The Effect of Stereotype Threat on African Americans' Perception of Police Officer Communication Accommodation

by

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Abstract

Stereotype threat is a phenomenon that has been shown to produce inhibitory effects in cognitive and other processing (Najdowski, 2011; Osborne, 2007). This study analyzed whether stereotype threat differences occur between two racial groups during a police encounter. Characteristics of Communication Accommodation Theory (CAT; specifically accommodation versus nonaccommodation) could also contribute in alleviating the symptoms of stereotype threat that a suspect may endure during a police encounter. Through an online survey, the researcher investigated whether stereotype threat activation would occur for African Americans and if this activation influenced their perception of police officer communication accommodation. The results from this study indicate that there are no differences between racial/ethnic groups in how they perceived police officer communication accommodation. However, racial/ethnic group differences did occur when rating the neutral interaction of a police-civilian interaction that the participant listened to during the experiment. Future research should continue testing the implicit responses to stereotype threat activation as well as its connection to CAT and procedural justice.

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I. Introduction

Background

Stereotype Threat. Often, negative stereotypes are a "threat in the air" that often loom over individuals that are members of a social group that are associated with the negative stereotypes. This phenomenon, of believing that one is being judged or analyzed based on a negative stereotype, is called stereotype threat (Steele & Aronson, 1995). It has been shown that when activated, stereotype threat can have deleterious effects on those who experience this concept (Blascovich, Spencer, Quinn, & Steele, 2001; Goff, Steele, & Davies, 2008; Inzlicht & Kang, 2010; Leyens, Désert, Croizet, & Darcis, 2000; Schmader, 2002; Steele & Aronson, 1995; Stone, Lynch, Sjomeling, & Darley, 2002). Different models have been used to explain the process and situational factors of stereotype threat (Schmader, Johns, & Forbes, 2008; Shapiro & Neuberg, 2007) that vary depending on the context of the occurrence. For example, an individual could experience stereotype threat when the source is either from themselves, an outgroup, or an ingroup and can occur if the target is the individual self or stereotyped group (Shapiro & Neuberg, 2007). An example of an incident where an individual could be the target and the source could come from an outgroup, could consist of an older individual being evaluated on their fitness level by a group of young adults. This older adult may not perform as well during the task because they may unconsciously (or consciously) know that the generational group that they are a part of has a negative stereotype associated with their athletic abilities compared to a younger group.

A substantial amount of the literature regarding stereotype threat has been mostly within the confines of explaining disparities in performance outcomes for certain minority groups in academia including African Americans in verbal acuity (Steele & Aronson, 1995; Aronson, Fried,

& Good, 2002), and women in mathematics (Cadinu, Maass, Rosabianca, & Kiesner, 2005; Davies, Spencer, & Steele, 2005; Schmader, 2002; Spencer, Steele, & Quinn, 1999). These results support the notion that etymological disparities in academia are not due to genetic influences but are explained by psychological processes instead (Steele, 2010). This came as a relief to scholars examining these disparities for various ethnic groups as it pinned the culpability on societal pressure instead of on a fixed biological entity within a social group.

As it pertains to law enforcement and stereotype threat, there have been a few studies that examine the interplay of police-civilian interactions, however these studies do not address all facets that could be considered (Najdowski, Bottoms, & Goff, 2015). In expanding upon the comprehensive and pervasive literature on stereotype threat, this study incorporated aspects of communication accommodation theory and police-civilian interactions which are discussed in the following sections of this summarization.

Communication Accommodation Theory. Communication Accommodation Theory (CAT) was originated from another construct called Speech Accommodation Theory (SAT) that emphasized the similarities in speech (e.g., tone, pitch, speech rate, and content) between two speakers and how this impacted the relationship in terms of whether the two interlocutors would positively interact with one another in the future (Gallois, Ogay, & Giles, 2005). Howard Giles was the brainchild of CAT, which includes psychological and interpersonal components that are an inspection of multiple motives, attitudes, perceptions, and interconnection strategies that are signified during a conversation (Ayoko, Härtel, & Callan, 2002).

For instance, when an individual engages in a conversation with someone else, CAT posits that this encounter benefits both speakers when a mutual reciprocity is involved whereby each speaker considers and adjusts their way of speaking to “mirror” or align with the other

individual. This has been studied in a variety of contexts that include intergenerational communication (specifically grandparents with their grandchildren; Harwood, 2000; Anderson, Harwood, & Hummert, 2005), investigations of gender differences (Bilous & Krause, 1988; Namy, Nygaard, & Sauerteig, 2002; Thomson, 2006), LGBTQ relations (Soliz, Ribarsky, Marko Harrigan, & Tye-Williams, 2010), virtual communication (Bunz & Campbell, 2004; Crook & Booth 1997; Cassanto, Jasmin, & Cassanto, 2010), practitioner-patient communication (Hehl & McDonald, 2014), and law enforcement interactions (Giles, Hajek, Barker, Lin, Zhang, Hummert, & Anderson, 2007; Hajek, Barker, Giles, Makoni, Pecchioni, Louw-Potgieter, & Myers, 2006; Hajek, Giles, Barker, Makoni, & Choi, 2008). Throughout these studies, there is a consensus that the characteristics of CAT (specifically accommodation versus nonaccommodation) create positive outcomes between the interactants involved.

Police-Civilian Interactions. In developing countries, having a governmental protective agency can be considered an essential societal necessity. In the United States of America, it is the assumption that police officers protect civilians and bring perpetrators to the justice system. Unfortunately, not all ethnic groups perceive police officers in a positive fashion (Weitzer & Tuch, 2004). Furthermore, interactions with police officers can become variant depending on the social group that is represented in the encounter (Beune, Giebels, & Taylor, 2010).

For example, an African American male may be arrested for shoplifting but experience more police use of force than a European American individual that is in the same circumstance. This was demonstrated multiple times in studies that looked at actual footage of police-civilian interactions whether it be visual footage (Smith, Visher, & Davidson, 1984) or case narratives (Kahn, Steele, McMahon, & Stewart, 2017) that were coded in order to rate how many times police officers used force against a civilian and in what manner they induced this force. The

results were telling in that police officers, for the majority of the time, use more force towards African Americans compared to European Americans but did not show these same differences during video simulated exercises (James, Vila, Daratha, 2013). This shows that police officers may be more cognizant of their biases while participating in experimental studies that test their reactivity but may be less likely to inhibit these biases in real-world situations.

As it is their role in the community to protect lives and property (United States' Bureau of Labor Statistics Occupational Outlook Handbook, 2018), it is important that police officers understand the communicative dynamics that can impact their encounters with civilians. Without this understanding, the conflict between police officers and ethnic minorities, specifically African Americans, will persist.

Purpose

Due to the recent media coverage of police shootings of African American males, the focus of this research study was to better understand police-civilian interactions. To examine the relationship between African Americans and police officers, the dynamic between stereotype threat and CAT (specifically accommodation versus nonaccommodation), was analyzed. This study was developed to be an informative contribution to the litany of research surrounding these topics. The purpose was to provide a "missing link" or attribution of the conflict between African Americans and police officers during police-civilian interactions. It is expected that findings may allow researchers to develop ways to instruct officers on how to better handle civilian interactions that include African Americans. If officers understand that African Americans perceive police officer communication accommodation differently and can indirectly (and potentially directly) experience stereotype threat due to police encounters, then officers will have a better understanding of the concerns that may be present for African Americans.

Significance of Research

As aforementioned, the negative stereotype of African Americans associated with criminality can become a hindrance on African Americans' psyche and ability to function regularly during interactions with police officers (Najdowski, Bottoms, & Goff, 2015; Najdowski, 2011). Fortunately, by expanding on the literature related to stereotype threat in the context of police-civilian interactions, diversity training with police officers can be enhanced and provide definitive actions that police officers can take in order to create positive outcomes with African American individuals.

As of late, there was not a study that combines these components (stereotype threat and CAT) to explain police-civilian interactions, especially with African Americans. Mass incarcerations of African American males (Alexander, 2011) has shown that the shift of discrimination towards African Americans is confined within the figurative walls (and literal walls) of the justice system. Leading up to this primitive and limiting circumstance is the interaction and judgments of law enforcement officers seeking to regulate harmony within their designated community, neighborhood, or area (Correll, Park, Judd, Wittenbrink, Sadler, Keesee, 2007). Although their actions may not necessarily be intentional, based on data and empirical findings they are disproportionally subjecting African Americans to social trauma and unfortunate divisions of African American homes (Department of Justice, 2001; Weitzer and Tuch, 2004; Terrill & Reisig, 2003). Optimistically, this research can help develop better police-civilian interactions that involve African Americans so that this cannot and will not continue.

Operational Definitions

The following is a list of the essential concepts that are used within the current study. These conceptualizations are the framework of how to measure each construct and include:

1. African American or Black: African American and/or Black referred to an individual that identified with African or Caribbean ancestry or heritage and resided in the United States of America.
2. European American or White: European American and/or White referred to an individual that identified with European ancestry and resided in the United States of America.
3. Stereotype Threat: Stereotype Threat was defined as being at risk of confirming, as a self-characteristic, a negative stereotype about one's group (Steele & Aronson, 1995). Stereotype Threat is operationally defined through a modified version of the *Modified Explicit Stereotype Threat Scale* as higher scores indicated higher levels of stereotype threat activation (Najdowski, Bottoms, & Goff, 2015).
4. Communication Accommodation Theory (CAT): Communication Accommodation Theory was defined as a proposal of the various motives, attitudes, perceptions, and interconnection strategies that can be used during communicative interaction (Ayoko, Härtel, & Callan, 2002). The dimensions of Communication Accommodation Theory that were analyzed in the current study include accommodativeness and nonaccommodativeness.
    a. Accommodativeness was defined as identifying or appearing similar to others, maintaining face, maintaining a relationship, maintaining interpersonal control by comprehending interpersonal cues, and promoting understanding about the other person's position (Giles & Gasiorek).

b. Nonaccommodativeness was defined as when individuals do not modify their communication with their conversational partner to create a positive outcome (Soliz & Giles, 2014).

c. Communication Accommodation Theory was operationally defined through the following measure:

    i. A five-item survey called the *Perceived Officer Communication Accommodation Scale* that measured communicative dynamics of police-civilian encounters on a scale of pleasant to unpleasant (Hajek, Barker, Giles, Makoni, Pecchoni, Louw-Potgieter, & Myer, 2006). Higher scores on this measure were indicative of accommodativeness and lower scores were indicative of nonaccomodativeness.

Research Question and Hypotheses

The following research questions along with their hypotheses were outlined given the research on stereotype threat, CAT, and police-civilian interactions:

Question 1: Were there ethnic differences in perceived police officer communication accommodation during police-civilian interactions? Specifically, did African Americans perceive less accommodativeness (on the part of the officer's communication accommodation) than European Americans?

Hypothesis 1: African American participants with or without activated stereotype threat would be more likely to perceive police officer communication accommodation as nonaccommodating when compared to European Americans with or without activated stereotype threat.

As aforementioned, African Americans have had a history of negative interactions with police officers (Department of Justice, 2001; Barlow & Barlow, 2002) and because of this, their perceptions of police officer accommodation may be different from other ethnic groups, specifically European Americans. Considering the research analyzing communication accommodation and ethnic differences during police-civilian interactions, there may be upfront differences in how various ethnic groups perceive police officers during these encounters. Based on the research related to CAT and ethnicity, various ethnic groups have had positively enhanced interpersonal experiences (Imamura, Zhang, & Harwood, 2011; Gallois & Callan, 1988). However, in the context of police-civilian interactions, there may be ethnic differences in perceived police communication accommodation due to the history of conflict between African Americans and police officers in the United States (Barlow & Barlow, 2002). Furthermore, this inquiry takes into consideration that there may be ethnic differences in perceived accommodation, which has not been thoroughly studied until now.

Question 2: Did stereotype threat change the perception of police officer communication accommodation? Specifically, were those who experience "activated" stereotype threat more likely to perceive officer communication as nonaccommodating?

Hypothesis 2: African American participants with activated stereotype threat would perceive police officer communication accommodation significantly more negatively than European Americans or African Americans without activated stereotype threat.

It was hypothesized that stereotype threat would further predict nonaccommodativeness in the perception of police officer communication accommodation for African Americans due to the inhibiting effects that contribute to this phenomenon including maladaptive self-regulatory efforts (Vrji, 2008; DePaulo & Kirkendol, 1989), cognitive load (Schamder, Johns, & Forbes,

2008), and anxiety and related physiological arousal (Najdowski, 2011). With these added on stressors, it was inferred that African American participants display differences in their perceptions of officer communication accommodation compared to the control group where stereotype threat was not activated.

Stereotype threat was yet to be expounded on within this context as it relates to measuring accommodating behaviors. Most of the literature on stereotype threat evaluated situations where an individual's performance on a task is being examined (Steele & Aronson, 1995; Good, Aronson, & Inzlicht, 2003; Johns, Schmader, & Martens, 2005; Aronson, Lustina, Good, Keough, Steele, & Brown, 1999). In order to assess performance outcomes, this research study stipulated that these performance outcomes may decrease for those individuals that were experiencing stereotype threat and thereby inhibit the perception of police officer accommodation.

Question 3: Would ethnic differences in perceived police officer communication accommodation be dependent on the image of either an African American or European American male civilian that the participant viewed?

Hypothesis 3: European Americans across conditions would not experience between-group differences in perceived police officer communication accommodation even when they viewed civilians of different racial backgrounds interact with a police officer.

As aforementioned, European Americans should not experience stereotype threat because the negative stereotype was not associated with their ethnic group. In order for stereotype threat to be activated, the individual has to be at risk for confirming a negative stereotype about one's social group and being evaluated on criminality (Steele & Aronson, 1995) and this stereotype is not associated with European Americans (Dixon, Schell, Giles, & Drogos, 2008). This is why it

was hypothesized that the European American participants would not differ between groups in their perceived communication accommodation despite the condition variety of groups that they can be in (four) in the study.

Hypothesis 4: An interaction effect would occur between African Americans and European Americans in the control condition. When African Americans view the image of an African American male interacting with a police officer, they would perceive the police officer as less accommodating compared to African Americans viewing the European American male interacting with the police officer. European Americans in the control group would not differ in perceived officer communication accommodation based on the image that they see.

African Americans could have been able to personally visualize an interaction with a police officer more easily due to viewing an individual of their same ethnic group interacting with a police officer as this has been shown to happen during advertisements (Johnson & Grier, 2011). Due to this, it was hypothesized that there would be differences between those African Americans that view the African American male interacting with a police officer or a European American male interacting with a police officer.

Hypothesis 5: An interaction effect would occur between African Americans and European Americans in the stereotype threat condition. When African Americans viewed the image of an African American interacting with a police officer, they would perceive the police officer as less accommodating compared to African Americans viewing the image of a European American male interacting with a police officer. European Americans in the experimental group would not differ in perceived officer communication accommodation based on the image that they see.

Similar to the previous rationale, it may be easier for an individual to have an affinity towards an image due to how they relate to the ethnicity/race of the person that they are viewing if that individual has the same ethnic/racial background as they do (Johnson & Grier, 2011). This could mean that African American participants in the manipulation (stereotype threat condition) groups would identify more with the African American male interacting with the police officer than the European American male interacting with the same police officer.

> Hypothesis 6: The ratings of perceived police officer communication accommodation would be highest for European American participants across all groups (no differences between stereotype threat activation versus control group and when they viewed a black civilian and white civilian), followed by African American participants in the control condition when they viewed a white civilian, followed by African American participants in the control condition when they viewed a black civilian, followed by African Americans participants in the stereotype threat condition when they viewed a European American civilian, with African American participants in the stereotype threat group that viewed an African American civilian rating lowest on police officer communication accommodation.

Although it may be easier for an individual to connect with an image that shows a person of their perceived same racial background (Johnson & Grier, 2011), it was suggested that European Americans may not experience this effect based on the findings from a study on how individuals attribute police treatment of African Americans (Haider-Markel & Joslyn, 2017). They found that identifying as African American predicts that they are more likely to view fatal interactions with police officers as indicative as a broader social problem than European Americans (Haider-Markel & Joslyn, 2017). This shows that European Americans could have

not been prone to identifying differences between viewing an African American or European American male interacting with a police officer but that African Americans may view the interaction differently based on the race of the civilian. Furthermore, it was found that African Americans who have a stronger ethnic identification tend to favor advertisements that show African Americans compared to those who do not highly identify as African American and European American groups (Green, 1991). This shows that in the present study, African Americans could have been initiated to identify with their ethnic group more strongly when stereotype threat was activated and when they viewed an African American civilian compared to other groups in the study.

Question 4: Did stereotype threat predict perceived police officer communication accommodation?

Hypothesis 7: Stereotype threat as a continuous variable would predict perceived police officer accommodation negatively (i.e., as stereotype threat increases, police officer accommodation was perceived as more nonaccommodating).

This is an exploratory hypothesis to see if stereotype threat indicated a distinct change or projection of perceived officer communication accommodation. When stereotype threat is activated, it can cause deleterious effects such as anxiety, cognitive load, and self-regulatory efforts (Najdowski, 2011). These symptoms may skew an individual's perception of a police officer interacting with an individual in a negative way. Individuals could be sensitive or critical of what the officer says when experiencing stereotype threat.

