Effects of Stereotype Threat on Black and White Individuals’ Verbal Responses in Police Encounters

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Effects of Stereotype Threat on Black and White Individuals’ Verbal Responses in Police Encounters

An Honors Thesis presented to the Department of Psychology,

University at Albany, State University of New York

In partial fulfillment of the requirements

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Graduation from The Honors College

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Abstract

I examined whether Black and White individuals have different verbal behaviors in police encounters and, if so, whether stereotype threat explains these differences. This question is important because police officers use certain verbal behaviors as evidence of deception. Thus, unconscious behaviors arising from concern about being stereotyped as a criminal could cause Black men to be perceived by police as suspicious and, in turn, contribute to discrepancies in police treatment of Black versus White men. In this study, Black and White men interacted with a White security officer in a staged encounter that varied in stereotype relevance (low or high). The participants (n=72) also completed a measure of stereotype threat. Participants’ verbal responses were videorecorded, transcribed, and coded for words that reflected spatial and perceptual information, analytical thinking, affiliation, tone, authenticity, and cognitive processes. Black men reported experiencing more stereotype threat in the interaction than did White men, and stereotype threat increased as the relevance of the criminal stereotype went from low to high. Although neither race nor stereotype relevance influenced spatial or perceptual information, Black men used fewer authentic words than did White men. Also, all participants used more analytical thinking and affiliation words and more negative tone when stereotype relevance was high as compared to low. Use of words indicating cognitive processes decreased as stereotype relevance increased, and this effect was partially mediated by stereotype threat. These findings imply that race and stereotype relevance are related to verbal behaviors that could lead police officers to be more likely to perceive Black than White men as guilty. This could impact how the officer interacts with Black men and contribute to the cycle of mistrust and tension between Black individuals and police.
Acknowledgements

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Professor Julia Hormes, thank you for being my second reader and giving me helpful feedback regarding this project. Thank you for guiding my initial research ideas and pointing me in the direction of an area of research I had never thought of before.

Last but certainly not least, I would like to thank my mom, whose guidance and love are with me in everything I do, and without whom I would not be where I am today.
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Effects of Stereotype Threat on Black and White Individuals’ Verbal Responses in Police Encounters

Racial disparities exist in the frequency of police contacts with Black individuals versus White individuals (Piquero, 2008). This contact comes in many forms such as traffic stops, interrogations, and arrests. In each of these situations, what matters is the initial reason police officers have for initiating contact with an individual. Officers initiate contact based upon their perceptions of the individual, such as if that person displays furtive movements (Avdija, 2014). The definition of furtive movements is being shifty or an expression of hidden motives or purposes, and what an individual deems as furtive varies from person to person. These perceptions are based on behaviors that an individual may be expressing, but are these behaviors solely the result of guilt? Could something else be contributing to a difference in behavior that cause police officers to hone in on Black individuals rather than White individuals?

The very nature of police training has been highlighted as a problem of modern policing (Najdowski, 2011; Vrij, 2008a). Researchers debate the best ways to conduct policing, while recommending new ways in which investigations can be conducted and officers can be trained. Many studies have focused on examining the effectiveness of police officers’ interrogation techniques (Vrij, 2008a; Cleary & Warner, 2016; Masip, Alonso, Garrido, & Antón, 2005; Vrij, 2005; Mann, Vrij, & Bull, 2004; Vrij, 2008b; Hauch, Sporer, Masip, & Blandón-Gitlin, 2017). Officers are trained how to ask questions and to look for cues that a person is trying to deceive them. They learn to look at both verbal and nonverbal cues to detect a person’s level of honesty and how to use those cues to guide them in their questions and behaviors towards the suspect. However, the cues that individuals display may be affected by psychological phenomena such as stereotype threat (Steele, 2011).
The belief that bias-based policing is prevalent in our society might affect minorities’ psychological experiences of police encounters in ways that inadvertently lead them to be perceived as deceptive. Bias-based policing is when an individual uses someone’s physical characteristics as the basis for law enforcement decisions (Jones, 2011). While sometimes the use of these physical characteristics as the basis for police decision making is unavoidable, such as when those characteristics are included within the description of the perpetrator, other times the characteristics are irrelevant. Black individuals point to bias-based policing as a cause of the high amount of arrests and targeting of Blacks as suspects in criminal investigations (Sidanius & Pratto, 1999; Tyler & Huo, 2002). Further, Black individuals report that they expect to be stereotyped as criminals when interacting with police officers (Najdowski, Bottoms, & Goff, 2015).

This study examined how this expectation and concern, known as stereotype threat (Steele, 2011), might impact the behavior of innocent Black individuals when being questioned by White police officers. I hypothesized that, because stereotype threat is associated with more arousal, self-regulatory efforts, and cognitive load, Black individuals display different verbal behaviors that are associated with deception than White individuals. This could then cause verbal components of an innocent individual’s response to be perceived by police as portraying more signs of guilt when that individual is Black rather than White. An officer’s belief that an individual is guilty could then cause the officer to be more hostile to the individual and, as a result, lead to an arrest or altercation.

**Police Officers’ Training: Cues to Deception**

Police officers receive multiple types of training to teach them how to question and interact with individuals. These methods mainly focus on using what the suspect does or says to
determine his/her guilt (Advanced Interviewing, 2015; Course List, n.d.). Although officers look at both nonverbal and verbal behaviors; my review is limited to training methods related to verbal cues as they are the focus of the present research. Currently, there are four main methods of using verbal cues to detect deception, each with their own list of criteria. These are Criteria-Based Content Analysis (CBCA), Reality Monitoring (RM), Scientific Content Analysis (SCAN), and the Behavior Analysis Interview (BAI). (See Table A for details regarding how the behaviors police are trained to use as evidence of deception align with the dependent variables assessed in this study.) Next, I review each of these methods and discuss their shortcomings.

