



## Social cognition and African American men: The roles of perceived discrimination and experimenter race on task performance



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### ABSTRACT

The Social Cognition Psychometric Evaluation (SCOPE) study consists of a battery of eight tasks selected to measure social-cognitive deficits in individuals with schizophrenia. The battery is currently in a multisite validation process. While the SCOPE study collects basic demographic data, more nuanced race-related factors might artificially inflate cross-cultural differences in social cognition. As an initial step, we investigated whether race, independent of mental illness status, affects performance on the SCOPE battery. Thus, we examined the effects of perceived discrimination and experimenter race on the performance of 51 non-clinical African American men on the SCOPE battery. Results revealed that these factors impacted social cognitive task performance. Specifically, participants performed better on a skills-based task factor in the presence of Black experimenters, and frequency of perceived racism predicted increased perception of hostility in negative interpersonal situations with accidental causes. Thus, race-related factors are important to identify and explore in the measurement of social cognition in African Americans.

### 1. Introduction

The Social Cognition Psychometric Evaluation (SCOPE) study was launched in 2012 so as to "achieve a consensus on the crucial social cognitive domains in schizophrenia, and to evaluate the psychometric properties of existing measures and their suitability for clinical trials" (Pinkham et al., 2014, p. 814). These existing measures can be categorized into two groups: skills-based tasks and bias-oriented tasks (Penn and Roberts, 2013). Skills-based tasks require conscious and effortful cognitive processing, have clear correct and incorrect answers, and require evaluation of social situations that involve other people. In contrast, bias-oriented tasks use swift and automatic processing, do not have correct answers, and require individuals to consider how a situation may affect them personally. Pinkham et al. (2016) found that in the initial iteration of the SCOPE battery, individuals with schizophrenia performed worse than healthy controls on each skills-based measure, reported higher perceived hostility on a bias-oriented task, and rated faces as less trustworthy. Additionally, all the skills-based tasks in the SCOPE battery were correlated with a range of functional outcomes including social skills and community living skills.

One unaddressed issue in the SCOPE study is the potential impact

of ethnocultural factors. A recent study found that African Americans (both healthy controls and those with schizophrenia) performed worse than Caucasians on two skills-based SCOPE tasks that measure emotion identification and theory of mind (Pinkham et al., 2017). In addition, healthy African American controls performed worse than Caucasians on a third skills-based task examining theory of mind (Pinkham et al., 2017). Because the stimuli used in these tasks were largely of Caucasian individuals, the authors attributed these racial discrepancies to the other-race effect, which posits that individuals are better at recognizing faces and emotions in same-race over other-race stimuli (Elfenbein and Ambady, 2002; Pinkham et al., 2008). These findings on social cognition parallel a wealth of research that demonstrates that, regardless of latent ability, ethnocultural and contextual factors can diminish the neurocognitive performance of healthy African Americans (Marx and Goff, 2005; Richeson et al., 2005; Thames et al., 2013).

Guidelines for culturally competent assessment caution against "attribution errors," in which measures emphasize internal causes (e.g., mental illness) of a problem over environmental and sociocultural factors (e.g., discrimination and oppression; Sue and Sue, 2016). In this case, the SCOPE battery runs the risk of attributing racial differences in SCOPE performance to internal causes (inherently worse social

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cognition in African Americans), rather than sociocultural factors (e.g., perceived racism). Thus, the purpose of the current study was to examine whether race, independently of mental illness, might affect performance on the SCOPE battery. Consequently, we used a sample of healthy non-clinical African American individuals to explore whether the SCOPE tasks are potentially influenced by two race-related variables: perceived racism and experimenter race.

Perceived racism, the subjective experience of racial discrimination, (Schmitt et al., 2014), has been associated with increased anxiety (Chao et al., 2012; Rucker et al., 2010; Soto et al., 2011) and anger (Broudy et al., 2007; Chao et al., 2012) in healthy controls. Additionally, both anxiety and anger lead to a heightened perception of threat in non-clinical populations (Bar-Haim et al., 2007; Barazzone and Davey, 2009). Thus, perceived racism may be associated with greater hostility and less trust in bias-oriented tasks. Indeed, research has demonstrated that perceived racism is associated with perception of prejudice in routine social interactions in healthy controls (Bennett et al., 2004; Broudy et al., 2007). Additionally, perceived racism has been shown to take both an acute and chronic toll on neurocognition in healthy controls (Barnes et al., 2012; Salvatore and Shelton, 2007; Thames et al., 2013), and may indirectly affect skills-based task performance through neurocognition.

Experimenter race may be another contextual variable that impacts task performance of healthy African Americans. Some studies suggest that non-clinical African Americans perform worse on neurocognitive tasks when their experimenter is Caucasian rather than African American (Marx and Goff, 2005; Richeson et al., 2005). This effect is partially attributed to the depletion of cognitive resources by anxiety efforts of self-regulation, and awareness of negative racial stereotypes (Richeson et al., 2005; Marx and Goff, 2005). Additionally, some research has indicated that experimenter race and perceived racism may interact to affect task performance. Specifically, Thames et al. (2013) found that healthy African American individuals with high levels of perceived racism performed significantly worse on memory tasks when tested by White experimenters than when tested by same-race experimenters. Thus, experimenter race may compound the effects of perceived racism on task performance.