Summary

To summarize, the constructs of stereotype threat and communication accommodation theory could have shown implications of the dynamics within police-civilian interactions. Specifically,

these dynamics could proceed with stereotype threat being activated and causing infringements on the perception of communication accommodation during interpersonal discourse. For African Americans, this could be considerably pronounced as individuals within this social group are associated with a negative stereotype of criminality. Overall, this study contributed to the literature surrounding this topic and enhanced the understanding of police-civilian interactions.

II. Literature Review

Stereotype Threat

In his seminal work on stereotype threat, Steele (2010) expresses that identity contingencies take place during certain circumstances. These identity contingencies are things that individuals have to endure during an experience due to or because of their social identity. Steele noted that other people in the same situation do not have to deal with these contingencies because they do not identify in the same social category. This was where he began to formulate what is now known as stereotype threat.

For the purposes of this research, stereotype threat was defined as, "being at risk of confirming, as self-characteristic, a negative stereotype about one's group" (Steele & Aronson, 1995). However, there was great variability in the definition and operationalization of stereotype threat across the literature, and this may inhibit the differentiation of stereotype threat from other constructs (Shapiro & Neuberg, 2007). In other words, it was difficult to decipher the meaning of stereotype threat in the literature because conceptualizations of the construct are often vague and do not possess essential details. For example, another comprehensive definition to describe stereotype threat would be, "When a negative stereotype about a group that one is part of becomes personally relevant, usually as an interpretation of one's behavior or an experience one is having, stereotype threat is the resulting sense that one can then be judged or treated in terms of the stereotype or that one might do something that would inadvertently confirm it" (Steele, Spencer, & Aronson, 2002). Moreover, stereotype threat is "the apprehension people feel when performing in a domain in which their group is stereotyped to lack ability" (Aronson & Inzlicht, 2004). These three definitions encompass the personal aspect associated with stereotype threat but there are other factors to consider within this construct. Due to this, different approaches

were formulated to create a concrete framework or model that strives to completely describe the implications of stereotype threat (Nguyen & Ryan, 2008; Schmader, Johns, & Forbes, 2008; Shapiro & Neuberg, 2007). One thing is for sure that stereotype threat is a situational phenomenon that is context dependent; the context being a self-confirming negative stereotype about one's group membership (Shapiro & Neuberg, 2007). The following sections discuss the different theoretical frameworks and propositions that evoke the effects of stereotype threat.

Theoretical Models and Frameworks of Stereotype Threat

Social Identity Theory. Social identity theory may contribute to the poor performance outcomes that stereotype threat appears to induce. Social identity theory posits that an individual may become threatened when their social identity or in-group is being placed in juxtaposition to other groups (Schmader, 2002). In essence, those who are in minority groups underperform at a variety of activities where they are being compared to the majority. In their leading work on social identity theory, Tajfel and Turner (1985) formulated this construct as a way to explain intergroup conflict asking the question of what makes people from different social groups clash in understanding one another? Or, more broadly, what is it that creates intergroup association when two groups converge? Essentially, Tajfel and Turner (1985) theorized that in-group identification has a pivotal role in conceptualizing intergroup relations; individuals act as agents of their social group, not in a sense of individual regard or intrapersonal relation with others in their group when intergroup encounters occur. In simpler terms, social identity theory can be defined as describing one's self based on group affiliation (Scheepers & Derks, 2016). Therefore, it is postulated that social stratification, or a delineation between groups, and a socially shared system of beliefs contributes to this in-group identification and explains the behavior associated with individuals acting as a unified entity for that particular group. This theory assumes that in-group identification

is conceptualized within their self-concept and posits that there are comparisons of the out-group that can be proximally compared to the in-group's ideology and belief system (Tajfel and Turner, 1985) and reasons that social categorization, social comparison, and social identification are the three social-psychological processes that substantiate social identity theory (Welbourne, Rolf, & Schlachter, 2017). This closely intertwines with the concept of stereotype threat as mentioned previously. Individuals that can identify with a group, whether they accept this identification or oppose it, could potentially become threatened when they are examined based on the distinction between their ingroup and the outgroup in comparison.

In a recent study on self-categorization and perceptions of followers in a group, it was found that self-categorization of being a member of an ingroup construct alternative portrayals of followers for both ingroup and outgroup (Steffens, Haslam, Jetten, & Mols, 2018). Favorable and strength-related representations were established for ingroup members as opposed to antagonistic portrayals were attributed to out group members after self-identifying with a group. This shows that viewpoints of certain groups can be influence or tainted by one's identity with another group. Taking away this self-categorization or social group identification allows for a less biased perspective of the outgroup based on these results.

Furthermore, this theory is often associated with conceptualizing organizational and employee intergroup relations to establish organizational or institution cohesiveness and effectiveness (Ashforth & Mael, 1989; Welbourne, Rolf, & Schlachter, 2017). Organizational socialization occurs for newcomers when they are able to identify their role and what is expected of them in the organization (Ashforth & Mael, 1989). Additionally, employee resource groups (ERGs) began forming after a 1960s race riot in Rochester, New York (Welbourne, Rolf, & Schlachter, 2017). These race riots were due to the discrimination that African Americans endured

during that time. ERGs were implemented to help identify the discrimination and segregation practices within the workplace (Douglas, Kiewitz, Martinko, Harvey, Kim, & Chun, 2008). As such, this created a culture of inclusivity whereby the organization is attending to the needs of those within the ERGs and creating a space where they can form an organizational identity (Welbourne, Rolf, & Schlater, 2017). This relates to the literature on social identity theory as individuals within this theory form their group identity based on their individual self-concept in relation to the institution. This can easily translate to the ideas that are arranged within stereotype threat as persons who are associated with a certain group are anxious about portraying this group in a positive manner (Osborne, 2007; Cadinu, Maass, Rosabianca, & Kiesner, 2005; Bosson Haymovitz, & Pinel, 2004). Therefore, the evaluation or examination process is a critical component of stereotype threat phenomena as it overlaps with the situational factors present in social identity theory (e.g., social identification).

There are even neurological studies that test the cognitive and neural processes associated with social identity theory that support the assumptions comprised in this concept (Van Bavel, Hackel, & Xiao, 2014; Scheepers & Derks, 2016). Although it has been posited that social categorization focus on a dichotomous, dual-process model, there was evidence that showed that top-down social motives and bottom-up visual cue processes both contribute to perception inter-connectedly (Van Bavel, Hackel, & Xiao, 2014). For example, spontaneous social categorization has been shown to occur through EEG measures in that social identity affects how individuals engage in categorizing other groups (Scheepers & Derks, 2016). It was found that Muslim students were prone to social categorization when inclined to endorse their social identity (Derks, Stedehouder, & Ito, 2015). These results and findings can also provide insight about stereotype

threat as individuals that self-identify with a group could potentially employ social categorization tactics spontaneously when recognizing the threat of confirming a negative stereotype.

The difference though, based on the above conceptualizations, between social identity theory and stereotype threat is the individual who experiences stereotype threat is burdened with the idea that they may be confirming a negative stereotype about their social group. It could be inferred that stereotype threat is a derivative of social identity theory. In any event, it is clear that these two theories have coinciding characteristics.

Individual and Context-Dependent Stereotype Threat. It was suggested that different types of stereotype threat may generate various responses for the target individual. For instance, a person who identifies strongly with a group may perform poorly due to their cogent affiliation whereas a person in a different group may feel that their individual reputation may be jeopardized due to their poor performance in a task (Shapiro & Neuberg, 2007). This can be considered as individual and context dependent; if the person that is experiencing stereotype threat meets certain requirements under specific conditions then they will exhibit the effects of stereotype threat. These conditions include: who is the target of the stereotype threat (the individual self or the stereotyped group) and the source of the threat (the individual self, an outgroup member, or an ingroup member; Shapiro & Neurberg, 2007). A matrix of these attributes can create six different conditions whereby stereotype threat can develop, which are: 1) self-concept threat, 2) own-reputation threat (outgroup), 3) own-reputation threat (ingroup), 4) group-concept threat, 5) group-reputation threat (outgroup), and 6) group-reputation threat (ingroup). This framework introduces how complex stereotype threat can be and how research needs to consider the various ways in which it can be enacted. For the current study, the context in which the stereotype threat was manifested was the own-reputation threat (outgroup) where

the source of the threat comes from the outgroup and the target of the threat is the individual self. The own-reputation threat (outgroup) is when an individual is fearful that they will "be judged or treated badly by outgroup members" because their actions may portray or give evidence to the negative stereotype about their ingroup (Shapiro & Neuberg, 2007). It was hypothesized in the current study that participants would perform poorly based on the above premise that they would be judged for substantiating stereotypical behavior of one's ingroup (i.e., Blacks being criminals and thus can only experience stereotype threat because their social group is associated with this specific negative stereotype unlike European Americans that are not associated with this stereotype of criminality).

Integrated Process Model of Stereotype Threat. Schmader, Johns, and Forbes (2008) proposed an integrated process model of stereotype threat. Specifically, they introduced different mechanisms to be attributed to one's confirmation of a negative stereotype about their ingroup. They hypothesized that the core negative impact of stereotype threat psychologically inhibits the executive processes allocated to working memory. It was noted that the specific pathways that must be activated for stereotype threat to impact the individual through the impairment of their working memory (i.e., working memory as a mediator to stereotype threat), includes a physiological stress response (i.e., adrenal or sympathetic nervous system initiates), hypervigilance or monitoring tendencies (specifically for those who are not accustomed to this practice), and increased suppression tendencies (i.e., not regulating emotions) (Schmader, Johns, & Forbes, 2008). In other words, the different pathways need to all be activated in order to produce the detrimental effects of stereotype threat. This model implied that stereotype threat is comprised of multiple parts and does not occur solely from one predictive factor. It also assumed that stereotype threat contains neurological processes that have to be initiated during a

stereotype threat situation. Furthermore, this allowed for a detailed inspection of how stereotype threat may come to fruition and can be identified by these three mechanisms associated with working memory. As it applies to this study, it will be important to measure executive functioning of participants, specifically working memory and how this could be impacting performance outcomes for the individual experiencing the threat of a negative stereotype.

Domain Identification in Stereotype Threat. An additional approach involves domain identification, which is defined within the context of stereotype threat as being vulnerable to social threat cues based on one's affiliation to a certain domain. This theory had implications for the differences seen between ethnic minorities and women in terms of their response to stereotype threat. It was found that ethnic minority test takers had more difficulties compared to women as their domain identification of the stereotype threat cue, for an own-reputation (outgroup) context, was higher with ethnic minorities as shown through a meta-analytic study (Nguyen & Ryan, 2008). This means that ethnic minorities may be more invested in their affiliation with their ingroup and that this promotes their sensitivity levels to stereotype threat when these social cues are enacted. Nguyen and Ryan's (2008) research implied that those who highly identified with their social group felt greater responsibility to counter the behavior associated with negative stereotypes.

Stereotype Threat Activation. The theory behind stereotype threat is that these so-called "threats in the air" are frequently and inevitably occurring due to the consistency of the knowledge of a negative stereotype about one's ingroup (Steele, 2010). It was then important to note that to thoroughly test whether stereotype threat was transpiring, there needs to be a condition where the "pressure" associated with confirming one's stereotype is eliminated. Most of the literature has primarily discussed how talking about the negative stereotype somehow elicits the

underperformance of various minority groups (Schamder, 2002) but this phenomenon can also take place with those who are considered high up on the social echelon (Stone, 2002).

Activation of stereotype threat can be established in two ways, implicitly or explicitly, and is due to how important the stereotype threat is considered to the individual that is being judged. Implicit stereotype activation is produced by "cuing test takers to the link between a stereotype and a particular evaluative test" (Nguyen & Ryan, 2008). In other words, participants within a study where stereotype threat is being manipulated implicitly have to formulate the negative stereotype and its connection to the evaluative task. On the other hand, explicit stereotype activation is enacted by blatantly stating the negative stereotype associated with the task. Although at first glance it may seem obvious to use explicit means of activating stereotype threat, research shows that test takers may overperform on a task due to explicit cues (Kray, Thompson, & Galinsky, 2001), which can be called a stereotype reactance effect. Therefore, implicit stereotype threat cues work better at initiating stereotype threat as these cues may be eliciting subconscious psychological reactions that evoke underperformance in the individual under the threat (Levy, 1996). An example of an implicit stereotype threat cue would be the one used in Stone, Lynch, Sjomeling, and Darley's (2002) study on how Black and White athletes differ under conditions testing their athleticism. In order to induce stereotype threat for White athletes they stated that the study was designed to evaluate a person's "natural athletic ability," thereby activating the negative stereotype that White athletes lack in natural athletic ability compared to other ethnic groups. Najdowski, Bottoms, and Goff (2017) used an alternative tactic to induce stereotype threat in their experiment on police-civilian interactions. They noted that the process of identifying one's ethnic or group identity was enough to give rise to stereotype threat and found results that confirmed this sentiment. These approaches to activating

stereotype threat support the theoretical frameworks mentioned previously in this review in that self-categorization was a salient component in stereotype threat.

Manipulation check. Although it would be convenient to assume that stereotype threat has been activated due to the aforementioned operations, there were procedures that were used to check whether the manipulation truly unfolded. In their study on stereotype threat within police encounters, Najdowski, Bottoms, & Goff (2015) used a word-stem completion task to see if individuals were in fact in a situation where they were experiencing stereotype threat effects. In this task, participants fill-in omitted letters in a word-stem. Some of the word stems can be filled with two different words, one of them being stereotype-related. Those participants who fill-in the word-stem to create stereotype-related words are assumed to be experiencing stereotype threat. This is supported by previous studies that also use a word-stem completion performance task to ensure that stereotype threat has been activated (Goff, Steele, & Davies, 2008; Steele & Aronson, 1995)

Influence on Academic Performance

There has been an extensive amount of literature surrounding the theory of stereotype threat on academic performance outcomes as this is where research on this subject matter originated. A prominent study conducted by Steele and Aronson (1995) was a renowned experiment within the stereotype literature. The researchers implemented four different studies regarding test performance for African Americans and European Americans as the negative stereotype that was being referred to was about African Americans being intellectually inferior to their European colleagues. In their first study, they had participants complete a verbal abilities examination, similar to the format of the Scholastic Aptitude Test (SAT) but were actually questions that were taken from the Graduate Record Examination (GRE). Researchers separated

the participants in diagnostic and nondiagnostic conditions. Those within the diagnostic condition were told that the individuals were being tested on their personal verbal abilities while the nondiagnostic group participants were told that their verbal ability would not be evaluated. They found that African Americans may be more susceptible to lower test performance (SAT scores) when they perceive evaluations are based on a negative stereotype as the African American participants in the study underperformed compared to the European Americans in the diagnostic condition but these differences were not apparent in the nondiagnostic condition. Their second study was the same as Study 1 with the exception of reducing the number of items on one of the measures and having the participants view the examination on a computer. The results from Study 2 supported what they found in Study 1. Study 3 examined other factors that could also be activated under these conditions which included stereotype activation, self-doubt activation, stereotype avoidance, indicating race, and self-handicapping. Finally, in Study 4 the researchers had the participants only indicate their race to prime stereotype threat and found that only indicating one's ethnicity can activate stereotype threat for African Americans when being tested on verbal ability as they underperformed on the intellectual examination compared to European Americans in the diagnostic and nondiagnostic conditions. These results showed that the cognitive initiation of even indicating one's race can potentially activate stereotype threat in individuals who are members of the group associated with the negative stereotype.

This research opened doors for new research surrounding understanding the reason why African American students were not performing as well in the classroom compared to their European American classmates. The phenomenon of stereotype threat provided an explanation for these disparities that were not holistically accounted for by other research inquiries or concepts. Aronson, Lustina, Good, Keough, Steele, and Brown (1999) wanted to discern the

situational effects of the stereotype phenomena. Even White males, who are typically considered a "privileged" group relative to other ostracized ethnicities, may experience deficits in their performance due to stereotype threat. After conducting two studies on this phenomenon it was found that an engrained sense of inferiority may not be necessary for underperformance in math ability. In the first study, the participants read about how Asian students outperform other ethnic groups in math achievement and were blatantly told that Asians outperform Whites in mathematics. In the second study, the researchers found the same results from the first study but implemented a different examination of mathematical ability and received data three weeks prior to the experiment about the individuals' confidence in their math ability. White males within this study were less likely to perform well on a mathematics inventory when they identified strongly with having a high math ability than White males who did not. Leyens, Désert, Croizet, & Darcis (2000) reason that stereotype threat may have more to do with situational factors than having a precondition of lower status or history of stigmatization. They investigated the prior statement by creating a stereotypic manipulation for those considered to be in the dominant social group (e.g., White males that are not stigmatized or considered lower status within society). White men were more prone to error on various affective lexical tasks as they interpreted nonaffective words with affective words when they were introduced to the stereotype that men are not in tune with their emotions and can appear stoic. This posited that stereotype threat was prevalent in circumstances where the individuals being evaluated may not have a background that consists of an array of negative and meaningful stereotypes but can also impact groups that are not considered marginalized.