**Review of deception detecting methods.**

Criteria-Based Content Analysis (CBCA) is a Statement Validity Analysis technique that requires lengthy statements and third-party coders to spend time analyzing and coding the statements (Brinke & Porter, 2012). It was originally taken from the Reality Criteria developed by Undeutsch in 1967, but has since been updated to its modern form by Steller and Köhnken (1989). The original form was used to evaluate children’s testimonies in sexual abuse cases, but other studies have supported the use of this method with adults across multiple scenarios (Akehurst, Köhnken, & Höfer, 2001; Sporer, 1997; Vrij, Akenhurst, Soukara, & Bull, 2002; Vrij, Akehurst, Soukara, & Bull, 2004a; Vrij, Akehurst, Soukara, & Bull, 2004b). CBCA’s criteria look at 19 different items such as the logical structure of the statement, the number of details, and the number of spontaneous corrections (Vrij, 2008a).

Reality Monitoring (RM) came from memory research and was originally developed to evaluate whether a memory was of a false or true event (Johnson & Raye, 1981). To determine this, the criteria focuses on perception and vividness using cues such as spatial, temporal, and affective information that is included within the statement. It also looks at the individual’s use of
cognitive operations. Other scientific studies have supported that this list of criteria could be transferred to a more general test of truth versus lies, and it is now used in situations similar to the CBCA test (e.g., in cases of child sexual abuse, rape; Masip, Sporer, Garrido, & Herrero, 2005).

Scientific Content Analysis (SCAN) is a verbal credibility analysis tool developed by Sapir (n.d.). This method focuses on the differences between a truth-teller’s and a liar’s language. SCAN is being used all around the world and in many different areas such as the military, federal agencies like the FBI, private corporations, insurance companies, and social services (Vrij, 2015). Even though SCAN has not been supported through scientific research, its criteria is included in this study due to its widespread use in law enforcement (Sapir, n.d.; Vrij, 2015; Bogaard, G., Meijer, E. H., Vrij, A., & Merckelbach, H., 2016b). SCAN has an extensive list of criteria, including items such as spontaneous corrections and the number of emotions expressed (Vrij, 2008a).

Behavior Analysis Interview (BAI) is one of the only tools that does not require transcribing a statement, and as such is one commonly used when officers are actively conducting interviews. This tool was developed by John Reid and Associates and has been published in a manual used by agencies both in the private and public sectors of society around the world (Vrij, 2008a). To further support its prevalence in law enforcement, BAI “is believed to be one of the two most commonly taught questioning methods in the United States” (Vrij, 2008a, p. 191; see also Cleary & Warner, 2016). When conducting BAI, the interviewer asks open-ended questions that allow the suspect to describe his or her activities in detail. There are 16 questions—15 real questions and one bait question. Each question looks at a specific part of the suspect’s story, such as purpose, knowledge, motive, and attitude (Vrij, 2008a). It is believed
that truth-tellers and liars differ in how they respond to such open-ended questions. For example, liars are less likely to refer to others, and show negative feelings towards being interviewed (Vrij, 2008a).

**Validity of the deception detection methods.**

Current research points to the shortcomings of nonverbal cues at revealing deception (Bogaard, Meijer, Vrij, & Merckelbach, 2016a; DePaulo, Lindsay, Malone, Muhlenbruck, Charlton, & Cooper, 2003; Sporer & Schwandt, 2007). This implies officers’ use of verbal cues to detect deception might lead to false accusations of individuals that portray these verbal cues due to other factors, such as stereotype threat. Several studies show that relying on the verbal content of a message improves the diagnostic accuracy of officers when deciding if someone is telling the truth or not (Boggard et al., 2016; Hauch, Sporer, Michael, & Meissner, 2016; Masip et al., 2005; Vrij, 2005; Vrij, 2008b; Mann et al., 2004). However, a meta-analysis conducted by Hauch et al (2017), showed that reliability was high for five CBCA criteria (e.g. reproduction of conversation, self-deprecation), whereas it was low for unstructured production and superfluous details. This shows that while using verbal cues might help to detect deception, it may not always be effective.

Whether the use of verbal cues is entirely effective or not, law enforcement believes it is. In a study conducted by Masip and Herrero (2015), police officers listed more verbal cues than community members when asked about how lies could be detected. They also found that “participants stuck to their beliefs about deception cues despite their experience showing that other kinds of information are far more revealing” (p. 137). Court “judges indicated a belief in verbal content being a more reliable indicator than nonverbal behaviour when discerning truth from deception” (Strömwall & Granhag, 2003, p.24). This further reinforces the point that
beliefs about verbal behaviors are key to how law enforcement officers conduct themselves and interpret individuals they are interviewing.

**Why Black Individuals Might Experience Stereotype Threat in Police Encounters**

While the validity of the methods has been tested in general, to my knowledge, no studies have examined whether the effectiveness of the criteria of any of the four methods is invariant across suspect race. That is, are the criteria equally effective at detecting deception in Black and White individuals’ verbal responses to questioning? Or, because Blacks and Whites have different psychological experiences of police encounters to begin with (e.g., Najdowski et al, 2015), are Blacks more likely than Whites to be inaccurately judged as deceptive based on their verbal behavior? The current research looks to answer this question. By comparing the responses of Black and White individuals using the current policing criteria, I explore whether racial disparities in contacts and arrests might arise due to incorrect assumptions about deception by police officers conducting interviews.

As defined by Najdowski, Bottoms, and Goff (2015, p. 464), “Stereotype threat is the concern one experiences when at risk of being perceived in light of a negative stereotype that applies to one’s group.” This psychological experience can happen whether an individual is actually being stereotyped or not; it is based solely on the individual’s perception of the situation. So if Black individuals feel they are being judged by a negative stereotype, they will experience stereotype threat. What reason is there to think that Black individuals might experience stereotype threat while being questioned by police officers?

Black parents teach their children from a young age about racism and the stereotypes directed towards people of color to prepare them for future interactions with others (Brooms & Perry, 2016; Coard, Wallace, Stevenson, & Brotman, 2004). Some of these stereotypes are that
Blacks are aggressive and have a tendency toward violence (Krueger, 1996; Brunson & Miller, 2006). The messages parents give have a specific focus on interactions with police (Hughes, Rodriguez, Smith, Johnson, Stevenson, & Spicer, 2006; Thomas & Speight, 1999). Black youth are taught by their parents to show respect to authority, have the proper demeanor such as acting obedient and compliant even if provoked, and say the bare minimum needed (Brunson & Weitzer, 2011). They were given this advice, in part, because the parents felt this would increase the odds for a favorable outcome. As stated in an article by Jazmine Hughes, parents teach their children not to “give them [the police] an excuse to kill you” (J. Hughes, 2014). Teaching Black individuals that the police will treat them differently, and that you must act a certain way to counterbalance that implies that when a Black individual interacts with a police officer, they automatically recognize that the officer is coming from a different group than the Black individual. This suggests that in encounters between Black individuals and police, Black individuals might feel that they are being perceived in light of a negative stereotype based on their racial group. Thus, they might experience stereotype threat.