Taken together, these findings indicate that perceived racism and experimenter race might cause non-clinical African American individuals to feel increased anxiety and anger, which in turn may lead to increased threat perception and impaired neurocognitive capacity. Additionally, perceived racism may interact with experimenter race to augment these psychological effects. For bias-oriented tasks, the interaction may cause non-clinical African American men to evaluate personally relevant situations as more dangerous. For skills-based tasks, the interaction may indirectly affect performance through impaired neurocognition. In turn, these variables may inflate interracial differences in social cognition between African Americans and Caucasians with schizophrenia.

We predicted that social cognitive biases and skills deficits would be most pronounced when non-clinical African American participants had a Non-Black experimenter or when they had higher levels of perceived racism. Additionally, we predicted that experimenter race and perceived racism would interact to affect performance on social cognitive tasks, such that the association between experimenter race and social cognitive biases or skills-based tasks deficits would be stronger for participants with higher perceived racism. Lastly, we predicted that neurocognition would mediate the relationship between race-related variables and a skills factor, given the association between skills-based tasks and neurocognition (Penn and Roberts, 2013). Specifically, we predicted that a Non-Black experimenter, higher levels of perceived racism, or their interaction would result in impaired neurocognition and consequently, worse performance on a skills factor.

## 2. Method

### 2.1. Recruitment and participants

Fifty-one non-clinical African American men were recruited from college campuses and the community. About half the sample was comprised of undergraduate students (51%,  $N = 26$ ), while the other half consisted of graduate students, post-doctoral scholars, and community members (49%,  $N = 25$ ). Only men were recruited for two primary reasons. First, we wanted to control for any potential gender effects, as research has demonstrated that African American men report perceived racism more frequently than African American women (Banks et al., 2006; Borrell et al., 2006). Second, we opted to recruit men rather than women because rates of schizophrenia are higher in men (Aleman et al., 2003) meaning that our results will be applicable to a greater swathe of individuals in future studies involving populations with schizophrenia. Additionally, the sample was limited to men aged 18–30 ( $M = 23.48$  years), in order to match the age of undergraduate research assistants. Recruitment materials were initially titled, “Seeking African American men for a research study on social cognition.” However, due to slow pace of recruitment the wording was changed to “Help Us Give African American Men a Voice!” and the study was described to be about “how people process social information.” Additionally, if a potential participant reported a personal or familial history of autism, schizophrenia, or bipolar disorder, he was excluded from the study (a total of two individuals were ineligible for this reason). Current substance use was not assessed. The proportion of student versus community members did not differ significantly across experimental conditions,  $\chi^2(1) = 1.07, p = 0.30$ .

### 2.2. Measures

#### 2.2.1. Daily Life Experiences Scale – frequency subscale

The Frequency Subscale of the Daily Life Experiences Scale (DLES; Harrell, 1997) is a self-report measure that assesses the frequency of 18 perceived microaggressions over the last year. The DLES has adequate psychometric properties (Harrell, 1997; Neblett and Carter, 2012), and the Frequency subscale had high internal consistency in the current study (Cronbach's  $\alpha = 0.95$ ).

#### 2.2.2. Skills-based social cognitive tasks

There were six skills-based tasks. Emotion perception was measured with the Penn Emotion Recognition Task (ER-40; Kohler et al., 2003) and the Bell-Lysaker Emotion Recognition Task (BLERT; Bryson et al., 1997). The ER-40 measures the ability to recognize four facial emotions or no emotion in 40 colored photos of faces presented on a computer and balanced for age, sex, and ethnicity. The BLERT features 21 ten-second video clips on a computer of the same Caucasian male actor performing a monologue while demonstrating one of six basic emotions or no emotion. Social perception, which involves the interpretation of social contexts and utilization of social knowledge, was measured with an abbreviated version of the Relationships Across Domains (RAD) task (Sergi et al., 2009). The RAD is a paper-and-pencil measure comprised of 15 vignettes of male-female dyads, in which participants answer yes/no questions that assess competence in relationship perception. Three tasks were used to measure theory of mind, the ability to infer the mental states of others: The Reading the Mind in the Eyes Task (Eyes Task; Baron-Cohen et al., 2001), the Hinting Task (Corcoran et al., 1995), and Part III of The Awareness of Social Inferences Task (TASIT; McDonald et al., 2003). The Eyes Task measures the ability of participants to make rapid judgments of mental states (e.g., flirtatious, pensive) in 36 Gy-scale photos of eye regions of Caucasian faces presented on a computer. The Hinting Task examines the ability to infer real meaning behind words in ten short vignettes each describing a dyadic social interaction that are read aloud by an experimenter. TASIT measures the ability to detect lies and sarcasm in 16 video clips of everyday

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