Some researchers posited that educating individuals on stereotype threat could potentially have deleterious effects on the target individual's academic performance (Wheeler & Petty,

2001). Counter to this supposition, Johns, Schmader, and Martens (2005) found that knowing about stereotype threat may increase an individual's chances of countering poor performance outcomes for women specifically. The women in this experiment produced equivalent test scores on their math examinations to the men in the study when they were placed in the intervention group that described stereotype threat compared to the group that was described as engaging in a math test. These results have implications for other groups that may experience stereotype threat when they encounter a task that activates a negative stereotype associated with their group. Teaching stereotype threat to populations that experience negative outcomes due to the effects of this concept may prevent lower performance outcomes for these groups of individuals.

In addition, a longitudinal study on the long-term effects of stereotype threat on people of color implies that having a strong identification with academics can unfortunately lead to withdrawal from school as schooling can be more aversive for those students of color (Osborne & Walker, 2006). African American students may disengage or deidentify with academia in order to avoid the anxiety or apprehensiveness that ensues under the conditions of stereotype threat (Aronson, Fried, & Good, 2002). In their experiment, Aronson, Fried, and Good (2002) hypothesized that the effects of stereotype threat could be reduced when African American students were suggested to view intelligence as malleable and changeable. The African American stereotype of being academically inferior may be viewed as a "fixed" entity when intelligence has some degree of plasticity. After engaging in a pen pal intervention program, African Americans in the intervention groups who were conditioned to perceive intelligence as modifiable were more likely to identify with their academics than African Americans who did not foster this viewpoint. Furthermore, this was not due to a perceived reduction of stereotype

threat effects. Overall, those within the malleable condition received higher GPAs compared to their counterparts. This study implied that those who experience stereotype threat have the ability to reduce and eliminate the adverse effects on academic achievement.

Physiological and Affective Effects of Stereotype Threat

As aforementioned, the occurrence of stereotype threat can yield physiological symptoms (Schmader, Johns, & Forbes, 2008). Women that are under stereotype threat may experience vagal withdrawal, which is the parasympathetic system's reduction that allows for the heart rate to increase (Allen & Ben, 2016). Participants of this study that were in the stereotype threat or diagnostic condition were told to imagine a counterstereotypical woman (i.e., a math professor) and those within the control group were asked to envision a nature scene. Researchers also measured the participants' working memory capacity and found that this was reduced.

Croziet, Despres, Gauzins, Huguet, Leyens, and Meot's (2004) research findings implied that college students who are psychology majors underperform compared to other students who are hard-core science majors when stereotype threat about intellectual ability is activated. The authors measured electrocardiograms (ECG) and respiration activity (RA) and found that those who were told that the test was measuring cognitive ability had a higher increase in heart rate and that being in the diagnostic condition predicted mental load in the psychology student, which were the participants that had the added pressure of being negatively stereotyped as having lower cognitive ability.

Mean arterial blood pressure (MAP) was measured during a study conducted by Blascovich, Spencer, Quinn, and Steele (2001) and they found that African Americans in the high stereotype threat condition were statistically significantly more likely to have higher levels of blood pressure than other groups. Additionally, their results indicated that African Americans

within the high stereotype threat condition performed more poorly on the Remote Associates Test (RAT; a verbal ability inventory) than the other groups within the study. Unfortunately, this shows that African Americans in particular can acquire not only deficits in how they perform on a task or in a certain situation but can also amass physiological symptoms that can impugn their overall health status.

There is a paucity of research that analyzes the target's perspective of intergroup processes specifically related to neurological inhibitions when encountering automatic biases. However, women exposed to a negative stereotype indicative of mathematical ability showed less neural activity in regions of the brain that are typically used to retrieve information for solving mathematical equations compared to a control group (Derks, Inzlicht, & Kang, 2008). Consequentially, stereotype threat may have an impact on the neural activity in the brain.

Arousal and anxiety can physiologically affect an individual when their situation meets the requirements of a stereotype threat occurrence. Social facilitation theory posited that arousal enhanced an individuals' performance on inventories testing simple capabilities but inhibited performance on more accelerated or arduous activities. Arousal may be a mediating factor between stereotype threat and performance outcomes for women subjected to a threatening environment (Ben-Zeev, Fein, & Inzlicht, 2005). Pathways associated with the causal factors and outcomes of stereotype threat have often included the concept of arousal. In their experiment on arousal and stereotype threat O'Brien and Crandall (2003) found an interaction effect between arousal, problem difficulty, and gender. As problem difficulty increased, women who experienced arousal due to stereotype threat were less accurate in their responses to solving math problems as opposed to their male counterparts that also were exposed to the negative stereotype that women do not perform as well on mathematical examinations. Although these

findings may not be directly associated with physiological concerns, this does put individuals at risk for acquiring such delays.

Anxiety can inhibit an individual from executing an evaluative task and also can lead an individual to avoid or psychologically dissociate when experiencing this phenomenon (Osborne, 2007). As it relates to stereotype threat, the neurological, chemical, and physiological indicators of anxiety were also attributable to stereotype threat for women who are taking a math test and were in a high stereotype threat condition (Osborne, 2007). These indicators were statistically significantly increased in comparison to their male counterparts. Unobtrusive measures used to assess anxiety symptoms may give insight into the effects of stereotype threat. In their study testing the effects of stereotype threat for men who identified with different sexual orientations, researchers found that non-verbal anxiety accounts for the effects of stereotype threat on gay men's childcare performance (Bosson, Haymovitz, & Pinel, 2004). These studies emphasized the anxiety component within stereotype threat and how this can impact one's affective and physiological outcomes.

Moreover, it was shown that emotionality components may not be the only factor in stereotype threat anxiety but that being worrisome and having negative intrusive thoughts may actually contribute to negative outcomes for those experiencing stereotype threat (Cadinu, Maass, Rosabianca, & Kiesner, 2005). Not only was it imperative to consider the emotional and physical responses elicited from being in an evaluative state but that the cognitive functioning of the individual can also contribute to stereotype threat.

Prolonged Effects of Stereotype Threat

Inzlicht and Kang (2010) hypothesized that circumstances involving the inhibiting effects of stereotype threat can have a prolonged negative impact on those who are immersed in

situations where their performance was being evaluated unlike those who were not experiencing stereotype threat. Researchers were able to find that stereotype threat has lingering, residual effects into other aspects of a person's behavior, particularly their self-control and regulatory coping strategies. For instance, working memory could be impacted by stereotype threat effects. Schmader and Johns (2003) found that Latinos and women had lower working memory outcomes when in a stereotype threat condition. At the same time, reappraising anxiety (e.g., instead of attempting to suppress the effects of anxiety and should consider anxiety as innocuous) can be helpful in minimizing the effects of stereotype threat (Schmader, 2010) showing that although there are prolonged effects associated with this phenomenon, there are ways to intervene and prevent maladaptive consequences.

Stereotype threat could have deleterious effects on women's motivation to pursue or succeed in mathematical examinations (Fogliati & Bussey, 2013). For example, Foglati & Bussey (2013) conducted a study where they had participants in a stereotype (i.e., participants read that males perform better than females on math tests) or non-stereotyped (participants read that males and females performed equally on math tests) condition where they would complete a mathematics test on a computer. The researchers provided false feedback about the participants' scores after they completed the test where some of the participants were shown that they scored below the mean while others were shown the inverse. The results indicated that women in the stereotype condition that received negative feedback were less likely to engage in tutoring sessions than women in the nondiagnostic condition. Implications of this study suggested that individuals who were experiencing stereotype threat may be less likely to feel motivated to participate in future activities that were similar to those in which the stereotype threat was

activated, where they received information that they underperformed on this task and could partake in ways to improve on those abilities.

Stereotype Threat Effects on Athletes

As stated beforehand, even nonstigmatized or nonmarginalized groups may experience stereotype threat (Stone, Lynch, Sjomeling, & Darley, 1999). For example, a study on athletic performance for both Black and White athletes showed that White athletes were less likely to perform well on athletic-oriented tasks when presented with the negative stereotype that White individuals perform poorly in athletics compared to their Black peers. Research has shown that there was a negative stereotype associated to both White and Black athletes: Black athletes are perceived to have "natural athletic abilities" but devoid of "sports intelligence" while the opposite is purported about White athletes (Krueger, 1996; Devine & Baker, 1991). White individuals, in particular, may engage in self-handicapping activities when threatened by a negative stereotype according to Stone (2002). In one of his experiments, it was found that when playing a mini golf game, White participants that were in the stereotype threat condition practice less than the control group. This was also true for those who identified their self-worth as being tied to their athletic performance as they also performed poorly when in the stereotype condition. In the second experiment, the study compared Hispanic and White individuals playing a mini-golf activity and they found that White individuals practiced less than Hispanic participants and that White participants that were engaged in the activity were less likely to practice compared to all groups in general. Undoubtedly this can support the proposition that stereotype threat can inhibit individuals from attempting to engage in certain behaviors because of their lack of confidence. It was shown that practice increases one's performance level in sporting events (Ericsson, 2006) and if White athletes are not practicing as much as other ethnic groups then

their performance outcomes would only perpetuate the idea that White athletes are inferior in their athletic ability.

Socioeconomic Status and Stereotype Threat

According to a study conducted by Croziet and Claire (1998), individuals that identify as being members in a lower socioeconomic status (SES) group were less likely to perform well on a verbal ability assessment within a diagnostic condition compared to those in a nondiagnostic condition (i.e., not primed to a negative stereotype about social class). This report could further initiate the disparities that are seen between lower and higher socioeconomic persons.

A study that expanded on Croziet and Claire's (1998) by having participants be grouped in four groups that were determined based on whether stereotype threat was manipulated (diagnostic or non-diagnostic condition) and whether SES was of importance by having one group state their parent's income before taking the test (salient condition) and having the other half indicate this information after the test (non-salient condition; Spencer & Castano, 2007). Their results indicated that SES was a main effect for performance outcomes as those with higher incomes performed statistically significantly better. Also, those in the low-SES condition where salience of SES was primed performed more poorly than low-SES participants who indicated their SES after the examination. Again, this supports the idea that the negative stereotype associated with intellectual ability for low-SES students can impact their performance levels on verbal ability examinations like that of the GRE.

In another study on the link between SES and stereotype threat, the researchers also expanded on Croziet and Claire's (1998) study but addressed inflammatory processes that could be stimulated by stereotype threat (John-Henderson, Rheinschmidt, Mendoza-Denton, & Francis, 2013). Inflammation occurs when the immune system over produces inflammatory cytokines

that help fight against infection. An overabundance of these inflammatory cytokines can induce a greater chance of having certain chronic diseases and effect health outcomes in the long-term (Cesari, et al., 2003; Stowe, Peek, Cutchin, & Goodwin, 2010). John-Henderson, Rheinschmidt, Mendoza-Denton, and Francis' (2014) conducted two studies: Study 1 replicated Croziet and Claire's (1998) study while inquiring about whether inflammation is activated by stereotype threat and Study 2 was formulated to answer whether social comparisons affected inflammation response and test performance. They found that ideologies about one's present circumstances effects test performance through stereotype threat in lower SES individuals and that early inflammation can increase the chances of having negative health outcomes later on in life. This analysis provided insight about stereotype threat, SES, and the physiological outcomes that individuals can endure by comparing themselves to other social groups.

Gender and Stereotype Threat

Gender differences have been thoroughly documented in the literature on stereotype threat as women have been shown to underperform in certain tasks in comparison to men. To support the claims proposed by social identity theory (as described earlier), the importance of gender identity was shown to be a moderator for stereotype threat effects in a study researching math test performance differences between male and female Caucasian undergraduates. When gender identity was primed, and the individual highly identified with their gender, women underperformed on their math test in comparison to the men in the study (Schmader, 2002). Cadinu, Maass, Rosabianca, & Kiesner (2005) studied how specific intrusive thoughts (those regarding performance-related qualities) may have influenced those within a stereotype threat condition. Sixty female psychology students were participants in the study. They were given seven questions, similar to the mathematics portion of the Graduate Record Examination (GRE)

and then a survey measuring their intrusive thoughts. It was found that performance of the women in the stereotype condition was significantly statistically lower than the comparison group and also demonstrated more negative intrusive thoughts. In a highly cited study on math performance and stereotype threat effects for women, Spencer, Steele, and Quinn (1999) were able to provide evidence that stereotype threat influences performance levels but may not mediate how expectations influence stereotype threat. For instance, gender gap performance was nonsignificant for participants that were primed to the inclusivity of intelligence factors (Good, Aronson, & Inzlicht, 2003) showing that the effects of stereotype threat can be reduced.

Although women could be potentially impacted by stereotype threat within the context of a leadership position, it has been shown that the quality of leadership effectiveness is not based on gender (Hollander, 1992; Powell, 1993). Research by Martens, Johns, Greenberg, and Schimel (2006) suggested that self-affirmation may alleviate the effects of stereotype threat by increasing an individual's idea of their self-worth and integrity. They studied this phenomenon by evaluating women's math performance under three different conditions. In their first experiment they found that women within the group who were exposed to a negative stereotype about women's math performance showed a significant decrease in their math scores compared to women in the group exposed to the stereotype threat and who elaborated about the personal importance of their most valued characteristic. The second experiment was similar in nature as the researchers added a self-affirmation group for the men and had all participants engage in a spatial rotation task instead of completing a math test. They found that self-affirmation continued to elevate the women's performance while engaging in the spatial rotation task, but this was not statistically significant for the men in this same group. All in all, these research

experiments show that stereotype threat is associated with an inhibition or disruption of an individual's perceived self-integrity.

Ethnicity and Stereotype Threat

As the stereotype threat literature began with an emphasis on the differences between ethnic groups (Steele & Aronson, 1995), this area of research has been expanded. Goff, Steele, and Davies (2008) hypothesized that the impetus for racial distancing may not be due to prejudgments of a racial group but for the target individual to be in a condition that reinforces stereotype threat. Their study on racial distancing revealed that White undergraduate males distanced their seating arrangements more often with their Black partners than their White partners when the White racist stereotype was activated. This shows that stereotype threat can exacerbate the idea of being judged based on a negative stereotype and therefore, induce individuals in behaving in ways that support the stereotype. After administering a Raven's Advanced Progressive Matrices (APM) test, which measures intellectual ability, researchers (Brown & Day, 2006) found that African American participants underperformed in comparison to their White American peers while being in a stereotype condition whereas they performed similarly when in the no-threat condition. Within the academic community, there is a lack of representation of ethnically diverse graduate students (Taylor & Antony, 2000). This could have implications on how African Americans can excel in academia as entering higher education may elicit apprehension for those who identify as a person of color. Racial identity may also affect the outcomes associated with being immersed in a stereotype threat situation (Davis III, Aronson, & Salinas, 2006). Using three different threat conditions, Davis III, Aronson, and Salinas (2006) found that African Americans who internalized their racial identity in a low threat condition were more likely to answer GRE questions correctly than individuals in a high threat

situation. They did not find any moderating effects. At the same time, this aligned with the previous research mentioned in that arousal for African Americans may be helpful in low-threat situations but detrimental in demanding environments.

There may be implications on health care disparities for those who experience some form of stereotype threat as well. Stereotype threat may lead to unwanted outcomes that could lead to mistrust or negative consequences for ethnic minority patients within the healthcare field as stereotype threat evoked an uncongenial social milieu (Shapiro & Neurberg, 2007; Massey & Fischer, 2005). These unwanted outcomes can include: future avoidance of healthcare services, an overall perception of impaired communication with healthcare professionals, and poorer adherence to prescribed treatment plans or medications (Aronson, Burgess, Phelan, & Juarez, 2013).

Intersectionality. Research has also focused on the combination of negative stereotypes due to various minority groups that an individual may identify, as it relates to performance outcomes. A study primarily geared towards Latino women found that ethnicity-based stereotypes predicted poor performance on a mathematical exam for both Latino men and women. The gender-based stereotype did not show a significant difference between White men and women but was apparent for the sample of Latino college students in the study (Gonzales, Blanton, & Williams, 2002). From these results it can be inferred that ethnicity-based stereotype threat impairs performance to a greater degree than gender-based stereotype threat. Still, there needs to be more research on the differences between intersecting cultural groups.

Law Enforcement and Stereotype Threat

The focus of the current research was on the effects that stereotype threat may have on citizens during law enforcement encounters. There was a scant amount of research pertaining to

this subject, however, Najdowski, Bottoms, and Goff (2015) studied the experiences that individuals have when encountering police officers. They specifically investigated the psychological reactions that individuals face when they are in these situations. They hypothesized that individuals who are overcome with stereotype threat are more likely to exhibit certain characteristics that included suspicious behavior and expectations of negative outcomes with law enforcement. In their second study, they had participants imagine being in a scenario where a police officer halts after noticing the individual. The individuals are then surveyed on their initial reactions to this hypothetical occurrence. They found that Black men are more likely to adhere to the conceptualization of stereotype threat than any other group (Najdowski, Bottoms, & Goff, 2015). In other words, they are more likely to be impacted by the negative stereotype of Black men being aggressive and that this impacted their performance when encountering a police officer. This study had implications for the influence that stereotype threat has during law enforcement encounters and can shed light on the behaviors that police officers often interpret as suspicious. This is one of the only studies that integrates police-civilian interaction and stereotype threat theory.