**Effects of Stereotype Threat**

When individuals experience stereotype threat, they actively try to demonstrate that the stereotype is incorrect. Ironically this may cause them to fit the stereotype more than they would innately. For example, when the stereotype “Blacks are less intelligent” is made salient in a classroom, Black students underperform compared to White students, even though they may have similar IQs (Steele & Aronson, 1995). These Black students do not want to prove the stereotype true, yet they do. This finding has been replicated in many studies and verified through multiple meta-analytic reviews (Cadinu, Maass, Frigerio, Impagliazzo, & Latinoti, 2003; Marx & Goff, 2005; Nguyen & Ryan, 2008; Walton & Cohen, 2003). This effect can also
be seen in other situations in which an individual might be at risk of being stereotyped. This means that when Black individuals are involved in police encounters, they may experience stereotype threat in the form of the concern that they will be perceived as a criminal suspect and, thus, actively try to avoid appearing suspicious. This means that they might have a stronger desire to appear truthful and moderate their behavior to match how they think truth-tellers behave. However, in their efforts, Black individuals may paradoxically display signs that lead them to be perceived as less truthful and more suspicious to officers relative to their White counterparts.

The effects of stereotype threat have been documented across many studies. Inzlicht and Kang (2010) found that stereotype threat can spill into cognitive areas affecting aggression and hostility, decision making, and basic attention control. It also can cause individuals to feel higher levels of stress, conduct more attempts to control their stress levels, and have impaired working memory (Johns, Inzlicht, & Schmader, 2008; Beilock, Rydell, & McConnell, 2007). The elevated level of stress amplifies the perceived importance of details that normally would not receive as much attention (Inzlicht & Kang, 2010). With the brain flagging more information as worthy of attention, the cognitive load of the individual increases and the amount of self-control decreases. When self-control decreases, the individual may then have less control over his or her impulses. In turn, he or she may react more aggressively to frustrations and pay less attention to conversations (Inzlicht & Kang, 2010). Thus, stereotype threat could cause Black individuals who are being interrogated to be more guarded, respond with more negative emotions, and be less cooperative with the investigation than White individuals. It could also cause Black individuals to make mistakes when giving their account of the situation and/or miss
critical parts of what the officers say to them. These things that can all contribute to an officer being more likely to view a Black versus White innocent person as guilty.

The Present Study

I am examining a factor that may contribute to Black individuals being stopped, questioned by, or arrested by police more frequently than White individuals. I predict that, due to stereotype threat, Black individuals unconsciously display more verbal behaviors that police officers associate with deception or guilt than do White individuals. I investigated this by having Black and White men participate in a study that was ostensibly about attitudes and anxiety. While they supposedly took a break from testing and read an article on a tablet computer, a White confederate playing the role of a security officer approached and engaged in a staged interaction that varied in the degree to which stereotypes about crime were activated. This was varied to examine of whether racial differences in stereotype threat and verbal behaviors were elicited by the specific threat of being perceived in light of the negative stereotype. Participants then completed a stereotype threat measure and video recordings of the interaction were analyzed for verbal behaviors that allowed me to test my hypothesis.

Methods

Participants

Participants were 38 European American and 34 African American men. Each European American man self-identified as White. Each African American man self-identified as African American, with one also self-identifying as White/Caucasian and one as Asian American. There were 16 to 19 participants in each experimental cell: 19 White men in the high-perceived-stereotype-relevance condition, 19 White men in the low-perceived-stereotype-relevance
condition, 18 Black men in the high-perceived-stereotype-relevance condition, and 16 Black men in the low-perceived-stereotype-relevance condition.

All participants were U.S. citizens, and therefore expected to be socialized within American culture that disproportionately associated Blacks with crime and thus likely to be familiar with and concerned about that stereotype. The participants were 40 years old on average ($SD = 15$ years, ranging from 18 to 76 years) and ranged in terms of household income (35% made < $20,000; 8% made $20,000–$29,999; 13% made 30,000-39,999; 13% made $40,000-49,999; 6% made $50,000-59,999; 3% made $60,000-69,999; 4% made $70,000-79,999; 4% made $90,000-99,999; and 14% made > $100,000). In regards to education, most participants reported having at least some college education (82%) whereas 15% had only completed high school or attained a GED and 3% did not complete high school.

Materials and Measures

Materials. 

Resting period article. During the resting period, participants were asked to read an article describing career opportunities for individuals who have a Bachelor’s degree in psychology (Carroll, Shmidt, & Sorenson, 1992). This article was selected due to it being unrelated to the issues under study and its unlikelihood to excite the participants emotionally or physiologically.

1 Data were also collected from a heart rate monitor, baseline cognitive load test, cognitive load test, and self-reports for general anxiety, specific anxiety, emotional reactions, concerns about being accused, self-regulatory efforts, subjective perceptions of behavior, perceptions of police, perceived stereotype likelihood, prior police encounters, and social desirability. Those data were not analyzed in this study and will not be described further. For results related to those measures, see Najdowski (2012).
Kindle Fire. Participants completed measures and read the resting period article on a Kindle Fire tablet computer. The Fire's dimensions are 7.5" x 4.7" x 0.45", it weighs 14.6 ounces, and it has a 7" multi-touch display. The Kindle Fire ran Qualtrics online survey software to collect the demographics measures and the stereotype threat scale ratings.

Video equipment. Digital video of participants' study sessions was captured using a Canon Vixia HF R21 Full HD Camcorder. The camcorder was compact, at 2.4” x 2.4” x 4.8” and approximately 9.5 ounces. The camcorder was mounted discretely in a corner behind a plant.

