtrics, and programmed the explicit racism and openness scales. The programming of a few of these measures presented unique limitations within this study. First, iatgen is a relatively new JavaScript that has only been validated in one peer reviewed article. Much more testing of its psychometric validity needs to be conducted. Second, Qualtrics does not have an adequate plug in to record reaction time as needed for the Stroop measure. Instead, I had to derive reaction time by subtracting the milliseconds at the time of the of the first click on a trial from the milliseconds at the time of the last click on that same trial, to arrive at a difference. This difference was interpreted as the reaction time. This process left room for computational errors. The 44-item abbreviated BFI measure was programmed. In this measure the 5 personality constructs were assessed by various items on the scale. The items related to the construct openness were 5, 10, 15, 20, 25, 30, 35, 40, 41 and, 44. In the programming of the study however, items 20 and 44 were not asked in error. This did not detrimentally affect the construct validity however it could have had a bearing on the analysis.

Implications

Despite the limitations of this study, there were several findings that support the need for further investigation which explores the activation of biases during painting assessment. Pending some methodological adjustments, this line of inquiry can contribute to understanding how biases are activated or distinctively suppressed during the viewing of creative products. More broadly, this research can inform the ways art mirrors social perspectives and can be used as the groundwork for interventions to solve racism during perceptual experiences (Jackson et.al., in press)

Future Research

A future study direction is to first validate a set of stimuli to be used in art judgement studies. Next, is to examine emotion more closely as a moderating factor of art judgement to understand how biases may be suppressed by art framing as opposed to exposed by it.

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APPENDIX A: STUDY IMAGES & TITLE LISTINGS

Pilot Study Images

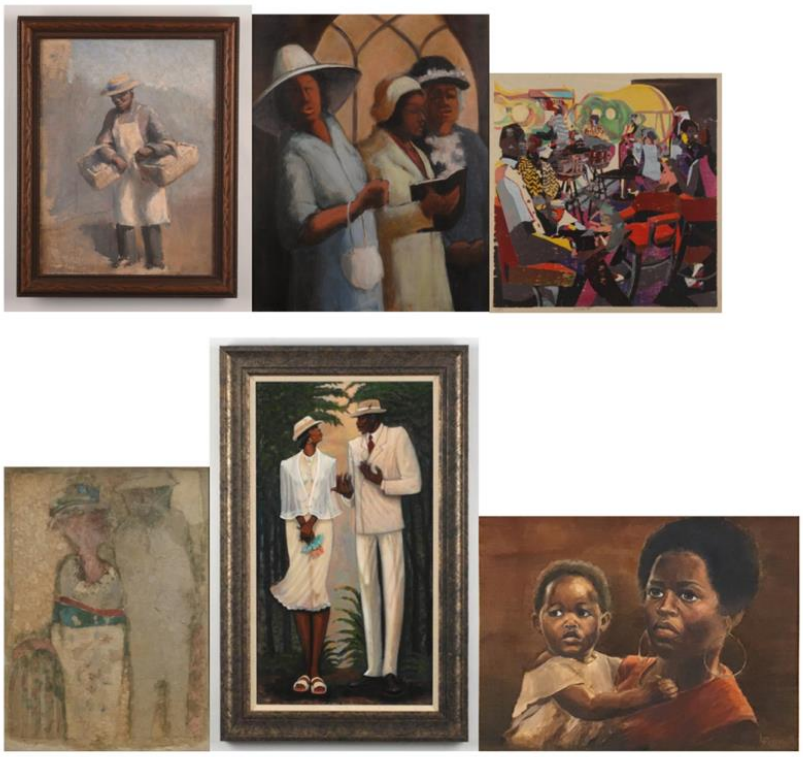
Figure 4

Images included in the Mainstream Category

Note. The above images were included in the Mainstream art category. As operationalized by the study, images in this category included scenery, families and everyday life. Any people depicted in these images were white, as white people represent the dominant race of mainstream society. Paintings included in the Mainstream category were created by artists who identify as white. In clockwise order, Image 1: *Tea Leaves (1909)* by William Paxton; Image 2: *Baptism in Kansas (1928)* by John Steuart Curry; Image 3: *Six O' Clock Winter (1912)* by John Sloan; and Image 4: *Freedom from Want (1943)* by Norman Rockwell.