Furthermore, during police investigations, innocent African American suspects may falsely confess due to coercion and stereotype threat processes (Najdowski, 2011). This could be due to nonverbal cues such as anxiety and related physiological arousal, self-regulatory efforts and cognitive load that can affect performance and behavior in negative ways. The aforementioned responses could make suspects appear as if they are lying or are guilty when being interrogated.

Self-Regulatory Efforts. It was suggested that stereotype threat may elicit reactions or responses that can be viewed as guilty when African American suspects interact with police

officers (Najdowski, 2011). These verbal or nonverbal actions are categorized in two ways: 1) the suspect becomes vigilant to being evaluated based on a negative stereotype, and 2) the individual becomes vigilant about whether they confirm this stereotype. These self-regulatory behaviors interfere with the automatic responses that would be used in the same situation. Examples of this vigilant behavior would be those indicative of liars that can include: "purposefully maintain[ing] eye contact, avoid[ing] making movements with their extremities and body, or speak more smoothly by controlling speech disturbances" and that "highly motivated liars avert their gaze and blink less often, fidget and move their heads and bodies less frequently, speaks in a more polished manner, and give shorter and slower answers" (DePaulo & Kirkendol, 1989; Najdowski, 2011; Vrij, 2008). Individuals experiencing stereotype threat may exhibit these same behaviors as well (Najdowski, 2011). This is analogous to how individuals also attempt to self-regulate during interracial encounters (Richeson & Shelton, 2007; Trawalter & Richeson, 2005).

Cognitive Load. Disruptions in cognitive processes may ensue during stereotype threat encounters (Najdowski, 2011). This cognitive load was produced due to the anxiety arousal that initiates cognitive disfunction (Schmader, Johns, & Forbes, 2008). Depletion of these cognitive resources can be found in Richeson and Shelton's (2003) study on interracial encounters as their results indicated that White participants had difficulties using their cognitive resources during situations where they encountered someone of a different race by trying to suppress their behaviors. This shows that African Americans could potentially experience the same cognitive load when they encounter police officers.

Measuring Stereotype Threat

Throughout the literature, measurements of stereotype threat have included various assessments to be able to conclude that stereotype threat was the variable being manipulated in the study. Unfortunately, there were not many inventories that measure stereotype threat during police-civilian interactions (Najdowski, Bottoms, & Goff, 2015). However, most of the literature on stereotype threat pertains to academic performance, therefore, stereotype measures were also analogous to measuring how individuals feel after engaging in some academic related task. For example, in their seminal study on academic performance for African Americans, Steele and Aronson (1995) formulated an 8-item measure where participants answered Likert-style 7-point scales to statements like, "Some people feel I have less verbal ability because of my race," " The experimenter expected me to do poorly because of my race," " In English classes people of my race often face biased evaluations," and "My race does not affect people's perception of my verbal ability." Since then, other researchers have been using these items for their studies on intellectual performance or modifying these items so that they pertain to the study's purpose (Bergeron, Block, & Echtenkemp, 2006; Chasteen, Bhattacharyya, Horhota, Tam, & Hasher, 2005; Roberson, Deitch, Brief & Block, 2003; Xavier, Fritzsche, Sanz, & Smith, 2014; Najdowski, Bottoms, & Goff, 2015).

In their review, Xavier, Fritzsche, Sanz and Smith (2014) argue that there are limitations to using Steele and Aronson's (1998) measure. These limitations include: 1) understanding the differences in how high scores are achieved on the measure (i.e., is answering moderately on a few items the same as answering high on only one item), 2) deciphering the source or cause of the threat, 3) delineating stereotype threat from other constructs such as stigma consciousness, stereotype endorsement, group identification and domain identification, 4) being mindful about

stereotype threat, 5) decide if stereotype threat is unidimensional or multidimensional as mentioned by Shapiro and Neurberg (2007), and 6) whether this construct can be measured through self-report. From their critique, it can be understood that measuring stereotype threat can be difficult considering the factors involved.

Communication Accommodation Theory

Definition and Theoretical Assumptions. Given the paucity of literature surrounding police-civilian interactions and stereotype threat, it was important to identify a potential framework for which these interactions (and associated stereotype activation) might be explained. One potential avenue to explore is that of Communication Accommodation Theory. Communication Accommodation Theory (CAT) can be conceptualized as a proposal of the various motives, attitudes, perceptions, and interconnection strategies that can be used during communicative interaction (Ayoko, Härtel, & Callan, 2002). Communication Accommodation Theory also emphasized that "communicators are motivated to adjust their speech styles with respect to one another as a means of expressing values, attitudes, and intentions" (Buller & Aune, 1992). This theory posited that individuals come to a social interaction with their own communicative and interactive style. After initiating contact with another person and evaluating their disposition, the speaker modifies or adjusts their communication to appear personally, interpersonally and socially approachable as well as gaining acceptance or approval from the other interlocutor (i.e., a person that is active within a conversation) (Giles & Gasiorek, 2013; Namy, Nygaard, Sauerteig, 2002). In essence, characteristics of CAT described how individuals communicated in order to create positive interactions with the other party and how people would change their way of communicating in order to achieve this overarching goal.

History of CAT

With its broad definition, CAT originated during the 1970s and was the brainchild of social psychologist Howard Giles as CAT stemmed from the former theory called speech accommodation theory (Gallois, Ogay, & Giles, 2005). Adjusting one's communication to formulate an understanding and approval from the opposing party is one of the core facets associated with CAT (Pitts & Harwood, 2015).

Communicative Accommodation versus Nonaccommodation

It was theorized that CAT is maintained through two mechanisms that include an affective function (comprehending interpersonal cues, concerns, and respecting another's social space) and a cognitive function (promoting understanding of the other person's position) (Giles & Gasiorek, 2013). In order for one to be accommodative within these two functions, one should try "identifying or appearing similar to others, maintaining face, maintaining a relationship, and maintaining interpersonal control as it relates to power or status differentials" for the affective or social regulation function and facilitate the conversation appropriately by comprehending the other in a relatable fashion (Giles & Gasiorek, 2013). This was comprised of making sure that the appropriate adjustments have been made between the individuals that are conversing and that both of the individuals were satisfied with these adjustments (Giles & Gasiorek, 2013). This form of accommodating can also be called convergence. An example of this would be if an individual does not talk about topics that reference motherhood to their friend because their friend's mother was not present in their life and this is a sensitive subject for them to discuss. Social identities (e.g., race, ethnicity, gender, religious affiliation, sexual orientation) can also influence these communicative interactions as individuals "can make communication

adjustments to show respect for or affiliation with the other's group in an attempt to transcend group boundaries" (Soliz & Giles, 2014).

The opposite of being accommodative within CAT is called nonaccommodation. When nonaccommodating, individuals do not appropriately modify their communication with their conversational partner to create a positive outcome (Soliz & Giles, 2014). Under the umbrella of nonaccommodation, there are concepts that specifically describe different types of nonaccommodation. These concepts are divergence (i.e., changing one's communicative style to oppose the other speakers' discourse), maintenance (i.e., continuing to use one's normative communicative style despite the differences that are present in the other speaker's dialogue), overaccommodation (i.e., implementing too many changes to fit the other speaker's communicative style), and underaccommodation (not implementing enough changes to fit the other speaker's communicative style) (Giles & Gasiorek, 2013).

It was suggested that factors including intentionality, motive, and perspective-taking encompass the interaction between accommodative and non-accommodative communication; when individuals are intent about accommodating their language (i.e., in alignment with the accommodation tactics mentioned previously), they are viewed positively as opposed to those who do not accommodate their language (and are viewed as being intentional about nonaccommodating their language during the interaction) (Giles & Gasiorek, 2013). Motive is considered a paramount component of CAT as it was conceptualized as being able to infer what another individual may do in the future (Reeder & Trafimow, 2005; Giles & Gasiorek, 2013) while perspective-taking is the ability to figuratively step into someone else's shoes and see the world through their viewpoint (Giles & Gasiorek, 2013).

Speech convergence and perceived similarity. Speech convergence is also within the realm of communication accommodation as it surmises that individuals match the verbal patterns of the other speaker to appear similar to one another (Buller & Aune, 1992). In other words, they "mirror" the vocal characteristics of the other person (Namy, Nygaard, Sauerteig, 2002). The opposite of this is called divergence where individuals contrast their communication to the person they are conversing with to show a stance in their social identity and to deliberately assert distinction between the two speakers (Dixon, Tredoux, Durrheim, & Foster, 1994).

Buller and Aune (1992) hypothesized that conforming speech rate or communicative patterns between a speaker and a listener would result in greater compliance to the speaker's intentions. In other words, the decoder's perception of similarity in speech will allow an increase in interpretations of intimacy and immediacy between the two parties. In their study, 263 undergraduate students were asked to rate pre-recorded recruitment messages. Researchers found that listeners were more inclined towards speech rates that they perceived as being similar to their own (Buller & Aune, 1992). This, in turn, supported the idea that perceived similarity, even though it may not be similar, was important in regard to listeners feeling interconnected with the speaker (i.e., increased levels of perceived intimacy and immediacy between the two parties). However, their findings did not support their hypothesis that similarity in speech rates would positively affect compliance with a number of programs that the participants would volunteer to review. Although speech convergence was not measured within the current study, it was important to understand this component of CAT as it gives insight into how each speaker alters their speech styles in order to create a positive outcome (e.g., future encounters with one another, understanding of each other's point-of-view).

In an earlier study by Street, Brady, and Putnam (1983), the subjects were asked to record themselves reading a prompt that was provided by the experimenters. Afterwards, they listened to five other recordings of the same prompt with different speakers in each recording and were told to rate whether the speech rate of the speaker were slower, faster, or at a moderate rate. They also had the participants compare their speech pattern to the speakers' in the recordings. The participants then self-reported on the perceived competence and social attractiveness of the speakers in the recordings. The results showed that individuals that perceived the recorded person's speech rate as similar or faster than theirs were evaluated as competent and socially attractive compared to those with slower speech rates (Street, Brady, & Putnam, 1983). This gives insight into how similarity in speech patterns can predict how interactants judge one another during a conversation; those who perceive others as having a similar speech rate idealize the other individual as favorable.

In relation to the prior study, Brown, Giles, and Thakerar (1985) also researched the association between perceived competence and speech rate while considering perceived benevolence as well. They found that slower speech was linked to higher benevolence ratings and competence was associated with a faster speech rate after participants rated recorded monologues about dentists' communication with children. Aune and Kikuchi (1993) had similar results in their study on perceived similarity on language intensity. Those participants who perceived language intensity as similar to their own after reading a persuasive message were more apt to view the source of the message as favorable (e.g., competent, credible). These studies show that perceived similarity in one's speech rate can impact the judgments and evaluations made on the other interactant.

Diversity and CAT

Soliz and Giles (2014) found that studies referencing communication accommodation theory mainly consisted of research on cultural, ethnic, or ethnolinguistic factors as well as the context of inter/intragenerational intergroup contact. The studies from this article are outlined within this review.

Culture and Ethnicity. As it relates to Japanese sojourners immigrating to the United States of America, Imamura, Zhang, and Harwood's (2011) findings suggested that intergroup communication can be enhanced with communication accommodation. Specifically, they hypothesized that Japanese sojourners' perception of communicative accommodativeness during interactions with American individuals can enhance the relational solidarity (i.e., the development of close personal relationships) between the two and thereby mediate the cognitive, behavioral and affective attitudes towards Americans. Through a regression analysis, Imamura, Zhang, and Harwood's (2011) found that communication accommodation positively predicted relational solidarity and that relational solidarity was a mediator for significantly predicting cognitive and behavioral attitudes towards Americans but not affective attitudes. Prototypical speakers, those individuals who are viewed as meeting stereotypical attributes of their proposed ingroup, were not seen as more or less accommodating as they received moderate scores for solidarity. On the other hand, those speakers that used nonverbal cues like smiling, gazing, and having a softer tone of voice were more likely to appear accommodating than other speakers (Gallois & Callan, 1988). These studies suggest that intergroup communication can be enriched when implementing techniques that are accentuated by CAT.

Intergenerational Communication. Another focus of the literature on CAT has centered on communication between diverse generational groups. Although speech convergence has been

shown to foster positive outcomes as outlined by the previous literature, there are times when converging one's communication overabundantly can cause deleterious effects (Dixon, Tredoux, Durrheim, & Foster, 1994). This is called overaccommodation which can be formally explained, "as the perception that a speaker is exceeding or overshooting the level of a given communicative behavior necessary for a successful interaction" (Giles & Gasiorek, 2013). Unfortunately, this happens frequently in intergenerational context as younger adults appear to use language that can be attributed as offensive and patronizing toward older adults (Dixon, Tredoux, Durrheim, & Foster, 1994). This patronizing speech can be defined as "inappropriate modifications based on stereotypes of incompetence and dependence" (Harwood, Giles, Fox, Ryan, & Williams, 1993). Examples of patronizing speech towards older adults may consist of a limited vocabulary, words of endearment (e.g., sweetie or dearie), louder talk, speaking slowly, and non-listening (i.e., not being attentive to the older person's requests) (Harwood Ryan, Giles, & Tysoski, 1997).

For example, Anderson, Harwood, and Hummert (2005) conducted two studies that analyzed the communication between grandchild and grandparent. They hypothesized by using the framework of CAT (i.e., verbal or speech cues (Giles, Henwood, Coupland, Harriman, & Coupland, 1992), facial expressions (Hummert, Garstka, & Shaner, 1997), and nonverbal behaviors (Montepare & Zebrowitz-McArthur, 1988)) that younger adults create stereotypes about older adults which influences their communication between these two age-groups. They tested this specific intergenerational relationship by having participants answer self-report questionnaires about the overall nature of communication between either a grandparent or another older acquaintance (participants were randomly assigned to either condition). The researchers found that stereotyping (using the aforementioned communicative behaviors)

predicted for age-adopted communicative behaviors (e.g., patronizing communication like that of baby-talk or controlled speech) for young adults when they speak to older adults (specifically grandparents).

Gender and Accommodation. Gender differences appeared to persist when assessing the accommodative behaviors elicited by men and women (Namy, Nygaard, & Sauerteig, 2002; Thomson, 2006; Bilous & Krause, 1988). One study identified the oppressive strategies used in communication to keep women in an inferior social status to men (Bilous & Krause, 1988). These characteristics that were infused linguistically within our society to degrade women include notions of, "dependency, incompetence, and timidity" as described by the authors (Bilous & Krause, 1988). In their study, the researchers inquired about the communication between same-gender and mixed-gender dyads. By testing this, the authors used a within-subjects research design where they had each participant to engage in a conversation with someone of the same gender and then engage in another conversation with a person of a different gender. They measured six dependent variables that encompass accommodative behaviors which included: speech quantity, long pauses, short pauses, interruptions, back-channels, and laughter. Bilous and Krause (1988) found an interaction effect for gender and dyad composition for all six variables. Overall, they found that women converge their speech more than men when they were in mixed-gender dyads whereas men converged their speech equally within same-gender or mixed gender dyads. This shows that women may feel a pressure to conform their speech when conversing with someone of the opposite sex. These results also provide implications about the expectations that women may feel they have to uphold in the presence of a man unconsciously.

In a study that deciphered gender differences in communication accommodation, the authors requested that participants judge whether "shadowers" showed similarities with speakers

who read a list of 20 words (the "shadowers" essentially had to repeat the list of 20 words after hearing the speaker but were not told that they needed to accommodate or sound similar to the speaker). They found that women shadowers were more likely to accommodate their speech than male shadowers but that women shadowers were more likely to accommodate to a male speaker when they did show similar speech characteristics (Namy, Nygaard, Sauerteig, 2002). Furthermore, men did not show a preference with their convergent speech whether it was male or female speaker (Namy, Nygaard, Sauerteig, 2002). This study has implications about whether there are gender expectations during dialogic situations; are women more prone to use accommodative tactics to be interpersonally accepted and does this standard apply to men when they engage in conversation? Undoubtedly, this could potentially be present during police-civilian interactions.

This understanding of gender dynamics was further analyzed in a study on gendered language in computer-mediated communication conversations where an experimenter recorded participants' discussions in an online chatroom upon receiving consent from their participants (Thomson, 2006). They had different results compared to Namy, Nygaard, and Sauerteig, (2002) as they found that gendered language use was not based on the gender of the recipient but was based on the gender topics that were discussed (i.e., if the conversation was about a topic related to a gender, then the interlocuters would accommodate their communication and use gendered terms). Even though this is contrary to the Namy, Nygaard, and Sauerteig, (2002) study, these results still implicated that accommodative communication varies based on the gender of the interlocutors.

Lesbian, Gay, Bisexual, Transgender, and Queer Sexual Orientations. One study looked at the familial relationships and the role that differences in sexual identities with various

family members affected the communication with those individuals (Soliz, Ribarsky, Marko, Harrigan, & Tye-Williams, 2010). In their study, they had participants complete a battery of online surveys that asked questions about their relationship about a family member that identified as gay or lesbian. The researchers also assessed the participant's general feelings about those who identified as gay or lesbian and even though this was coming from one individual's point-of-view, they also asked questions about how the participant rated themselves on how accommodative they are during communicative interactions with their gay or lesbian family member. It was found that accommodative behaviors predicted relational satisfaction for individuals with family members who identified as gay or lesbian (Soliz, Ribarsky, Marko, Harrigan, & Tye-Williams, 2010). This showed that by using accommodative behaviors, interpersonal relationships can be enhanced positively and produce positive outcomes (e.g., future contact with the individual).