Security officer script. The confederate security officer followed scripts during the staged encounter with participants—one script for the high-perceived-stereotype-relevance condition and another for the low-perceived-stereotype-relevance condition. The scripts directed the officer as to exactly what he should do and say in each condition (see Appendices A and B). They were matched for both the number of opportunities the participant was given to respond and the length of the officer’s speaking turns.

Measures.

Demographics. Participants reported their race, gender, age, citizenship status, household income, and highest level of education reached.

Verbal behavior. Videos of the staged encounter were encoded for evidence of verbal behaviors commonly perceived as deceptive. The video segment targeted for coding was the interaction between the security officer and the participant, starting at the first moment the officer began speaking to the participant and ending at the last moment the officer and the participant communicated with each other. These videos were transcribed. The transcriptions were verified for accuracy by multiple coders, prepared and then run through Linguistic Inquiry and Word Count (LIWC) software, which was used to analyze each participant’s verbal
behavior. Slang words and personal contractions were changed to proper English, experimenter responses were removed, anything not understood by the transcriber was removed, and meaningless (filler) words were combined to one word (e.g. “We went to the store, you know, and bought…” was changed to “We went to the store, you know, and bought…”).

LIWC documents the number of times participants used specific words that are defined and coded as reflecting specific verbal behaviors. (See Pennebaker, Boyd, Jordan, & Blackburn, 2015, for information regarding the dictionary used in LIWC as well as the reliability and validity of the developed codes.) The dependent variables coded by LIWC and used in this research are as follows: Tone (positive versus negative emotions), authenticity (honest, personal, and disclosing versus guarded and distanced discourse), and analytical thinking (formal, logical, and hierarchical versus informal, personal, and narrative thinking), which were measured on continuums, and affiliation (e.g., “meet,” “club,” “group,” and other references to others), cognitive processes (e.g., “couldn’t,” “hope,” “notice,” etc.), spatial information (e.g., “above,” “across,” “beside,” etc.), and perceptual information (e.g. “light,” “listen,” “speak,” etc.), which were measured as simple counts. For, perceptual information, the words “cool”, “cooler”, “coolest”, “sweet”, “sweeter”, and “sweetest” were removed from the original LIWC dictionary due to their use as slang in the common vernacular rather than to convey perceptual details.

**Stereotype threat scale.** Five items from a modified version of the Explicit Stereotype Threat Scale (Goff et al., 2008; Marx & Goff, 2005) assessed the extent to which participants experienced stereotype threat during the encounter with the security officer. Responses were made on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree), and averaged to create the stereotype threat scale (Cronbach’s α = .94).
Manipulation, prior knowledge, and believability checks. To guarantee that participants were paying attention and that stereotype relevance was manipulated effectively, each participant responded to the question “What did the security officer ask you about? Please think carefully before answering.” Response options were “a tablet computer that was stolen” and “where a room was for a diversity training meeting.” To determine whether the participant had prior knowledge that the study involved a staged encounter with a security officer, at the end of the study, they were asked orally “Before you came here today, did you know that this study would involve interacting with a security officer?” To assess whether the encounter was believable and real for the participants, they were given a funneled oral debriefing at the end of the study. Participants were then coded as being either “not suspicious” (did not become suspicious during the encounter) or “suspicious” (indicated that they suspected the encounter was staged). All participants included in the present sample passed all checks. 18 participants were removed due to their belief that the encounter was staged.

Procedure

Introduction to Psychology students were recruited to participate from the UIC (University of Illinois at Chicago) Psychology Student Subject Pool and community members were recruited directly by members of the research team or through UIC Classifieds; emails distributed to UIC organizations with African American contacts (e.g. the African American Cultural Center); fliers posted at UIC, other nearby colleges and universities, and in the community; advertisements on craigslist.org and chicagoreader.com; or community members’ friends or family members.

All participants completed the study individually. The participant entered a classroom alone and met with Experimenter 1. Because the results of the study depended on the
believability of the encounter with the security officer, precautions were taken to ensure that the participant remained unaware of the true purpose of the study. Each participant was first asked what study he was there to participate in. None of the participants mentioned anything related to security officers, profiling, or crime in response to this question so they were all allowed to complete the study. Participants then provided informed consent and randomly selected an identification number from a bag. Experimenter 1 then escorted the participant to the laboratory to complete the study with Experimenter 2. The participant was secretly videotaped the entire time he was in the laboratory.

Participants completed demographics items on the Kindle Fire before the security officer encounter to prime their racial identity, which has been shown in previous research to facilitate the induction of stereotype threat in Black participants (Steele & Aronson, 1995). The participant was given a 5-minute resting period, during which he read the resting period article on the Kindle Fire (Carroll et al., 1992); if he finished early, he was told to relax and read the article again. It was at this time that Experimenter 2 made an excuse to leave the laboratory (e.g., to go to the bathroom). In reality, the experimenter went to signal the waiting security officer to come into the laboratory.

After one minute, the security officer began the appropriate script depending on the study condition (either high or low perceived stereotype relevance; see Appendices A and B). For all participants, the officer coughed loudly and walked to a water fountain outside of the laboratory. At the same time, the officer pretended to receive a call and began talking into his cell phone loudly enough so the participant could hear him clearly. In the high perceived stereotype relevance condition, the officer stated he was looking for someone who had stolen a “wallet and one of those little computer book things.” In the low perceived stereotype relevance condition, he
stated that he could not “find the diversity training meeting.” After speaking one of the lines, the officer then took a drink of water, turned to the laboratory, acted as though he was noticing the participant for the first time, and looked intently at the participant. He then said into the phone, “Hey, I gotta go. There’s somebody right here that might know” either “something” (high perceived stereotype relevance) or “where it is” (low perceived stereotype relevance). Finally, the officer ended the pretend call by saying “All right, later,” and closing his cell phone. The participant was positioned so that he could easily see the security officer during this portion of the staged encounter, which took an average of 37 seconds.