Figure 5

Images included in the Blackstream category



Note. The above images were included in the Blackstream art category. As operationalized by the study, images in this category included scenery, families and everyday life. However, any people within these images were black. This category represents how blackness is a distinct aesthetic that is strategically separated from the Mainstream aesthetic despite similarities in the values represented in the two categories. Paintings in the Blackstream category were created by artists who identify as black. In clockwise order, Image 1: *Untitled* (ca. 1920) by Edwin Augustus Harleston; Image 2: *Make a Joyful Noise (1973)* by Mary Jane McKnight ; Image 3: *Boozers (1999)* by Michael Ellison; Image 4: *Couple (1972)* by Leo Twiggs: ; Image 5: *Let me Explain (2008)* by Roderick Vines ; Image 6: *Mother and Child (1969)* by Lillian Fonvielle.

Figure 6

Images included in the Activist category

Note. The above images were included in the Activist art category. As operationalized by the study, images in this category contained pro-black, anti-establishment symbolism which, according to black aesthetics literature, celebrates the beauty of black culture and the black experience and serves as a direct response to anti-black mainstream narratives. Images in this category were created by artists who identify as black. In clockwise order, Image 1: *Harriet Tubman (2005)* by R.T.; Image 2: *Mother to Son; The Langston Hughes Suite (1988)* by Phoebe Beasley.

Figure 7

Images includes in the Political category

Note. The above images were included in the Political art category. As operationalized by the study, images in this category included patriotic, pro-American images. The people featured in these images where white so as to serve as a true antithesis to the Activist category. The artists of these paintings identify as white. In clockwise order Image 1: *Freedom of Speech (1943)* by Norman Rockwell; Image 2: *Mending the Nation* (year unknown) by Jon McNaughton; Image 3: *The Lights of Liberty (2000)* by Thomas Kinkade.

Current Study Images

Figure 8

Images Used in the Black Mainstream Art Category

Note. Images listed in clockwise order, Mother and Child, 1969 by Lillian Fonvielle; A Mulatress, 1924 by Archibald Motley; Nightlife, 1943 by Archibald Motley; and The Thankful Poor, 1894 by Henry Ossawa Tanner. Mother and Child is an image owned by The University of Alabama's Paul Jones Art Collection. Permission for usage was granted by the University's Dean of The College of Arts and Science. All other images are from the general cannon. Usage of these images is protected by fair use for educational purposes.

Figure 9

Images Used in the White Mainstream Art Category

Note. Images listed in clockwise order, Portrait of *Alta Hilsdale*, circa 1904-1914, by Edward Hopper; The Twist, 1963 by Thomas Hart Benton; American Gothic, 1930 by Grant Wood; Poor People, date unknown by Andre Collin. All images in this category were from the general cannon. Usage of these images is protected by fair use for educational purposes.

Figure 10

Images Used in the White Political Art Category

Note. Images listed in clockwise order, Immigrants, 1937 -38 by Ben Shahn; Prisoners of War, 1942 by Ben Shahn; Three Flags, 1958 by Jasper Johns; and Untitled, 1981 by Barbara Kruger. All images in this category were from the general cannon. Usage of these images is protected by fair use for educational purposes.

Figure 11

Images Used in the Black Political Category

Note. Images listed in clockwise order, Panel #40 (The migrants arrived in great numbers.), 1940 by Jacob Lawrence; Image 2: Mother to Son; The Langston Hughes Suite, 1988 by Phoebe Beasley; The Flag is Bleeding, 1967 by Faith Ringgold; Struggle for Liberation, 1940 by Charles White. Mother to Son is an image owned by The University of Alabama's Paul Jones Art Collection. Permission for usage was granted by the University's Dean of The College of Arts and Science. All other images are from the general cannon. Usage of these images is protected by fair use for educational purposes.

Table 14 *Listing of Pilot Study Images*

Image Number	Image Title & Year	Artist Name	Dimensions in Pixels; W: Width & H: Height	Category
1.	Mother and Child, 1969	Lillian Fonvielle	**W:** 600 **H:** 435	**Blackstream**
2	Let Me Explain (2008)	Roderick Vines	**W:** 422 **H:** 492	**Blackstream**
3.	Untitled (ca. 1920)	Edwin Augustus Harleston	**W:** 746 **H:** 424	**Blackstream**
4.	Make a Joyful Noise (1973)	Mary Jane McKnight	**W:** 614 **H:** 484	**Blackstream**
5.	Boozers (1999)	Michael Ellison	**W:** 746 **H:** 563	**Blackstream**
6.	Couple (1972)	Leo Twiggs	**W:** 532 **H:** 700	**Blackstream**
7.	Tea Leaves (1909)	William Paxton	**W:** 410 **H:** 500	**Mainstream**
8.	Baptism in Kansas (1928)	Steuart Curry	**W:** 852 **H:** 482	**Mainstream**
9.	Six O' Clock Winter (1912)	John Sloan	**W:** 409 **H:** 508	**Mainstream**
10.	Freedom From Want (1943)	Norman Rockwell	**W:** 614 **H:** 486	**Mainstream**
11.	Freedom of Speech (1943)	Norman Rockwell	**W:** 508 **H:** 700	**Political**
12.	Mending the Nation (year unknown)	John McNaughton	**W:** 790 **H:** 562	**Political**
13.	The Nights of Liberty (2000)	Thomas Kinkade	**W:** 732 **H:** 506	**Political**
14.	Harriet Tubman (2005)	R.T.	**W:** 762 **H:** 512	**Activist**
15.	Mother to Son; The Langston Hughes Suite (1988)	Phoebe Beasley	**W:** 694 **H:** 518	**Activist**