Virtual Communication. Communication accommodation has been demonstrated to exist within technological communicative avenues (Bunz & Campbell, 2004; Crook & Booth 1997; Casasanto, Jasmin, & Casasanto, 2010). For example, in a study on politeness accommodation in electronic mail (Bunz & Campbell, 2004), college students were contacted via email by a professor that asked them whether they wanted to participate in a study to receive research credit hours. Upon their consent to participate, the students were unknowingly assessed to see whether they accommodated their language when responding to the professor that was initiating the contact. They used four different messages to send to the participants with a 2x2 factorial design of verbal indicators of politeness and structural indicators of politeness within the email of the fictional professor. The researchers hypothesized that given the professor's academic status, students would accommodate their language and be polite in their response

emails if the professor's emails used politeness indicators. Their results supported their hypothesis as they compared their hypotheses to a previous study on machine messages (Buzzanell, Burrell, Stafford, & Berkowitz, 1996). When replying to answering machine messages, student-callers converge their communication style based on the answering machine script presented by their professors (Buzzanell, Burrell, Stafford, & Berkowitz, 1996). This concept of convergent communication accommodation (i.e., perceived similarities between two speakers' verbal and nonverbal communication) could also be explained or assessed through social media interactions (Parcha, 2014).

Whether accommodation is motivated by social goals or is automatic was a research question that was posited by Casasanto, Jasmin, and Casasanto (2010) during their study on virtual communication. They randomly assigned participants to a slow or fast virtual agent speech rate condition and explained to the participant that they will be conversing with a virtual agent "about the human world." The authors found that similarity of speech rate between the two interlocutors transpired quickly (evidence of automatic accommodation effects) while accommodation of speech rate occurred for those in either condition (Casasanto, Jasmin, Casasanto, 2010). This further showed that even by virtual means, accommodative behaviors still persisted and have implications about the dynamics and relationship between the two interlocutors.

Practitioner-Patient Communication

As it relates to practitioner-patient communication, CAT provides implications about the benefits of using the components within this theory. Even during ambulatory visits, older adult patients were better able to explain the complexity of their osteoarthritis pain when they were asked open questions as this allows the patient to identify what the problem for them is instead of

the practitioner governing and assuming the problem by asking closed-ended questions (Hehl & McDonald, 2014). Even if they had changed the subject, older adults still may have needed the opportunity to discuss their pain in further detail whereby supporting the idea of how significant the practitioner-patient interaction entails based on the practitioner's questioning; older adults may accommodate their speech by not fully describing their issue because of their encounter with an authority figure (i.e., ambulance practitioner/emergency medic). Compliance with healthcare professionals may be increased due to these providers being accommodative towards their patients (Watson & Gallois, 1998). Health care professionals that demonstrated interpersonal effectiveness when interacting with their patients were viewed as having accommodative tendencies and emotional expression strategies (Watson & Gallois, 1998). This study had participants view video clips of documentaries of healthcare professionals interacting with their patients. These findings suggested that nurturant communication techniques (i.e., communication accommodation techniques) can foster positive perceptions and outcomes (e.g., fully understanding the dilemma and being able to better treat the patient) for patients receiving medical care.

Code Switching

Code switching can be considered a more specific way of altering one's dialogue and speech as it is rooted in hierarchical differences as a motive to adjust one's speech (Boulton, 2016). A formal definition of this phenomenon could be conceptualized as, "how speakers might modify their vocabulary and even shift their pitch, volume, rhythm, stress, [or] tonal quality to better accommodate the expectations of their listeners or conform to the context of perceived participant roles and relative power hierarchies of any given social interaction" (Boulton, 2016; Gumperz, 1982; Goffman, 1981). This is very similar to CAT but adds an extra layer of

"relative power hierarchies" that are shown to impact the way a conversation divulges as opposed to CAT which is a broader concept that mainly focuses on creating certain outcomes during a social interactive dialogue where individuals strive to become more similar or dissimilar to the other interlocutor. Boulton (2016) conducted a focus group with eleven African American interns and found themes related to the topic of code switching. In particular, it was difficult for the African American women in the study to navigate when and how to code switch as their experiences with European Americans elicited an expectation that they represent the entirety of Black culture even though they may have grown up in a suburban, predominantly European American environment. This can be interpreted as disallowing, specifically the African American women in this study, the opportunity to be genuinely authentic about their identity as there is a pressure to conform to a social stereotype. Therefore, code switching inhibits marginalized individuals from immersing themselves into dialogue with European Americans that express their true identity beyond the demographic and stereotypical image associated with their social group.

Interpersonal Status and CAT

Interpersonal status may also contribute to communication accommodation as individuals with a lower speech frequency may accommodate their vocalizations to the higher status individual's frequency patterns through nonverbal means. In an analysis composed of three different studies, it was found that an overlay of long-term average speech (LTAS) showed that those who were of a higher social status were able to exert their will on others thereby pressuring lower status individuals to converge their communication style with the higher status individual (Gregory Jr. & Webster, 1996). In the first study, they analyzed interviews from the *Larry King Live* television show and found that throughout the interview, the similarity of speech between

the interviewer and the interviewee began to match. In Study 2, Gregory and Webster (1996) inquired about whether there were differences in the interviews according to the communication between the interviewer and interviewee and found that the interviewer (Mr. King) accommodated his language to those more prominent guests but was dominant with less prominent individuals which was shown in the factor loadings of this analysis. Finally, in the third study the authors had undergraduate students rate a variety of celebrities on their status compared to other celebrities to compare this with the factor loadings that were presented in Study 2. They found higher convergence scores were correlated with how well-known the celebrity was in the interview (Gregory & Webster, 1996). This study gives evidence that social status can oftentimes dictate the level of convergence that an individual exhibits during interpersonal discussions and may have implications about the power differential between police officers and civilians.

Law Enforcement and CAT

Personal interaction was viewed as an essential component to creating an opinion of law enforcement officers (Giles, Hajek, Barker, Lin, Zhang, Hummert, & Anderson, 2007). A study on attitudes toward law enforcement showed that individuals who perceived law enforcement as trustworthy were more likely to comply to the officer's demands for the participants that were taken in the USA (Giles, Hajek, Barker, Lin, Zhang, Hummert, & Anderson, 2007). For those in Taiwan, trust and communication accommodation were predictors of satisfaction when encountering police officers (Giles, Hajek, Barker, Lin, Zhang, Hummert, & Anderson, 2007). With a sample containing Black and White undergraduate students from South Africa and Louisiana, researchers hypothesized that participants who perceived police officers as being accommodative had increased levels of trust towards the officers and complied voluntarily with

police officers in both settings (Hajek, Barker, Giles, Makoni, Pecchioni, Louw-Potgieter, & Myers, 2006). Their results supported their hypothesis for South African Blacks, African Americans, and Caucasian Americans, meaning that perceived accommodation engendered trust in police officers which then led to perceived voluntary compliance for these groups.

Another study hypothesized that police-civilian encounters can be partially conceptualized by an indirect relationship between perceived communication accommodation and attitudes about compliance (Hajek, Giles, Barker, Makoni, & Choi, 2008). This study, which utilized both USA and Zimbabwe participant samples, found that the relationship in police-civilian encounters was impacted by a mediating concept of reported trust in police officers. However, this relationship was only found for the American sample (Hajek, Giles, Barker, Makoni, & Choi, 2008).

Police officers may be engaging in nonaccommodating practices when interacting with African Americans due to negative stereotypes about their criminality. To test this, Dixon, Schell, Giles, and Drogos (2008) analyzed videos of traffic stops where police officers would interact with drivers. They argued that Black drivers would experience nonaccommodativeness or divergence from police officers that were not of their race and would be less accommodative towards police officers in comparison to White drivers. The authors measured police officer accommodativeness through the *Officer Communication Quality* scale and measured driver accommodativeness with the *Driver Communication Quality* Scale. This was done by having various coders randomly assigned to 313 different video incidents who answered questions related to the variables being measured within the study. These coders were trained to understand the differences between accommodative and nonaccommodative officers and drivers. Their results indicated that an officer's communication style differed interracially as officers

demonstrated indifference, dismissiveness, superiority, and less approachability, decreased active listening, and were less respectful towards Black drivers (Dixon, Schell, Giles, & Drogos, 2008). In turn, Black drivers were less accommodative toward police officers as shown through them being less likely to be apologetic, courteous, pleasant, respectful, and more likely to be belligerent during these encounters.

Measuring CAT

Depending on the situation that is being tested, CAT, specifically accommodativeness and nonaccommodativeness, can be measured in various ways (Buller & Aune, 2008; Dixon, Schell, Giles, & Drogos, 2008; Hajek, Barker, Giles, Makoni, Pecchioni. Louw-Potgieter, & Myer's, 2006). Most of the literature has focused on evaluating similarity of speech and speech rate to measure accommodativeness during interpersonal interactions (Buller & Aune, 2008; Brown, Giles, & Thakerar, 1985; Buzzanell, Burrell, Stafford, & Berkowitz, 1996; Casasanto, Jasmin, Casasanto, 2010; Street, Brady, & Putnam, 1983). Other studies have focused on the respectfulness and politeness of the interlocutors to determine the accommodative nature of the interaction (Dixon, Schell, Giles, & Drogos, 2008). For the current study, the primary goal was to understand the relationship through the latter description of measuring communication accommodation for police officer accommodation. For example, Dixon, Schell, Giles, & Drogos (2008) used the *Officer Communication Quality* scale in order to measure officer accommodativeness. This scale measures accommodativeness by rating the following variables: approachability, listening, respectfulness and politeness, dismissiveness, indifference, and air of superiority (Dixon, Schell, Giles, & Drogos, 2008). Another measure of officer accommodation assesses the pleasantness of the experience with the officer using a five-item survey (Hajek, Barker, Giles, Makoni, Pecchioni. Louw-Potgieter, & Myer's, 2006). These measures are

primarily concerned with the outcome of the discourse as it relates to the conceptualization of CAT; whether the individual would want to have future encounters with an officer.

Police-Civilian Interactions

Police Officer Roles in Communities. Encounters with police officers induce differences in the exchange of deference as officers are viewed as having a higher social status with those they interact with as seen through their occupation and socioeconomic status (Sykes & Clark, 1975). There are differences in the roles of an officer and a civilian; an officer enters as an occupational task/duty and most often individuals approach officers. Although there may be a power differential between police officers and civilians, this does not automatically predict compliance or accommodativeness from the civilian standpoint (Sykes & Clark, 1975).

Banton (1964) noted that between the period of the early 1950s- mid 1960s that the police officer's role was to be "peace officers" compared to "law officers" who are "relatively unimportant in enforcing the law." This trend seems to be changing as police officers are becoming assigned to various crime activities, although the police officers designated to bias and hate crimes decreased from 2003-2013 and the amount of officers allocated to this category of crime-related activity is lower than any other designated local crime-related officer classification (Bureau of Justice Statistics, 2015). At the same time, 58.7% of contacts that police officers engaged in with civilians had to do with traffic-related circumstances (Bureau of Justice Statistics, 2017) showing that the majority of officers' duties consist of regulating and attending to nonviolent violations.

According to the United States' of Labor & Bureau of Labor Statistics (2018) Occupational Outlook Handbook the duty of a police officer is to protect lives and property. A more detailed description of the role of a police officer also consists of: "1) respond[ing] to

emergency and nonemergency calls, 2) patroll[ing] assigned areas, 3) conduct[ing] traffic stops and issue citations, 4) search[ing] for vehicle records and warrants using computers in the field, 5) obtain[ing] warrants and arrest[ing] suspects, 6) collect[ing] and secur[ing] evidence from crime scenes, 7) observ[ing] the activities of suspects, 8) writ[ing] detailed reports and fill[ing] out forms, and 9) prepar[ing] cases and testify[ing] in court" (Bureau of Labor Statistics Occupational Outlook Handbook, 2018). These officers have at least a high school education, but some police departments require college degrees in criminal justice. Candidates of becoming a police officer go through extensive training that includes understanding the law, civil rights, and police ethics while also being trained in areas like patrol, traffic control, firearm use, self-defense, first aid, and emergency response (Bureau of Labor Statistics Occupational Outlook Handbook, 2018). This type of officer was referenced in this study as they are different from detectives that investigate cases and who are usually police officers before being promoted (Bureau of Labor Statistics Occupational Outlook Handbook, 2018).

Officer Interactions

Interactions between police officers and civilians can be impacted by cultural factors between the two parties. For instance, Beune, Giebels, and Taylor (2010) investigated the outcomes related to police interviews. They looked at three different interview techniques or strategies that included intimidation (e.g., includes behaviors that insinuate guiltiness towards the suspect which will result in consequences), kindness (e.g., engaging in active listening and empathy), and rational arguments (e.g., creating logical rhetoric that can include factual information). Although accusatory or intimidation techniques may evoke feelings of disrespect for the targeted suspect, police officers still use this strategy when interviewing these suspects. As aforementioned, these components can be influenced by cultural factors as low-context and

high-context individuals may respond differently to intimidation, being kind, and rational arguments (Beune, Giebels, & Taylor, 2010). Beune, Giebels, and Taylor (2010) found that low-context individuals (i.e., those coming from an individualistic society, and in this study the group representing low-context individuals is the Netherlands or Dutch) were more prone to have successful outcomes when police officers used rational arguments compared to high-context individuals (i.e., those who are from an interdependent society, and in this study the group representing high-context individuals are those that identify as Morrocan). Additionally, high-context individuals responded negatively (e.g., do not provide information) to police officers who used intimidation tactics.

The predictability of police offer's actions, also referred to as uncertainty avoidance, may be a crucial component of a successful police-civilian interaction. Giebels, Oostinga, Taylor, and Curtis (2017) studied uncertainty avoidance (i.e. the predictability of a police officer's actions) in German and Dutch participants. They found that participants from an individualistic culture (German speakers) preferred rationalized arguments when interacting with police officers and the reverse was true for individuals from a collectivist culture (Dutch speakers) who preferred a linguistic approach (e.g., dictionary words, pronouns and auxiliary words) when interacting with officers.

Race and Police-Civilian Interactions

Race-relations can influence police-civilian interactions as it was conjectured that miscommunication can ensue as a result of intergroup differences (Dixon, Schell, Giles, & Drogos, 2008). Girgenti-Malone, Khoder, Vega, and Castillo (2017) analyzed whether the suspect's race is a contingency of perceived police officers' use of force in a sample of college students. The researchers randomly assigned participants to three vignettes where they only

manipulated the race and ethnicity of the suspect (either White, Black/African American, or Hispanic vignettes) to decipher these differences in perception. Their findings indicate that compared to non-whites and females, males and whites believed that the police officer's use of force was rational but this was not dependent upon the race of the suspect (Girgenti-Malone, Khoder, Vega, & Castillo, 2017). Likewise, police officer use-of-force analyzed over a period of time could potentially show racial disparities (Kahn, Steele, McMahon, & Stewart, 2017). In this study, they coded narratives of police officer use-of-force through selecting use-of-force case files of police-suspect interactions and having trained research assistants indicate suspect resistance, officer actions, and suspect actions toward third party or self. Their results showed that police officer use-of-force was greater initially in the police-suspect interaction for Blacks and Latinos than White suspects (Kahn, Steele, McMahon, & Stewart, 2017). These studies showed that the interactions between police officers and historically marginalized minority groups differ from White civilians and it can be inferred that encounters with police officers do not offer equitable experiences for individuals of different races and ethnicities.

African Americans and Police-Civilian Interactions. Compared to White drivers, Black drivers are more likely to be extensively policed during traffic stops (Dixon, Schell, Giles, & Drogos, 2008). It was found that relative to White drivers, Black drivers' interactions with police officers were longer, more officers were present at the scene, drivers were asked about drugs and weapons more often, and were more likely to be searched (Dixon, Schell, Giles, & Drogos, 2008).

Weitzer and Tuch (2004) used data from a national survey about police-citizen relations and measured experiences with police misconduct and perceptions of police misconduct. They found that African Americans perceived police misconduct more often than White Americans

and that experiences of police misconduct predicted perceived police misconduct for African Americans (Weitzer & Tuch, 2004). Similarly, when measuring beliefs about fairness within the criminal justice system, 67.5% of African Americans disagreed that the justice system treats people fairly and that everyone receives a fair trial (Hurwitz & Peffley, 2005). Because police officers can be one of the first encounters that individuals have with the justice system, this information can be interpreted across the spectrum of criminal justice related entities.