Next, the officer approached the participant, stopped in the doorway of the laboratory, looked around and at the Kindle Fire, and adhered to the script as closely as possible, regardless of what the participant said or did in response. In the high perceived stereotype relevance condition, the officer remarked that “a lady down the hall just reported having her wallet stolen, and a little computer just like that.” He then questioned the participant asking “Is that tablet computer yours?”, “How long have you been here?”, and “You seen anything unusual since you got here? Anybody roaming around that looked like they didn’t belong here? Anything like that?” In the low perceived stereotype relevance condition, the officer asked “Do you know where Room 3318 is?” He then noted that he was trying to find a “diversity training meeting” that was “supposed to be a part of some race relations class.” The officer then asked the participant, “Do you know anything about it?” To ensure the officer’s attention was directed to the Kindle Fire in both conditions, the officer then asked the participant, “Oh, hey, is that a Kindle you’ve got there? I’ve been thinking about getting one for my girlfriend. How do you like it?”
In both conditions, once the participant was done responding, the officer pretended to receive another phone call. He then spoke into the phone, “I think I’m just around the corner from there so I’ll go check it out.” In the high perceived stereotype relevance condition, the officer stated he would “be back in a minute.” In the low perceived stereotype relevance condition, he stated, “I think I know where this meeting is now. Hope so, or you might see me wandering around again.” These were included so that the participant believed they would encounter the security officer again, and extend the participant’s feelings of threat and concerns about interacting with the officer long enough to be measured. This segment of the study took an average of 98 seconds to complete. The length of the interaction did not differ significantly as a function of participant race (Black: $M = 99s$, $SD = 23s$, and White: $M = 98s$, $SD = 18s$), $F(1, 70) = 3.00, ns$, nor did it differ significantly as a function of perceived stereotype relevance (Low: $M = 99s$, $SD = 23s$, and High: $M = 97s$, $SD = 19s$), $F(1, 70)= 3.11, ns$.

Experimenter 2 waited one minute after the security officer left before re-entering the laboratory. After the resting period was concluded, the participant completed the stereotype threat scale.

The participant was debriefed using a funneled process to assess whether he believed the interaction was real. He was also told the true purpose of the study and that he was videotaped. Each participant was given the option of having his data and/or video deleted or limited in use, and signed a consent form indicating his preference. Only participants who chose to have their videos used as data are included in this research.

Finally, the participant was thanked and compensated. Participants from the UIC Psychology Student Subject Pool received credit toward their final course grade. All other participants were compensated with $25 for participation and $10 for travel expenses.
Results

I conducted two-way analyses of variance to examine the main and interactive effects of race and stereotype relevance level on each of the dependent variables. (See Table G for the means across all conditions for each dependent variable).

Stereotype Threat

The main effect of race on the stereotype threat scale was significant, $F(1, 68) = 20.14, p < .001, \eta_p^2 = .23$. Results revealed that Black men ($M = 3.13, SD = 1.79$) reported experiencing more stereotype threat than did White men ($M = 1.75, SD = 0.96$). The main effect of stereotype relevance on stereotype threat was also significant, $F(1, 70) = 15.27, p < .001, \eta_p^2 = .18$.

Stereotype threat increased as stereotype relevance went from low ($M = 1.73, SD = 1.12$) to high ($M = 3.04, SD = 1.67$). There was no statistically significant interaction, however $F(1, 68) = 3.37, p = .07$.

Spatial Information

There were no statistically significant main effects of either race $F(1, 68) = .13, p = .72, \eta_p^2 = .002$ or stereotype relevance, $F(1, 68) = .13, p = .72, \eta_p^2 = .002$, and no interaction $F(1, 68) = .27, p = .61, \eta_p^2 = .004$ on the amount of spatial information participants included in their responses.

Perceptual Information

There was no statistically significant effects of either race $F(1, 68) = 1.02, p = .32, \eta_p^2 = .015$ or stereotype relevance on perceptual information $F(1, 68) = 2.30, p = .14, \eta_p^2 = .03$. There was also no statistically significant interaction $F(1, 68) = 1.02, p = .32, \eta_p^2 = .02$.

Analytical thinking
No statistically significant difference by race \( (F(1, 68) = 1.40, p = .24, \eta_p^2 = .02) \) and no statistically significant race X stereotype relevance interaction \( (F(1, 68) = .00, p = .99, \eta_p^2 < .001) \) on analytical thinking was found. However, there was a statistically significant effect of stereotype relevance \( (F(1, 68) = 3.89, p = .05, \eta_p^2 = .054) \). As stereotype relevance increased, participants used more words expressing analytical thinking.

**Tone**

There was a statistically significant main effect of stereotype relevance on tone \( (F(1, 68) = 10.24, p = .002, \eta_p^2 = .131) \). As stereotype relevance increased, participants’ tone became more negative. There was no statistically significant effect of race on tone nor was there a statistically significant interaction of race and stereotype relevance, \( F(1, 68) = .55, p = .46, \eta_p^2 = .01 \), and \( F(1, 68) = .76, p = .39, \eta_p^2 = .01 \), respectively.

**Cognitive processes**

Stereotype relevance had a statistically significant main effect on the cognitive processes variable \( (F(1, 68) = 17, p < .001, \eta_p^2 = .200) \). As the level of stereotype relevance increased, the amount of words participants used to express cognitive processes decreased. There was no statistically significant main effect of race on cognitive processes \( (F(1, 68) = 0.33, p = .57, \eta_p^2 = .005) \) nor was there a statistically significant interaction between race and stereotype relevance on cognitive processes \( (F(1, 68) = .59, p = .45, \eta_p^2 = .009) \).

**Affiliation**

A statistically significant main effect of stereotype relevance on affiliation was found \( (F(1, 68) = 12.01, p = .001, \eta_p^2 = .150) \). As stereotype relevance increased, the amount of references participants made to others increased. There was no significant effect of race \( (F(1,
STEREOTYPE THREAT IN POLICE ENCOUNTERS

68) = 2.43, \( p = .12, \eta_p^2 = .034 \), and there was also no statistically significant interaction between race and threat relevance \((F(1, 68) = .04, p = .85, \eta_p^2 = .001)\).

Authenticity

A statistically significant main effect of race \((F(1, 68) = 7.06, p = .01, \eta_p^2 = .094)\) but not threat level \((F(1, 68) = .11, p = .74, \eta_p^2 = .002)\) was found for authenticity. African American men used fewer authentic words compared to White men. However, there was no statistically significant interaction between the two independent variables on authenticity \((F(1, 68) = 0.01, p = .92, \eta_p^2 = .00)\).