Note. The above table lists each of the images used in this study, their year of publication, the name of the artist, the category of inclusion within the present study and the dimensions in which the images were presented on screen.

Table 15 *Listing of Current Study Images*

Image Number	Image Title & Year	Artist Name	Dimensions	Category
1.	Mother and Child, 1969	Lillian Fonvielle	**W:** 600 **H:** 435	**Black Mainstream**
2	A Mulattress, 1924	Archibald Motley	**W:** 422 **H:** 492	**Black Mainstream**
3.	Nightlife, 1943	Archibald Motley	**W:** 746 **H:** 424	**Black Mainstream**
4.	The Thankful Poor, 1894	Henry Ossawa Tanner	**W:** 614 **H:** 484	**Black Mainstream**
5.	Portrait of Alta Hilsdale, circa 1904-1914	Edward Hooper	**W:** 410 **H:** 500	**White Mainstream**
6.	The Twist, 1963	Thomas Hart Benton	**W:** 852 **H:** 482	**White Mainstream**
7.	American Gothic, 1930	Grant Wood	**W:** 409 **H:** 508	**White Mainstream**
8.	Poor People, (date unknown)	Andre Collin	**W:** 614 **H:** 486	**White Mainstream**
9.	Immigrants, 1937-38	Ben Shahn	**W:** 508 **H:** 700	**White Political**
10.	Prisoners of War, 1942	Ben Shahn	**W:** 790 **H:** 562	**White Political**
11.	Three Flags, 1958	Jasper Johns	**W:** 732 **H:** 506	**White Political**
12.	Untitled, 1981	Barbara Kruger	**W:** 397 **H:** 500	**White Political**
13.	Panel #40, 1940	Jacob Lawrence	**W:** 762 **H:** 512	**Black Political**
14.	The Flag is Bleeding, 1967	Faith Ringgold	**W:** 694 **H:** 518	**Black Political**
15.	Struggle for Liberation, 1940	Charles White	**W:** 746 **H:** 563	**Black Political**
16.	Mother to Son; The Langston Hughes Suite, 1988	Phoebe Beasley	**W:** 532 **H:** 700	**Black Political**

Note: Images 1 and 16 are owned by the University of Alabama's Paul Jones art Collection. Permission for use was granted to the researchers by the Dean of the College of Arts and Sciences. All other images are from the general art cannon and are protected by fair use for educational purposes. Dimensions are listed in width and height of pixels.

APPENDIX B: IRB APPROVAL LETTER

THE UNIVERSITY OF ALABAMA | Research & Economic Development
Office for Research Compliance

June 13, 2022

To: Barbara-Shae Jackson, M.A.
Doctoral Graduate Student
Cognitive Psychology
Box 870348

From: Carpantato T. Myles, MSM, CIM, CIP
Director & Research Compliance Officer

Re: **Notice of Approval**

IRB Application #:	19-OR-185-R3 (e-protocol 19-01-1872)
Project Title:	"The Color Line: The Influence of Culturally Mediated Cognition, Openness and Racism on Aesthetic Experience"
Submission Type:	Renewal
Approval Date:	June 13, 2022
Expiration Date:	June 12, 2023
Funding Source:	None
Review Category:	EXPEDITED
Approved Documents:	Informed Consent, Waiver of Documentation of Informed Consent

Dear Ms. Jackson:

The University of Alabama Institutional Review Board has approved your proposed research. Therefore, your application has been approved according to 45 CFR part 46 as outlined below:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

The approval for your application will lapse, as noted above. If your research will continue beyond this date, please submit the Continuing Review to the IRB as University policy requires before the lapse. Please note any modifications made in research design, methodology, or procedures must be submitted to and approved by the IRB before implementation. Please submit a final report form when the study is complete.

All the best with your research.

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