As it relates to police force towards African Americans, in one study it was hypothesized that black and white police officers exhibit more force (e.g., soft-hand tactics, hard hand tactics, use of chemical sprays, conducted energy devices and other impact weaponry) when they interact with Black suspects than they do with White suspects (Paoline, Gau, & Terrill, 2018). Police force becomes overabundant when the amount of force is unnecessary to produce compliance in the suspect (Girgenti-Malone, Khoder, Vega, & Castillo, 2017). The International Association of Chiefs of Police (IACP) National Discussion Consensus Policy and Discussion Paper on Use of Force (2017) describes that "officers shall use only the force that is objectively reasonable to effectively bring an incident under control, while protecting the safety of the officer and others" yet research showed that there are racial differences in perception and implementation of the use of police force (Girgenti-Malone, Khoder, Vega, & Castillo, 2017; Kahn, Steele, McMahon, & Stewart, 2017; Paoline, Gau, & Terrill, 2018). Paoline, Gau, and Terrill (2018) measured this by conducting a study where they took date collected from the *Assessing Police Use of Force Policy and Outcomes* project and found that white police officers tend to use more force towards Black suspects than White suspects (Paoline, Gau, & Terrill, 2018). Moreover, the disproportional increase of police officer use of force towards African Americans compared to European Americans was supported by the results found in Legewie's

(2016) study that focused racial profiling and use of force during stops. The author used data from a substantial amount of "time- and geocoded police stops [recorded by the police officer] of pedestrians in New York City between 2006 and 2012" (Legewie, 2016). It was found that use of force towards African Americans from police officers was statistically significantly higher than any other ethnic group that was observed in the study (Legewie, 2016). This shows that African Americans have a disadvantage when encountering police officers even after controlling for the type of crime that may be occurring.

Additionally, Smith, Visher, and Davidson (1984) studied the civilian encounters and how they are affected by racial relations by using direct observations of 611 police-civilian interactions where the alleged suspect was partaking in a criminal act. They gathered data from three different cities and their findings suggested that during police-civilian interactions that only included the suspect, a moderate relationship between race and arrest occurred. Specifically, Black suspects tend to be arrested at a higher rate than White suspects and this was concluded after controlling for other demographic information (e.g., sex, demeanor, offense type, age) (Smith, Visher, & Davidson, 1984). These studies showed that not only were African Americans more likely to be punished more severely through use of force but were also more likely to be placed into the criminal justice system by being arrested by police officers.

Even more alarming is the media portrayal of the use of force towards African American males due to police violence (Mastro & Robinson, 2000). Research studies have shown otherwise in some cases (James, Vila, Daratha, 2013; Paoline, Gau, & Terrill, 2018). To decrease threats to external and internal validity, researchers in one study had participants (police officers) use actual handguns in their experiment while being immersed in a laboratory environment that was simulated to possess the same qualities as typical of a deadly force encounter to measure

their use of force and decision-making skills (James, Vila, Daratha, 2013). They found that during the simulation, police officers were more likely to shoot unarmed European American suspects than African American suspects and had longer reaction times when failing to shoot African Americans compared to European Americans (James, Vila, Daratha, 2013). Even though the researchers discussed reducing threats to internal and external validity, police officers during the simulation may have been reacting to the experimental condition and knowing that there is a stigma associated with African Americans and police officers' use of deadly force (James, Vila, Daratha, 2013; Paoline, Gau, & Terrill, 2018).

Alternatively, a study measuring the physical features (phenotype) of suspects hypothesized that suspects who look stereotypically White would not endure deadly police force at the same rate as those who were less phenotypically White. The researchers used a randomized sample of 177 complete police use of force cases that they coded to ensure that all the variables were accounted for (i.e., could be measured) within the cases. The results of their study confirmed the initial hypothesis posited by the researchers that phenotypically White suspects were less likely to receive police officer use of deadly force than of those who did not have these same characteristics (Kahn, Goff, Lee, & Motamed, 2016). This showed that although police officers participating in simulated environments do not show racial bias in active shooting tasks, in video footage of their encounters this appears to be showing otherwise.

Seemingly so, African Americans and European Americans differ on the application of police officer deadly force, as African Americans tended to disapprove of this tactic more often than European Americans (Cullen, Cao, Frank, Langworthy, Browning, & Kopache, 1996). A study on public perception of African Americans and police officer altercations further depicts the aforementioned sentiment as having broader problems within society to explain these police

officer altercations with African Americans was highly supported by African Americans but was not by non-African Americans (Haider-Markel & Joslyn, 2017). This could be evidence that there were societal ideals that inhibited the deconstruction of why and how these disparities are taking place between African Americans and police officers.

Implicit Bias in Police Interactions

To further understand the dynamics associated with police-civilian interactions, implicit bias can provide insight about these encounters. The *Implicit Association Test* (IAT) was created to determine underlying biases that occur unconsciously by linking certain characteristics to a social group, typically those that are marginalized (Jolls & Sustein, 2006). Oftentimes, people can create these connections or links without being aware of their biases, offering support for the literature that suggested that minority groups experience discrimination at higher rates than non-minority groups estimate (Williams, 1999). During IAT, individuals were measured on the speed of how quickly they pair certain items to another object or person. For example, a European American may be faster at pairing a positive word like "love" with a European or White face than they would with pairing this same word with an African or Black face (Aberson, Shoemaker, Tomolillo, 2004). Furthermore, it may be easier to pair a negative word with an African or Black face for this same European American subject. In turn, these implicit or underlying biases can create judgments about how a person perceives others in their environment and can influence how they—or even if they—make contact with another individual (Aberson, Shoemaker, Tomolillo, 2004).

As it relates to police officers, this is an important concept to consider as there is evidence that officers utilize more aggressive tactics when patrolling African American communities (Brunson, 2007; Weitzer, 2000) which may be reinforced by implicit biases about

African Americans. In one study concerning implicit biases and police officers, the researchers had full-time police officers participate in a study where the results of the IAT showed that the officers associated the faces of Black people with weaponry (James, James, & Vila, 2016). In this study, the researchers were interested in understanding police officer shootings of African Americans and were presented with "deadly force judgment and decision-making scenarios on each experimental day" (James, James, & Vila, 2016). Although contrary to their initial hypotheses, IAT results did not predict officer shootings towards African Americans as they found that police officers were hesitant (e.g., slower reaction times) to shoot African Americans in comparison to European Americans (James, James, & Vila, 2016). Their findings suggested that police officers may have unconscious prejudgments about the African American suspects that they encounter but that this does not necessarily mean that they would conduct lethal force on Black suspects.

In another study, the authors were focused on the predictors related to inappropriate aggression where they formulated an IAT Reasoning Test that measures cognitive processes that were related to aggression (Koepfler, Brewster, Stoloff, & Saville, 2012). They had currently employed police officers from two different cities participate in an IAT Reasoning Test and a monetary delay-discounting task (MDDT; measures impulsivity) along with a battery of psychological assessments and found that only the MDDT was able to predict aggression in police officers. Fortunately, this showed that implicit biases were not predictive of inappropriate aggression towards African Americans in police officers as was indicative of the former study about implicit biases in police officers.

At the same time, between the years of 1960-2010 it was found that the percentage of police officer homicides equated to 44% for African Americans which is 3.5 times the African

American general population (Krieger, Kiang, Chen, & Waterman, 2015; Price & Payton, 2017). This longitudinal survey only accounted for male deaths between the ages of 15 and 34 (Krieger, Kiang, Chen, & Waterman, 2015). Even though other studies that are documented in this review found that IAT did not predict aggression or lethal force of police officers towards African Americans, others have (Correll, Park, Judd, Wittenbrink, Sadler, & Keesee, 2007; Plant & Peruche, 2005; Sadler, Correll, Park, & Judd, 2012). For example, Sadler, Correll, Park, and Judd (2012) analyzed multiethnic differences in police officer's decision to shoot armed or unarmed Black, White, Latino, or Asian males using a video game simulation task (i.e., which is called a first-person-shooter task (FPS) that allows the participant to take on the viewpoint of a shooter or police officer). Officers were asked to complete the FPS task and responded to various psychological questionnaires. Within their study, their results suggested that police officers showed a racial bias as it pertains to shooting Black targets or suspects; the reaction times of the police officers were quicker with armed Black men than with other ethnic groups (Sadler, Correll, Park, & Judd, 2012).

Similarly, Correll, Park, Judd, Wittenbrink, Sadler, and Keesee (2007) had their participants, who were also police officers, engage in a video game simulation task but also used community member participants as well to complete the video game simulation task and a questionnaire packet. In their first study, their results indicated that police officers and community members alike were faster at shooting armed Black subjects in comparison to White subjects. In their second study, they enacted the same procedures but omitted responses that took longer than 630 milliseconds, whereby punishing the participant by deducting 20 points from their score. The researchers found that there were no statistically significant differences in racial bias as the time frame of when to shoot may have inhibited participants from discriminating

(Correll, Park, Judd, Wittenbrink, Sadler, & Keesee, 2007). Finally, in their third study, the authors had participants play the video game simulation twice in a day for two days. It was found that practice did not decrease the racial bias of reaction times as it related to shooting armed Black suspects in the video game simulation (Correll, Park, Judd, Wittenbrink, Sadler, & Keesee, 2007). The prior two studies imply that officers with a racial bias of lethality toward African Americans may have difficulties in changing this bias over time.

CAT and Improved Police-Civilian Interactions

It was recommended that in order to change young people's negative perceptions of law enforcement that a sense of community and feelings of "likeness" instead of "otherness" need to be perpetuated (Lyons, 2015). With the implementation of strategies consistent with accommodativeness in CAT, police-civilian interactions could be enhanced, not only with young adults but a wide variety of age groups and ethnic groups. For example, because accommodativeness was contingent upon creating a space where individuals feel accepted (Giles & Gasiorek, 2013; Namy, Nygaard, Sauerteig, 2002), it was befitting that during police-civilian interactions individuals that encounter police officers have the opportunity to communicate with the officer in a cooperative and collaborative effort. When police officers used accommodative skills, this oftentimes increased compliance in the individual that is being addressed (Barker et al., 2008). For instance, a study where researchers hypothesized that perceived officer trustworthiness was a mediator for perceived accommodativeness and compliance was supported in a sample of ethnically diverse participants (Barker et al., 2008; Hajek et al., 2008). Although the current study did not take into consideration whether individuals would comply with officers, understanding the mechanisms involved in creating a perception that police officers are

accommodative gives greater insight into what is needed in order to foster and develop this type of positive reaction.

At the same time, compliance does not necessarily equate to a positive outcome or improve the perception of police officers for those who are involved in a police-civilian interaction. In one study assessing the predicting factors associated with attitudes towards police, Lowery, Maguire, and Bennett (2016) tested various constructs which included procedural justice, overaccommodation, trust, willingness to cooperate, and obligations to obey during police-civilian interactions. They did this by having participants (a sample of undergraduate college students) randomly assigned to three different videos that portrayed a traffic stop where an officer intervened by stopping an individual that was speeding. Each of the three videos represented a condition related to the manipulation they were trying to assess: control, procedural justice (this video represents a depiction of police officers acting in a procedurally just manner) and overaccommodation. They found that nonaccomodativeness (i.e., the umbrella term related to overaccommodation) was not predictive of positive attitudes towards (i.e., high levels of trust, willingness to cooperate, and obligations to obey) police officers as there were no differences between this condition and the control condition (Lowery, Maguire, & Bennett, 2016). In other words, police officers that engaged in nonacccommodating behaviors did not elicit an increase in positive attitudes towards police officers when interacting with civilians according to this study.

As CAT posits, it was paramount that during a discussion between two speakers that after the discussion has ended, there is a future-oriented idea that both parties feel that they would likely interact with the other individual again because of the feelings of acceptance and approval that they gained from the interaction. As it relates to police-civilian interactions, this was the

overarching goal; that individuals feel that they can express themselves to a police officer and that meeting with one again would not be a completely dreadful experience but would allow mutual understanding between both interactants and subsequently an improved perception of the police officer in general.

Conclusion connecting CAT, Stereotype Threat, and Police-Civilian Interactions

The overall purpose of this study was to better understand police-civilian interactions. Here, it was posited that these interactions are impacted by stereotype threat and communication accommodation. To date, there was not a study that combines these concepts to explain police-civilian interactions. Therefore, this review highlighted these components within the context of ethnic differences. African Americans have historically had negative and oftentimes fatal interactions with police officers (Krieger, Kiang, & Chen, 2015). Maybe by understanding the mechanisms associated with stereotype threat and CAT, we can mitigate, with the mission of eliminating, these negative interactions with law enforcement and create an improved connection between police officers and civilians, specifically African Americans.

III. Method

Previous research suggested that there may be ethnic differences in perceiving officer communication accommodation during police-civilian encounters (Hajek, Barker, Giles, Makoni, Pecchioni, Louw-Potgieter, & Myers, 2006; Hajek, Giles, Barker, Makoni, & Choi, 2008; Dixon, Schell, Giles, & Drogos, 2008). Additionally, these differences may be most prevalent when stereotype threat is activated in the civilian. The following section provides the details of the research plan and analyses used to study these phenomena.

Research Questions

This study examined the following questions:

1. Were there ethnic differences in perceived officer communication accommodation during police-civilian interactions? Specifically, did African Americans perceive less accommodation (on the part of the officer's communication accommodation) than European Americans?

2. Did stereotype threat change the perception of officer communication accommodation? Specifically, were those who experience "activated" stereotype threat more likely to perceive officer communication as more nonaccommodating from a third-person perspective?

3. Would ethnic differences in perceived police officer communication accommodation be dependent on the image of either an African American or European American male civilian that the participant views?

4. Question 4: Does stereotype threat predict perceived police officer communication accommodation?

Research Hypotheses

It was hypothesized that:

Primary Hypotheses

1. African American participants with or without activated stereotype threat would be more likely to perceive police officer communication accommodation as nonaccommodating when compared to European Americans with or without activated stereotype threat.
2. African American participants with activated stereotype threat would perceive officer communication accommodation significantly more negatively than European Americans or African Americans without activated stereotype threat.

Supplementary Hypotheses

3. European Americans across conditions would not experience between-group differences in perceived police officer communication accommodation even when viewing civilians of different racial backgrounds interact with a police officer.
4. An interaction effect would occur between African Americans and European Americans in the control group. When African Americans view the image of an African American male interacting with a police officer, they will perceive the police officer as less accommodating compared to African Americans viewing the European American male interacting with the police officer. European Americans

in the control group would not differ in perceived officer communication accommodation based on the image that they see during the audio clip.

5. An interaction effect would occur between African Americans and European Americans in the experimental group. When African Americans view the image of an African American interacting with a police officer, they would perceive the police officer as less accommodating compared to African Americans viewing the image of a European American male interacting with a police officer. European Americans in the experimental group would not differ in perceived officer communication accommodation based on the image that they see/hear during the audio clip.
6. The ratings of perceived police officer communication accommodation would be highest for European American participants across all groups (no differences between stereotype threat activation versus control group and when viewing a black civilian and white civilian), followed by African American participants in the control condition viewing a white civilian, followed by African American participants in the control condition viewing a black civilian, followed by African Americans participants in the stereotype threat condition viewing a European American civilian, with African American participants in the stereotype threat group viewing an African American civilian rating lowest on accommodation.
7. Stereotype threat as a continuous variable would predict perceived police officer accommodation negatively (i.e., as stereotype threat increases, police officer accommodation is perceived as more nonaccommodating).

Design

This study was a posttest-only control group, between-subjects quasi-experimental design (Kazdin, 2017). Participants were randomly assigned to each condition. A 2 (ethnicity: African American or European American) x 2 (stereotype threat activation: activated or control) x 2 (police interaction with: African American male or European American male) factorial design was used in this experiment.

Participants

Sampling size and statistical power. To have a sample size that employs strong statistical power, the researcher conducted a power analysis for the research questions that was consistent with the literature on ethnicity and stereotype threat. The suggested minimum total sample size was 309 participants after conducting a G*Power 3 analysis (Faul, Erdfelder, Lang, & Buchner, 2007) as this was based on four groups. Given the research on stereotype threat (Brown & Day, 2006; Hajek et al., 2006; Steele & Aronson, 1995) the effect size or Cohen's *d* was .16 (a small-to-medium effect for an analysis of variance (ANOVA)) and the probability level was set at $p < .05$. This was based on a research study of measuring stereotype threat and ethnic differences between participants during police-civilian encounters, so this effect size was selected as it seems most appropriate for the present study's general hypotheses and analyses (Hajek et al., 2006). Due to the assumptions that exist in the current study though, it is recommended that the researchers have at least 250 participants and that all the participants' data is usable (See Inclusion/exclusion criteria).

Inclusion/exclusion criteria. Within this sample, participants identified as African American and European American. Data from participants identifying as other ethnicities were excluded from the final analyses. The age range for these participants is not limited to a specific

parameter. Because demographic information was not assessed until the end of the survey, participants were compensated for completing the study even if their data did not meet the criteria to be used in the study's final analyses. There was no more than a 55%-45% split of European American and African American participants, respectively. In other words, the minimum number of African American participants was 139 and if the study acquired more than 170 European American participants than the European Americans used in the study were to be randomly selected from the sample of White participants to include in the final analyses. This split was used for this study because African American participants may not be as easily attainable compared to European American participants, but this ratio would allow the researcher greater validity to compare ethnic differences between participants based on the assumptions of the study. Participants that took longer than 5 minutes or shorter than 30 seconds to listen to the stereotype threat or control condition audio clip were excluded from the study. Participants that took longer than 5 minutes or shorter than 51 seconds to listen to the audio clip of the police-civilian interaction were also excluded from the study. Participants that did not complete the study in its entirety were not used in the final analyses.