Mediation Effects

For each dependent variable on which race or stereotype relevance had a statistically significant effect, I conducted a mediation analysis to determine whether stereotype threat explained the effect. Mediation was examined in three steps separately for each verbal behavior. In step 1, the independent variable was entered into a regression equation as the predictor. In step 2, the independent variable and stereotype threat were entered into the equation simultaneously as predictors of the verbal behavior. In step 3, I used the Sobel test to determine whether the independent variable had a significant indirect effect on the verbal behavior measure through stereotype threat, as suggested by Step 2.

Analytical thinking. As reported earlier, as stereotype relevance increased, the amount of words used by participants to express analytical thinking increased during the interaction with the security officer. (See Table B for all model statistics.) When stereotype threat was entered at the same time with stereotype relevance into a regression equation predicting analytical thinking, the stereotype relevance effect remained significant (see Table B) and stereotype threat did not significantly affect the outcome. Thus, there was no evidence of mediation.
Tone. As reported earlier, when stereotype relevance increased, participants’ tone became more negative during the interaction with the security officer. (See Table C for all model statistics.) When stereotype threat was entered simultaneously with stereotype relevance into a regression equation predicting tone, the stereotype relevance effect remained significant and stereotype threat did not significantly affect the outcome. Thus, there was no evidence of mediation.

Cognitive processes. As previously discussed, participants used fewer words expressing cognitive processes when the relevance of criminal stereotypes was high as compared to low. (See Table D.) When stereotype threat was entered at the same time with stereotype relevance into a regression equation predicting the use of words associated with cognitive processes, the strength of the stereotype relevance effect was reduced but remained significant. Of importance, stereotype threat emerged as a significant predictor of the outcome. A Sobel test indicated that, as predicted, the effect of stereotype relevance on verbal behavior related to cognitive processes was mediated by its effect on stereotype threat, $z = -2.63, p = .009$.

Affiliation. As stated earlier, during the interaction with the security officer, when stereotype relevance increased, the number of references participants made towards others increased. (See Table E for all model statistics.) When stereotype threat was entered along with stereotype relevance into a regression equation predicting affiliation, the stereotype relevance effect remained significant and stereotype threat did not significantly affect the outcome. Thus, there was no evidence of mediation.

Authenticity. As previously discussed, African American men used a lower number of words related to authenticity compared to White men during the interaction with the security officer. (See Table F for all model statistics.) When stereotype threat was entered simultaneously
with race into a regression equation predicting authenticity, the race effect remained significant and stereotype threat did not significantly affect the outcome. Thus, there was no evidence of mediation.

**Discussion**

This study was designed to determine whether Black individuals experience stereotype threat in interactions with police-like figures and, in turn, if this stereotype threat leads Black individuals to use different verbal behaviors than White individuals. After creating both a high and low stereotype threat relevance scenario with Black and White men and analyzing the data, effects of stereotype threat relevance and race were found in relation to several of the dependent variables, as well as, a partial mediation effect.

The only significant main effect of race was seen on the index of authenticity, with White men using more words associated with authenticity than Black men. According to the LIWC website, authenticity is higher when people are more personable, and the algorithm used was derived from studies that looked at honesty and deception. This could lead Black men to appear guilty in encounters involving police-like figures. This can lead to false accusations in general and an increase in individuals’ beliefs in negative stereotypes towards Black individuals. Perpetuating the belief in negative stereotypes, such as Black individuals are criminals, could continue the cycle of mistrust between Black and White individuals by maintaining and growing the perceived unequal treatment of Black individuals and widening the gap between the two races (Cohen, & Steele, 2002; Dovidio, Penner, Albrecht, Norton, Gaertner, & Shelton, 2008).

A main effect of level of stereotype threat relevance was only found with affiliation, cognitive processes, tone, and analytical thinking. This suggests that when stereotype threat relevance is high rather than low, men refer to others more often to support their statements, use
fewer words that show cognitive processes, show more negative emotions, and show more analytical thinking than when stereotype threat relevance is low. This points to problems with current police interrogation techniques as it seems that in situations that produce high stereotype threat, men in general display behaviors consistent with guilt. Further research should be conducted to support the claim that current police techniques need to be revised to get identify more accurate indicators of guilt from suspects (Bogaard et al., 2016a; DePaulo et al., 2003; Sporer & Schwandt, 2007).

Cognitive processes were shown to be affected by the stereotype threat relevance felt by Black individuals. This gives further support to the theory developed by Inzlicht and Kang (2010) that stereotype threat can spill into cognitive areas and affect an individual’s behaviors. It also shows the need for future research to be done with stereotype threat in areas other than intelligence, such as in interracial interactions.

Limitations

Even though the study design attempted to simulate real-life police interactions with community members, they still fall short of approximating real life. The encounter took place within an office on a college campus and participants knew that the experimenter could corroborate their story in both of the stereotype threat relevance scenarios. This could cause both Black and White individuals to feel less threatened and make an increased number of references to others when speaking. That is, even if participants had been accused wrongfully, the experimenter could have come back and vouched for them. There is also the issue of having the confederate act as a security officer rather than a police officer. This could cause the participants to feel less threatened than if they were dealing with an actual police officer as well, due to not seeing the confederate as having the power to commit an arrest or use violent means to subdue a
suspect (in this case the participant). Several participants volunteered during debriefing that they thought they would have reacted differently if the confederate had been a real police officer and not only a security officer. However, it is illegal to impersonate a police officer, this limitation can only be addressed through field research.

Also, I used a White security officer instead of examining the effects of a Black security officer on the men’s responses. If the officer belongs to the same racial group as the participant, it may mitigate the effect of stereotype threat on the individual. However, this effect may not be seen due to the officer belonging in the group of police, which may still cause an ingroup verses outgroup categorization. In a study conducted by Weitzer (2010), community members were asked to give their opinion on Black and White police officers. This study had mixed results. Some responses did not differ based on officer race, some participants stated that Black officers treated Black individuals more harshly than White officers, and some stated that Black officers have an easier time than White officers connecting with Black individuals. This implies that studies need to investigate which group dynamic is made more salient in Black police encounters: Black versus White or police officer versus community member. Even though this needs to be examined further, a majority of police officers are White, and, as such, my findings are still applicable to many interactions in the field (Sklansky, 2005).