Sampling method. Participants were going to be recruited via a snowball sampling method and email distribution if not enough participants were gathered through a crowd-sourcing method. University faculty and instructors from various institutions would be asked to email their students the link to the Qualtrics survey. Faculty and instructors would also be encouraged to allow extra credit in their classes for participation in this study when appropriate. The researcher could have used the Sona Systems cloud-based participant management software to recruit participants. The study would recruit participants in the surrounding area using flyers that

indicate the link to the Qualtrics study survey. Participants would be given a chance to receive a $25 Amazon gift card upon completing the study's requirements.

The researcher utilized Prolific Academic, a recruitment engine that uses crowdsourcing to gain employees whose duties are to engage in "small tasks in their spare time for pay per task" (Schweik, English, & Haire, 2008). A pilot study was created using 15-20 volunteer participants (acquaintances of the researcher) to analyze and ensure whether the Qualtrics link and survey was working properly and if participants were able to complete the study thoroughly.

Sample characteristics. A total of 475 individuals participated in the study. One hundred and sixty-four were eliminated due to failure of validity checks. Additionally, there was missing data for one participant in the age variable, one participant had missing data in the number of years that they have been in the United States variable, and eight participants had missing data in the income variable. There were 311 participants' data that were used in the final analyses. All participants within the final analyses passed the validity and manipulation checks. Of these 311 participants, 141 (45%) of the participants were African American and 170 (55%) were European American. There were more female participants (n = 176; 57%) than male participants (n = 135; 43%) and within the gender category those who identify as a woman (n = 171: 55%) were more than those who identified as a man (n = 131: 42%), transgender man (n = 3: 1%), or other (n = 6: 2%). Most of the participants within the sample identified as heterosexual (n = 252: 81%) as their sexuality. The age range of the participants was between 18 years and 77 years. Participants' level of education attained stemmed primarily from those that received their bachelor's degree (n = 94: 30%) and some college (n = 85: 27%).

Procedures

After receiving approval from the Auburn University Institutional Review Board (IRB), recruited participants were directed to the Qualtrics Link where they received an Information Letter and indicated whether they were willing to participate by continuing the study. Participants were randomly assigned to a stereotype threat condition or control condition via the Qualtrics automatic random assignment function. Participants were also randomly assigned to an audio clip that depicts either an African American male interacting with an officer (Daily Crawler, 2015) or a European American male interacting with a police officer (Car, 2014). The experimental group for the stereotype activation factor was told that, "This study focuses on evaluations of criminality and its implications as it relates to individual interactions with police officers. Please reflect upon the interaction between the police officer and the citizen in this audio clip and how you may feel evaluated in similar circumstances" (Stone, 2002; Najdowski, Bottoms, & Goff, 2015), while the control group did not receive this intervention. These audio clips of the manipulation were read by the researcher while the police-civilian interactions were read by a European male.

Each participant was assessed once after the completion of the experimental manipulation. There were five validity check questions in the study to see if participants are concentrated on what the questions were asking instead of answering items either randomly or selecting the same answer questions to finish the study quickly. Furthermore, the researcher had preset cutoffs showing how long they are staying on each page in the Qualtrics link.

Study Tasks. After being randomly assigned to either the stereotype threat condition or control condition the participants were exposed to the manipulation if they are in the stereotype threat condition group (see sections on Stereotype Threat Condition and Control Condition for

more details) and subsequently were given a word-stem completion task (to assess the effects of the stereotype activation). Then the participants viewed one of the two videos showing an interaction between a police officer and a civilian. Finally, participants were given a battery of measurements to assess executive functioning performance, stereotype threat, and perceived officer communication accommodation. Participants then completed a demographics questionnaire.

Stereotype Threat Condition. For the participants that are in the stereotype threat condition, stereotype threat was activated by hearing a recording of a research assistant discussing the general expectations of the study and reading a phrase that has been shown to activate stereotype threat in African Americans related to the negative stereotype of criminality (Najdowski, Bottoms, & Goff, 2015). Both African Americans and European Americans were exposed to this negative stereotype if they were selected to be in this group. Specifically, the researcher read the following script:

> Thank you for participating in this study. This study will ask you to complete a few brief surveys and listen to an audio clip with images of a police-civilian interaction. ***This study focuses on evaluations of criminality and its implications as it relates to individual interactions with police officers.*** Please reflect upon the interaction between the police officer and the citizen in the audio clip and how you may feel in similar circumstances. Upon listening to the audio clip, you will be asked to complete a short series of questions related to what you hear.

Control Condition. For the participants in the control condition, the stereotype of African American criminality was not activated. Specifically, the researcher read the following script:

Thank you for participating in this study. This study will ask you to complete a few brief surveys and listen to an audio clip with images of a police-civilian interaction. Please reflect upon the interaction between the police officer and the citizen in the audio clip and how you may feel in similar circumstances. Upon listening to the audio clip, you will be asked to complete a short series of questions related to what you hear.

Officer-Civilian Interaction Audio Clips. Each participant listened to one of two different short audio clips with images that showed an interaction between a police officer and a civilian. The only difference between the two short audio clips was that the civilian in the images was either an African American male or a European American male. Otherwise, these audio clips were equally matched on the type of interaction (i.e., a traffic stop for a speeding violation), officer ethnicity (i.e., European American), and the dialogue between the police officer and civilian (The script for the audio clip is provided in Appendix A). Taken from Lowery, Maguire, and Bennet's (2016) study on procedural justice and overaccommodation during police encounters, their video for their control group shows an officer engaging in a "no frills" exchange with the civilian. The officer only asks for the civilian's license and registration collects the documents, gives the driver a ticket, then states that it is permissible for the driver to leave. These audio clips were created through Microsoft PowerPoint. The two audio clips were equally matched as this helps control for threats to internal validity.

Ethical Issues

Ethical considerations concerning the implementation of this study should be recognized. Within this study, participants in the manipulation may experience symptoms related to anxiety as these symptoms are shown to relate to the activation of stereotype threat (Bosson, Haymovitz, & Pinel, 2004; Cadinu, Maass, Rosabianca, & Kiesner, 2005; Osborne, 2007). To mitigate this

ethical issue, this study does not fully immerse the individual in a situation where they are interacting with a police officer; they are only viewing this a third-party member and then reflecting on how they would handle the experience. Unfortunately, this does create a threat to the internal validity of our study to make sure that we are studying the effects of stereotype threat but also being sure to create a safe environment for the participant. Apart from this aspect of the experiment's manipulation, the study does not present any risk of being harmful to the participants. Steele (2010) suggests that identity contingencies, components of stereotype threats whereby individuals have to "deal with" certain aspects of a situation based on their identity, are part of the human experience as individuals are incapable to be thoroughly unbiased. Researchers infer that members of a minority group, specifically African American students, cope and manage negative assumptions about their behaviors through disengagement to avoid their anxiety (Aronson, Fried, & Good, 2002) and are recommended to reappraise or reevaluate their anxiety to assuage these effects (Schmader, 2010).

Measures

Word-stem completion performance. To decipher whether stereotype threat was activated in the stereotype threat condition (and to compare with the control condition), the participants engaged in a word-stem completion performance task. During the word-stem completion task, individuals were asked to determine the missing letters in an incomplete word-stem. Taken from Najdowski, Bottoms, and Goff (2015), the participants were exposed to eight different word stems that have omitted letters associated with both a stereotype-related word and nonstereotyped-related word. In other words, individuals had a word-stem that could be completed as a word associated with African American criminality (e.g., _R_ _ INAL could be completed as either CRIMINAL or ORIGINAL). These eight word-stems include: criminal,

guns, drugs, poor, gangs, thugs, and violent. These words were chosen based on a pretesting done by Najdowski, Bottoms, and Goff (2015) who found that these words were the eight highest rated words that related to the negative stereotype of African Americans and criminality. These were incorporated with word stems that cannot be completed as a stereotype related word and include: product, lunch, sheet, glove, blowing, sharing, reason, eraser, mover, funny, house, and stick. In total, participants completed 20 word stems as rapidly as possible. There was a time limit that was present on the participant's screen of their device once they begin this task so that they work to finish the word-completion performance activity as quickly as possible (they had approximately 3 minutes to complete it). The number of target words filled out in a category-relevant manner (i.e., words that are related to criminality) was divided by the total number of target words the participant completed. This ratio, then, is the measure of concept (stereotype threat) activation and was how this measure was scored.

Perceived officer communication accommodation scale. To measure perceived officer communication, researchers used two assessment tools. One includes a five-item survey taken from Hajek et al.'s (2006) study on communicative dynamics of police-civilian encounters. Likert-style answer choices included a 7-point scale ranging from a negative to positive perception of officer accommodation (e.g., "very unpleasant" to "very pleasant"). The reliability of this measure (Cronbach's alpha = 0.89) is good according to the standards presented by Gliem and Gliem (2003) for Likert-type scales.

Perceived police-civilian interaction satisfaction. After looking in the literature on perceived officer accommodation, it appears that there are similarities between it and perceived police-civilian interaction satisfaction. Due to this, it was imperative to add measures that also assess perceived police-civilian interaction satisfaction as this could possibly be a confound

within the experiment. In order to measure the satisfaction of the police-civilian interaction, this study will have participants respond to the overall encounter and the question was modified for this experiment (Rosenbaum, Lawrence, Hartnett, McDevitt, and Posick, 2015). Participants answered the following question: "Taking the whole experience into account, how satisfied would you be if you were treated by this officer in the video that you viewed?" A Likert-type answer selection was provided on a 7-point scale with a range between "very dissatisfied" to "very satisfied."

Other items from the *Police-Community Interaction* (PCI) *Survey* (Rosenbaum, Lawrence, Harnett, McDevitt, & Posick, 2015) was used to assess perceived police-civilian interaction. Sixteen items were taken from this survey and modified specifically for this study. These items reflect statements regarding officer trustworthiness, officer neutrality, overall confidence in the officer's performance, officer task competence, performance overall, and informational support. Similar to the previous measures, answer choice selection was in the form of Likert-type with a 7-point scale with answers ranging from "very dissatisfied" to "very satisfied." The internal consistency of each of these subscales for the measure shows good reliability (Cronbach's $\alpha > .75$).

Executive functioning measure. A key component within stereotype threat is to test performance outcomes for individuals exposed to this phenomenon. To do this in the current study, the researcher employed one task which measures executive attentional resources (i.e., working memory) which has been found to be limited due to stereotype effects (Schmader, Johns, & Forbes, 2008; Allen & Friedman, 2016).

The *n-back task* is a measure of working memory and consists of having participants view various stimuli. After a sequence of stimuli has been presented, the participant was

signaled to specify if the last stimuli presented is the same as the stimuli that was *n*-back. The number of trials (*n*) back could be 1 trial, 2 trials, 3 trials and so on. The greater the number of trials back that the participant must compare the current stimulus to, the more difficult the task. For the current study, the participants completed 20 sets of stimuli. Participants needed to indicate 3-back from the final stimulus and the stimuli that will be used are letters that include A, B, C, D, E, H, I, K, L, M, O, P, R, S, and T. The stimulus will appear for at least 2000 milliseconds and a new stimulus will appear every 2500 milliseconds (Stoet, 2018). This task will be added to the Qualtrics link where the participants were able to begin the task on their own. The measure has been shown to have high test retest reliability (.81; Hockey & Geffen, 2004) and Cronbach's alpha shows high reliability as well (.84; Kane, Conway, Miura, & Colflesh, 2007).

Stereotype threat scale. This study used the five items that were altered from the *Modified Explicit Stereotype Threat Scale* (Najdowski, Bottoms, & Goff, 2015) to be conducive to the study's analysis of police-civilian interactions. These items are arranged in Likert-type and are on a 7-point scale that ranges from "strongly disagree" to "strongly agree" with higher scores indicating higher levels of stereotype threat and describe how they would react if they were to encounter the officer that they view in one of the two videos (e.g., "I would worry that the police officer might stereotype me as a criminal because of my race). The overall reliability of the instrument is excellent according to Gliem and Gliem (2003; Cronbach's $\alpha = .92$).

Demographic questionnaire. An assessment comprised of demographic information was utilized within the study (Appendix G). The information that was collected by this questionnaire included the participant's self-report of their age, gender, ethnicity, socioeconomic status, sexual orientation, marital status, religion, and highest level of education obtained.

Analyses

Sample characteristics. Demographic information was analyzed for means and standard deviations of the groups being tested.

Primary Analyses

Analysis 1: Test of Stereotype Threat Activation (if successful). MANOVA was used to compare individuals (by ethnicity) in the manipulation and control group on measures of word stem completion (number of words related to criminality), executive functioning task, and stereotype threat scale (self-report measure) to ensure that the manipulation was successful in activating stereotype threat for African-Americans in the manipulation condition (and not African Americans in the control group, or European Americans in either condition).

Analysis 2: Test of Stereotype Threat Activation (if not successful). Should the analysis find that these groups are not differentiated on stereotype activation when using a MANOVA, the "control/manipulation" variable will be excluded from the primary analysis and the stereotype threat scale (self-report of threat activation) was used as a covariate in those analyses instead.

Tests of relationship between perceived police officer communication accommodation, ethnicity, and stereotype threat activation for African Americans. An ANCOVA was used to examine differences in perceived communication accommodation by ethnicity of the participant and based on the stereotype threat activation of the African American participants specifically (Hypotheses 1 and 2). Police-civilian interaction was used as a covariate in this analysis as this construct may overlap with communication accommodation (Salkind, 2017). A bivariate correlation was utilized to test if police-civilian interaction is highly

correlated with the independent variables to ensure that assumptions are met before using the variable as a covariate.

Supplementary Analyses

Test of differences in perceived police officer communication accommodation between groups based on the image that the participant views. To analyze group differences, ANOVAs were used to deduce whether there is an interaction effect between ethnicity of the participant, which image they view, and their perceived officer communication accommodation.

Test of whether stereotype threat predicts perceived officer communication accommodation. Bivariate correlations were used to test whether stereotype threat predicts police officer communication accommodation as stereotype threat was used as a continuous variable (Hypothesis 7; Afifi, May, & Clark, 2012).

Summary

To summarize, this study analyzed four research questions concerning perceived officer communication accommodation, stereotype threat, and police-civilian interactions. Participant recruitment was primarily focused on African American and European Americans. The author used a series of (M)ANOVAs and a simple linear regression to analyze the results.

IV. Results

Sample Characteristics

Sample characteristics are thoroughly described in the previous chapter. Of the 311 participants included in the final sample, 141 (45%) of the participants were African American and 170 (55%) were European American with ages ranging between 18 years and 77 years. Additional demographic information is reported in Table 1.

Primary Analyses

Analysis 1: Test of Stereotype Threat Activation (if successful). To address the test of whether stereotype threat was activated for African American participants, a multivariate analysis of variance (MANOVA) was run. Results indicated significant differences in the dependent variables (activated stereotype threat; executive functioning measure response time, word-stem completion performance, stereotype threat scale) due to race and ethnicity, $F(3, 307) = 65.72$, $p < .001$, Wilks' $\Lambda = .61$, $\eta^2 = .39$. However, between-subjects effects were only significant for Modified explicit stereotype threat scale ($F(1, 311) = 196.16$, $p < .001$). An additional analyses utilizing *n*-back accuracy as a dependent variable was also explored with the same pattern of results, $F(3, 307) = 65.75$, $p < .001$, Wilks' $\Lambda = .61$, $\eta^2 = .39$. This suggests that the stereotype activation was not successful in this sample of participants. As such, the remaining analyses were executed utilizing the stereotype threat scale as a covariate.

Analysis 2: Test of Stereotype Threat Activation (if not successful).

Tests of relationship between perceived police officer communication accommodation, ethnicity, and stereotype threat activation for African Americans. An analysis of covariance (ANCOVA) was conducted to evaluate differences in perceived officer

communication accommodation when controlling for explicit stereotype threat. Results from the ANCOVA indicated no statistically significant differences between the two ethnic groups ($F(1, 310) = .60$, $p = .146$) on perceived officer communication accommodation. This hypothesis was unsupported. However, exploratory analyses showed that there were ethnic/racial differences in reports of explicit stereotype threat as African Americans ($M = 3.85$, $SD = 1.02$) were more likely to experiencing higher levels of stereotype threat than European Americans ($M = 2.23$, $SD = 1.01$), $F(1, 310) = 196.17$, $p < .001$).

Supplementary Analyses

Bivariate correlations. Correlation coefficients were computed among all variables. The results of the correlational analyses are presented in Table 1. Notable correlations include the relationship between the police officer communication accommodation and police-community interaction and overall satisfaction ($r = .64$, $p < .001$) and *n*-back response time and *n*-back correct response ($r = -.81$, $p < .001$).

Test of whether stereotype threat predicts perceived officer communication accommodation. A bivariate correlation was conducted to assess whether the scores on the stereotype threat scale related to scores on the perceived police officer communication accommodation scale. The result was nonsignificant ($r(309) = -.04$, $p > .05$). Exploratory analyses were done to evaluate whether the scores on the stereotype threat scale predicted scores on the police-community interaction and overall satisfaction survey. The model was statistically significant ($r(309) = -.12$, $p = .04$).

Test of differences in perceived police officer communication accommodation between groups based on the image that the participant views. A two-way ANOVA was

conducted to evaluate the effect of race of the participant and ethnicity of the suspect in the image (Black or White) on perceived officer communication accommodation. The interaction was not significant ($F(2, 309) = .02$, $p > .05$). Simple main effects analysis suggested no significance effect based on race of the participant nor image of the suspect during the audio clip.