Another limitation is that the conversations were scripted between the participants and the officer, which could have limited the amount of variation in participants’ responses. Each question asked by the officer could usually be answered with a simple “yes” or “no” or in just a few words. This limits the ability to detect variations and effects due to an overall lower number of words. This could cause the LIWC program to code the responses as more neutral in regards to emotion, and to have a lower frequency of words associated with the dependent variables.
There may also be important racial differences in nonverbal or paraverbal behaviors that were not captured in the analyses presented here (Najdowski, 2012; Najdowski, et al., 2015). Overall, the forced script made the situation realistic but not real.

A final limitation of the study is the use of the LIWC program for coding the participants’ responses. This program has consistently been updated over the years, yet there are cases in which the words being coded are not actually applicable to what is being coded. For example, in this study, I coded for perceptual details using the preprogrammed dictionary first. This revealed an interaction effect between race and stereotype relevance for perceptual details. However, upon further examination, I found that the program was coding words such as “sweet” and “cool” as perceptual details when, in fact, they were being used as a slang form of saying “good” (e.g., “Sweet because it's [the Kindle’s] not as big…”). This could be a problem with coding verbal behavior that researchers should be aware of when using LIWC software. In my study, to ensure this was not a problem, I created a custom dictionary for perceptual details with those slang words removed. The meanings of words change both over time and within context; however, the program simply codes for how the words were defined originally. There is also the issue of LIWC using conventional English grammar rules, even though the Black community may use Ebonics. If the Black individual was raised speaking Ebonics (Baugh, 2000), they may not follow conventional English grammar rules and may use words not defined in the parameters of LIWC. Even though Ebonics has been examined in the field of teaching and language (Baugh, 2000; Au, 2009), it needs to be examined in relation to the LIWC software. This also points to a need to reexamine previous findings related to verbal behavior in light of today’s usage of words and alternate grammar rules.
In relation to stereotype relevance, the null findings in this study could be due to how stereotype relevance was manipulated. With both races, the men were accused of committing a crime. This could cause the men to exhibit a more negative tone due to anger or frustration at being misjudged, and increase the number of references to others to deflect questions and prove innocence. Although stereotype relevance may not drive or explain why police initiate contact with Black individuals more, once the contact is initiated it does affect the behavior of Black individuals. This could then lead to more unreliable judgements of guilt, and thus an increase in aggressive actions taken against Black individuals if the individual is deemed as threatening or suspicious.

**Implications and Conclusion**

In summary, I found that increasing the relevance of stereotype threat negatively impacted Black individuals cognitive processes, and this was partially mediated by stereotype threat; analytical thinking, tone, and affiliation were affected by stereotype relevance; and authenticity was affected by race. Ultimately, this study may help to explain the disparities in the rate with which innocent Black and White individuals are falsely accused of crimes. Stereotype threat affects mental processes by creating deficits in an individual’s working memory and cognitive load (Johns, et al., 2008; Beilock, et al., 2007; Inzlicht & Kang, 2010). When this happens in a police encounter, it may manifest in behaviors that are similar to signs of guilt the police are trained to detect. Due to police officers’ reliance on individuals’ behavior in these encounters (Advanced Interviewing, 2015; Course List, n.d), they may use these unreliable signs to justify arresting innocent individuals. This study found that most of the behaviors were affected in similar ways across race, but there were some differences that could have important implications. If current policing techniques lead officers to be prone to deem innocents are
guilty, time and resources may be spent pursuing the wrong party in many crimes. This also could reinforce the strain between police officers and community members, especially within minority groups. To fix this issue, it is necessary to reevaluate the methods being taught to police. Whether the training was less reliable across race from the beginning, the change in our language over generations caused the accuracy to decrease, or stereotype threat leads the cues to be unreliable, new training needs to account for potential alternative explanations for individuals’ behavior. Once new training methods are developed and tested for accuracy and reliability across race, minorities can begin to trust in the system once again and limited resources can instead be devoted to pursuing the correct parties.
References


This table also shows how the behaviors that police are trained to use as evidence of deception map onto the dependent variables examined in this study.

<table>
<thead>
<tr>
<th>Police Training</th>
<th>Behaviors</th>
<th>Dependent Variables</th>
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</thead>
<tbody>
<tr>
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<td>Logical Structure of the Statement</td>
<td>Analytical Thinking and Cognitive Processes</td>
</tr>
<tr>
<td></td>
<td>Number of Details</td>
<td>Perceptual and Spatial Information</td>
</tr>
<tr>
<td></td>
<td>Number of Spontaneous Corrections</td>
<td>Analytical Thinking and Cognitive Processes</td>
</tr>
<tr>
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<td>Spatial Information</td>
<td>Spatial Information</td>
</tr>
<tr>
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<td>Affective Information</td>
<td>Tone</td>
</tr>
<tr>
<td></td>
<td>Temporal Information</td>
<td>Perceptual and Spatial Information</td>
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<td></td>
<td>Cognitive Operations</td>
<td>Cognitive Processes</td>
</tr>
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<td>SCAN</td>
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<td>Number of Emotions Expressed</td>
<td>Tone</td>
</tr>
<tr>
<td>BAI</td>
<td>Number of References to Others</td>
<td>Affiliation</td>
</tr>
<tr>
<td></td>
<td>Negative Emotions</td>
<td>Tone</td>
</tr>
<tr>
<td><strong>Overall goal</strong></td>
<td>Truth versus lie</td>
<td>Authenticity</td>
</tr>
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</table>

CBCA- Criteria-Based Content Analysis

RM- Reality Monitoring

SCAN- Scientific Content Analysis

BAI- Behavior Analysis Interview
### Table B

<table>
<thead>
<tr>
<th>Effects on Analytical Thinking</th>
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<th>SE</th>
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<th>p</th>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R = .24$, $R^2 = .06$, $F(1, 70) = 4.08$, $p = .05$</td>
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<td></td>
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<td>.24</td>
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<td>.05</td>
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</tr>
<tr>
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<td>.09</td>
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<td>.04</td>
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</table>

Effect of stereotype relevance went from significant to marginal.
Table C

Mediated Effect of Stereotype Relevance on Tone

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<thead>
<tr>
<th>Effects on Tone</th>
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<th>β</th>
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<td></td>
<td>R = .36, $R^2 = .13$, $F(1, 70) = 10.21$, $p = .00$</td>
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<tr>
<td>Stereotype relevance</td>
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<td>-3.20</td>
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</tr>
<tr>
<td></td>
<td>$R = .38$, $R^2 = .14$, $F(2, 69) = 5.74$, $p = .01$</td>
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<td>Stereotype relevance</td>
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<td>7.40</td>
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<td>.02</td>
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<tr>
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<td>2.38</td>
<td>-.14</td>
<td>-1.11</td>
<td>.27</td>
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Table D

Mediated Effect of Stereotype Relevance on Cognitive Processes

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<th>Effects on Cognitive Processes</th>
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<th>β</th>
<th>t</th>
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<tr>
<td>Stereotype relevance</td>
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<td>.01</td>
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<td>Stereotype threat</td>
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<td>-.25</td>
<td>-2.16</td>
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*Note.* The effect of stereotype relevance on cognitive processes was partially explained by stereotype threat, $z = 2.63, p = .009.$
### Table E

Mediated Effect of Stereotype Relevance on Affiliation

<table>
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<tr>
<th>Effects on Affiliation</th>
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<th>p</th>
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</tr>
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<td></td>
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<td>.00</td>
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Table F

Mediated Effect of Race on Authenticity

<table>
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<th>Effects on Authenticity</th>
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### Table G
Comparing Means Across All Conditions for Dependent Variables

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<th>Dependent Variable</th>
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<tr>
<td></td>
<td>high, Black</td>
<td>5.95</td>
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<tr>
<td>Perceptual Information</td>
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<td>low, Black</td>
<td>1.25</td>
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<td>high, White</td>
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<td>high, Black</td>
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<tr>
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<td>high, Black</td>
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Appendix A
Security Officer Script for the low stereotype threat relevance scenario. Highlighted portions are changed depending on the stereotype relevance condition.

Approximately 15-20 minutes into the session, the experimenter will call or text you to tell you to come to the designated waiting location.

You will see the experimenter leave the lab. When 60 seconds have elapsed, she will signal you. At her signal, walk towards the water fountain while coughing loudly several times. Pretend to answer your cell phone. Say the following clearly and loudly enough that the participant can hear you easily:

“Hey John, how’s it going on your end?
PAUSE (count to 3)
“Yeah, I’m over here at UIC now. This place is like a maze—I can’t find that diversity training meeting.”
PAUSE
“Yeah, I’m gonna talk to some students about our minority management program.”
PAUSE
“Yeah, we got a great program, but, uh, I’ve gotta find the meeting before I can tell the kids about it.”
PAUSE—Take a drink of water and turn to the lab. Act as though you’re noticing the participant for the first time. Do a double-take and look intently at the participant and the computer.
“Hey, I gotta go. There’s somebody right here that might know where it is.”
PAUSE

“All right, later.”

HANGUP

End the pretend call. Approach the participant, stop in the lab doorway, and adhere to the following script as closely as possible, regardless of what the participant says or does. While talking with the participant, you should obviously be looking at the Kindle and looking around the lab.

“Hey, sorry to bother you, but do you know where Room 3318 is?”

“I’m trying to find this, uh, diversity training meeting. It’s supposed to be a part of some race relations class. Do you know anything about it?”

“All right. Oh, hey, is that a Kindle you’ve got there? I’ve been thinking about getting one for my girlfriend—how do you like it?”

Pretend to get a phone call and say into the phone:

“Yeah, okay. I think I’m just around the corner from there so I’ll go check it out. Thanks.”

HANGUP

“All right, I think I know where this meeting is now. Hope so, or you might see me wandering around again.”

Following the interaction, return to the Oasis and wait for the next interaction or session break.
*****If at any time the participant appears to be reacting extremely (e.g., becomes very emotional or agitated, appears as though he is ready to fight or take flight, etc.), stop and tell him that you are an actor and that your interaction with the participant is part of the research study. Signal the experimenter and skip to the debriefing procedure.*****
Appendix B

Security Officer Script for high stereotype threat relevance scenario. Highlighted portions are changed depending on the stereotype relevance condition.

Approximately 15-20 minutes into the session, the experimenter will call or text you to tell you to come to the designated waiting location.

You will see the experimenter leave the lab. When 60 seconds have elapsed, she will signal you. At her signal, walk towards the water fountain while coughing loudly several times. Pretend to answer your cell phone. Say the following clearly and loudly enough that the participant can hear you easily:

“Hey John, how's it going on your end?

PAUSE (count to 3)

“Yeah, I’m over here at UIC now. I’m still looking around—I haven’t found anybody yet.”

PAUSE

“Yeah, the girl said she went out, and, uh, when she got back about, uh, 15 minutes ago, she realized someone stole her stuff.”

PAUSE

“Yeah, her wallet and one of those little computer book things.”

PAUSE—Take a drink of water and turn to the lab. Act as though you’re noticing the participant for the first time. Do a double-take and look intently at the participant and the computer.

“Hey, I gotta go. There’s somebody right here that might know something.”

PAUSE
“All right, later.”

HANGUP

End the pretend call. Approach the participant, stop in the lab doorway, and adhere to the following script as closely as possible, regardless of what the participant says or does. While talking with the participant, you should obviously be looking at the Kindle and looking around the lab.

“Hey, sorry to bother you, but a lady down the hall just reported having her wallet stolen, and a little computer just like that. Is that tablet computer yours?”

“How long have you been here?”

“You seen anything unusual since you got here? Anybody roaming around that looked like they didn’t belong here? Anything like that?”

Pretend to get a phone call and say into the phone:

“Yeah, I’m talking to somebody now. You’re kidding me, I think I’m just around the corner from there so I’ll go check it out. I’ll get back to you.”

HANGUP

“I’ll be back in a minute.”

Following the interaction, return to the Oasis and wait for the next interaction or session break.
If at any time the participant appears to be reacting extremely (e.g., becomes very emotional or agitated, appears as though he is ready to fight or take flight, etc.), stop and tell him that you are an actor and that your interaction with the participant is part of the research study. Signal the experimenter and skip to the debriefing procedure.