Table 1

Frequencies

Demographic	*n*	Percentage
African American	141	45
European American	170	55
Female	176	57
Male	135	43
Woman	171	55
Man	131	42
Transgender Man	3	1
Other (Gender)	6	2
Heterosexual	252	81
Bisexual	37	12
Gay	6	2
Lesbian	4	1
Pansexual	4	1
Other (Sexuality)	8	3
Some High School	13	4
High School/GED	37	12
Technical/Vocational School	10	3
Some College	85	27
Associate's Degree	29	9
Bachelor's Degree	94	30
Master's Degree	35	12
Professional Degree/Phd/JD	8	3
Southeast	110	35
Midwest	62	20
Northeast	58	19
West	47	15
Southwest	34	11
Christianity	112	36
Practice no Religion	80	26
Single, no Dating Partner	143	46
Single with Dating Partner	71	23
Married	69	22
Divorced	23	7
Widowed	5	2

Table 2

Descriptive Statistics and Correlations

	Variable	*M*	*SD*	1	2	3	4	5	6
1	Number of Target Words	0.24	0.16	1					
2	Perceived Officer Communication Accommodation	3.94	0.69	0.023	1				
3	Police-Community Interaction and Overall Satisfaction	4.56	1.00	0.061	.639**	1			
4	*n*-back response time	1364.62	375.07	0.009	0.029	0.048	1		
5	*n*-back correct response	0.44	0.25	0.006	-0.038	-0.055	-.808**	1	
6	Modified Explicit Stereotype Threat	2.97	1.30	-0.038	-0.041	-.118*	0.033	-0.007	1

Note: *$p < .05$; **$p < .001$

V. Discussion

The goal of this research study was to examine differences between two racial groups in their perception of police-civilian encounters and how this was impacted by stereotype threat activation. This was executed by attempting to activate stereotype threat in the participant pool and then measuring their perception of a police-civilian encounter that varied the race/ethnicity of the civilian driver. Although the hypotheses that were tested in this study were not all supported by the findings, the results were an indication of what future research should study as it pertains to police-civilian interactions.

Summary of Findings

As aforementioned in the results section, the activation of stereotype threat, specifically for those participants that identified as African American, was not successful based on the results. This activation may not have occurred due to numerous reasons. For starters, the experimental group differentiated from the control group by using the word "criminality" to activate the stereotype of criminality associated with African Americans. This study assumes that stereotype threat will occur before the encounter with the officer, but stereotype threat may happen while being immersed in the police-civilian interaction. Furthermore, participants viewed a picture of a police officer and a civilian while listening to an audio clip of the recording. These interventions alone may not have substantially activated stereotype threat. For stereotype threat to be activated, participants may have to experience a police encounter in-person or through viewing a video recording of the police-civilian interaction as the literature suggests that exposure of traumatic experiences through watching television can allow viewers to acquire post-traumatic stress disorder (PTSD) symptoms (Bernstein, Ahern, Tracy, Boscarino, Vlahov, & Galea, 2007).

As encounters with police officers have been considered as trauma- and anxiety-provoking experiences for African Americans, (Geller, Fagan, Tyler, & Link, 2014; Anderson, 2013; Sawyer, Major, Casad, Townsend, & Mendes, 2012) vicarious trauma, specifically vicarious racial trauma, could explain the results of this study. In essence, if stereotype threat is to be activated for African American participants in this study, vicarious racial trauma may be a catalyst for this experience. This concept has been analyzed in various journal publications as a phenomenon that occurs during a client's retelling of a traumatic experience with their therapist (McCann & Pearlman, 1990; Pearlman, & Mac Ian, 1995). However, vicarious trauma may be an informative component associated with understanding stereotype threat.

It is posited that vicarious trauma can challenge or change cognitive schemas in clinicians, that clinicians' beliefs, assumptions, and expectations are affected by client's disclosure of trauma-related experiences including disruptions in how a clinician views the world as being benign, whether people are dependable, existential inquiry, and self-worth (McCann & Pearlman, 1990). Furthermore, vicarious trauma has been shown to create disruptions in imagery where fragments such as intrusive thoughts, dreams, or flashbacks can occur, and these fragments can be characterized as symptoms of a PTSD diagnosis (McCann & Pearlman, 1990; Palm, Polusny, & Follette, 2004; Ursano, Fullerton, Vance, & Kao, 1999). These aspects of vicarious racial trauma may not have been triggered or activated early-on during the experimental component of this study. Another construct that could describe the inactivation of stereotype threat in this study that is similar to vicarious trauma is secondary traumatic stress. Secondary traumatic stress is different from vicarious trauma in that the clinician can be "shocked" by the trauma that they are exposed to through their client and this is an acute response to the client's disclosure as opposed to the development of an empathetic relationship

that operationalizes vicarious trauma (Branson, 2019). Jenkins and Baird (2002) found that vicarious trauma and secondary traumatic stress are similar as the impact of both is generated by incorporating the distress a client feels and the burnout that can follow with other symptoms but differ on an empirical basis. Either way, the presence of the word "criminality" may not have invoked the characteristics associated with vicarious trauma or secondary traumatic stress and, therefore, could have affected whether stereotype threat was activated for participants at this time. For example, viewing a video clip of a police encounter or experiencing a police encounter in-person may activate stereotype threat as being threatened leads to the activation if stereotypes more often (Goff, Steele, & Davies, 2008; Steele & Aronson, 1995; Najdowski, Bottoms, & Goff, 2015).

Furthermore, specifically experiencing racial trauma could potentially exacerbate the effects of stereotype threat. Racial trauma is defined as the exposure to threats of danger, either real or perceived, that are inferred as racially discriminatory actions (Comas-Díaz, Hall, & Neville, 2019). Used interchangeably with racial trauma, race-based traumatic stress (RBTS) can occur during encounters with officers as an African American (Geller, Fagan, Tyler, & Link, 2014; Aymer, 2016). Because of the prejudice that is associated with the stereotype of Black people being criminals (Sigelman & Tuch, 1997), a term other than the word "criminality" may embed the racially based trauma that could be associated with stereotype threat activation during police encounters. In one study, 82% of Black participants believed that White people perceived them as "violent" (Sigelman & Tuch, 1997) so African Americans are most likely aware of the stereotype that Black individuals are deemed as criminals. Overall, the participant may need to personally experience the police encounter for stereotype threat to be activated instead of solely being a vicarious circumstance (Najdowski, 2012). Whether a vicarious or in-person experience,

the understanding of when stereotype threat activation occurs within African Americans during a police-encounter needs to be studied further.

Although an executive functioning measure and a word-stem completion task along with the modified stereotype threat scale were used to examine whether stereotype threat was activated in the African American participants, this was not true for the sample that was tested. African Americans did not differentiate from European Americans based on this premise. These results may have occurred because of the measures that were being used to assess stereotype threat activation. Najdowski, Bottoms, and Goff (2015) had similar results in that the word-stem completion task did not show differences in ethnic groups. Najdowski (2012) tested cognitive load by using the Stroop (1935) color task as well as the word-stem completion task and found that ethnic groups (Black and White) did not have differing psychological experiences. The current study used an alternative executive functioning measure, but the results are comparable to Najdowski's findings. Stereotype threat activation may use other implicit functioning skills that were not tested in this study. There is a paucity of research related to stereotype threat activation during police encounters (Najdowski, Bottoms, & Goff, 2015; Najdowski, 2011; Najdowski, 2012) so this phenomenon will need to be studied more extensively.

As a result of the failed stereotype threat activation, the researcher controlled for explicit stereotype threat –by controlling the results from the Modified Explicit Stereotype Threat Scale—which identified differences in participants with lower or higher levels of perceived stereotype threat. The results showed that African Americans and European Americans do not differ in their perceptions of officer communication accommodation. In the real-world, African Americans' endorsement of stereotype threat activation may not inhibit them from dictating whether an officer is accommodating. It has been shown that police officers are

nonaccommodating to African Americans (Dixon, Schell, Giles, & Drogos, 2008) and are also perceived as such by Black people who are less likely to comply to officers that are viewed as nonaccommodating (Hajek, Giles, Barker, Makoni, & Choi, 2008). Even so, this may not be impacted by the nature of stereotype threat. Stereotype threat can cause deleterious effects such as cognitive load, anxiety, and self-regulatory efforts (Najdowski, 2011) that could potentially hinder perception. Because this study only used a neutral audio clip, there may have been different results if the officer in the clip exemplified characteristics of a nonaccommodating person, which may enhance the activation of stereotype threat in the African American participants.

The responses of perceived officer communication accommodation did not differ based on the ethnicity of the participant that viewed either a Black or White suspect. Surprisingly, explicit stereotype threat does not influence perceived officer communication accommodation but, the results of this study showed that explicit stereotype threat does predict police-community interaction and overall satisfaction to a small degree. Additionally, there were racial group differences when comparing scores on the Modified Explicit Stereotype Threat Scale. Black participants were more likely to rate themselves as potentially experiencing higher levels of stereotype threat than their White counterparts. This shows that African Americans self-report differences in how they would imagine feeling while interacting with an officer but that implicit responses did not align with the explicit response. The hypervigilance of the African American participant may be observable (Najdowski, 2011; Vrij, 2008; DePaulo & Kirkendol, 1989) but the implicit response may not be as easily measurable, obtainable, or could possibly not be affected in the ways the current study and previous research has hypothesized (Najdowski, 2011; Najdowski, Bottoms, Goff, 2015; Najdowski, 2012). This could mean that either a) implicit

responses were not measured correctly in this study, b) that explicit and implicit responses do not necessarily need to align for stereotype threat to be activated, c) or that there are other implicit data that could be accounted for by stereotype threat. Although this study did not fully immerse the participants in a police-related encounter, African Americans still report that they would be impacted by the thought of criminality that is connected to their race and this further supports research related to the self-report of stereotype threat in African Americans during police encounters (Najdowski, 2011; Najdowski, Bottoms, Goff, 2015; Najdowski, 2012). However, the correlational data offered some interesting findings. As predicted, perceived officer communication accommodation and police-civilian interaction/satisfaction were highly correlated, which still posits the questions of why the correlation of both variables between stereotype threat yielded different results.

To the researcher's knowledge, there is not a study that tests the relationship between stereotype threat and communication accommodation directly. However, there have been examinations of stereotype threat and communication accommodation affecting the outcome of police encounters with African American civilians, respectively (Hajek, Barker, Giles, Makoni, Pecchioni, Louw-Potgieter, & Myers, 2006; Dixon, Schell, Giles, and Drogos, 2008; Najdowski, Bottoms, Goff, 2015; Najdowski, 2011; Najdowski, 2012). This research suggests that officers who are accommodating during interactions with civilians, are more likely to have positive outcomes and compliance from those civilians (Dixon, Schell, Giles, and Drogos, 2008; Hajek, Barker, Giles, Makoni, Pecchioni, Louw-Potgieter, & Myers, 2006). In the context of stereotype threat, this alteration in communicative technique during police encounters may comprise of an even greater change in potential outcomes. Communication does not only comprise of verbal cues but also consists of nonverbal aspects as well (Giles & Gasiorek, 2013), and participants in

this study were unable to fully collect nonverbal characteristics due to only listening to an audio clip and viewing an image.

Surprisingly, explicit stereotype threat did predict police-civilian interaction/satisfaction in that the more a person self-reported experiencing stereotype threat, the less likely they were to rate the police-civilian interaction as satisfactory. It may be that police-civilian interaction/satisfaction accounts are more connected to individual stereotype threat perceptions because they are from the perspective of the civilian experience, whereas police officer communication accommodation is from the perspective of the officer's behavior. Furthermore, the neutral audio clip presented should have elicited a neutral response from participants about how satisfactory the police officer handled the encounter, in theory. African Americans tend to have a collectivist worldview (Komarraju & Cokley, 2008) thus, encounters with other people may imply a more personable experience, one that allows each person to connect and understand each other's perspective and attitudes (i.e., communication accommodation; Buller & Aune, 1992). Nevertheless, the Police-Community Interaction and Overall Satisfaction Survey was used to assess the police officer's performance and relay any concerns within the interaction (Rosenbaum, Lawrence, Hartnett, McDevitt, & Posick, 2015) as opposed to specifically targeting the communication style of the officer. This, in turn, could mean that African Americans focus on how the officer conveys themselves in general rather than necessarily changing their attitude or interpersonal style based on the individual. This supports that research in that individuals within high-context or collectivist societies are less prone to rationalizations or intimidation that the officer may induce than they are to an explanation of the person-situational factors involved within the police-civilian dynamic (Beune, Giebels, & Taylor, 2010).

Methodological Strengths and Limitations

Due to the study's methods, there were some apparent constraints that impacted the generalizability and personalization of the police-civilian interaction. For instance, this study did not allow for the researcher to visually observe the live reactions of participants when viewing or participating in a police-civilian interaction. The study could have prompted the implicit stereotype threat responses if the participants were the civilians or if there was a video of the police-civilian interaction instead of only having an audio clip and image of a police officer and the suspect in their vehicle. Vicarious trauma for African Americans in particular has been studied to have deleterious effects when viewing a police-civilian encounter of an African American suspect (Bor, Venkataramani, Williams, & Tsai, 2018). Many of the participants were excluded from analyses because they did not pass all validity checks or did not complete the *n*-back test so another executive functioning measure could be used to better analyze this phenomenon. However, this study offered a different approach that afforded a larger sample size to test the hypotheses, ergo, this enhanced the overall power of the study's analyses (Faul, Erdfelder, Lang, & Buchner, 2007).

The current study was limited in measuring an aspect of stereotype threat in police encounters: self-regulatory efforts. Because of the anxiety that can arise during police encounters for African Americans based on the stereotype of criminality, African Americans may engage in self-regulatory efforts to assist in controlling their emotional and behavioral reactions (Davis & Leo, 2012; Nadjowski, 2012). These self-regulatory efforts can be perceived as suspicious, deceptive, guilty, or event threatening to a police officer (Najdowski, 2011; Vrij, 2008; Davis & Leo, 2012) and could consequently create a negative outcome during the police encounter. Due to this limitation, the researcher was unable to measure whether African

American participants would display these responses as the researcher could not observe the participants in live action. Because stereotype threat can create anxiety symptoms that could potentially be overwhelming (Bosson, Haymovitz, & Pinel, 2004; Cadinu, Maass, Rosabianca, & Kiesner, 2005; Osborne, 2007), immersing participants into a police encounter scenario was not the goal of this study but rather to simulate a police encounter that can illicit similar reactions to a lesser extent (Bor, Venkataramani, Williams, & Tsai, 2018). Even though this milder experience was used, the participants still personalized the circumstance without being individually interrogated by an officer or law enforcement personnel.

To keep the online questionnaire as short as possible due to previous research showing that shorter online surveys decrease attrition rates (Edwards et al, 2009), the researcher did not assess anxiety arousal. The relation between anxiety and stereotype threat is quite high (Najdowski, Bottoms, Goff, 2015) so this was not seen as an imperative contribution to the study. However, this addition could have given greater insight into the activation of stereotype threat. Anxious arousal can account for the variance within stereotype threat (Najdowski, Bottoms, Goff, 2015) so understanding how anxiety can affect implicit or unconscious psychological mechanisms could contribute to the overall understanding of stereotype threat activation.

Implications for Theory, Practice, and Research

Stereotype threat may be activated in ways that were not tested in this research study. Previous research has used a different executive functioning task in order to test stereotype threat activation and their results were similar to the current study in that stereotype threat was not activated according to the measure (Najdowski, Bottoms, & Goff, 2015). Stereotype threat activation was not measurable but may have occurred and manifested implicitly. The results of

this study could also mean that the police-civilian interaction/satisfaction scale is more robust by having more items on the scale and fully capturing the experience/interaction of the police-civilian encounter. Communication accommodation and stereotype threat within the context of police-civilian encounters has not been studied (Dixon, Schell, Giles, and Drogos, 2008; Najdowski, Bottoms, & Goff, 2015) and a better or more extensive measure of these concepts should be considered.

In a study conducted by Ursano, Fullerton, Vance, and Kao (1999), they examined whether the identification of certain individuals increased PTSD symptoms in disaster workers. They analyzed this by having three different categories of identification: self-identification, family-identification, and friend-identification. Their results showed that when exposed to a traumatic death, disaster workers self-report higher levels of PTSD symptoms when they compare the deceased to a friend and there were no population differences when the participants identified the deceased as themselves (Ursano, Fullerton, Vance, and Kao, 1999). This could provide insight on how to activate stereotype threat in African American participants by allowing the participants to envision their friend during a neutral police-encounter. Procedural justice could also account for this as PTSD symptoms were shown to be less when officers were viewed as being "fair" during a police encounter (Geller, Fagan, Tyler, & Link, 2014). Further research should investigate the relationship between vicarious trauma and stereotype threat as it relates to police-civilian encounters for African Americans.

Communication accommodation practices could potentially enhance the police-civilian encounter (Giles, Hajek, Barker, Lin, Zhang, Hummert, & Anderson, 2007) and ultimately, which was hypothesized in the current study, reduce the effects of stereotype threat. Unfortunately, this study was not able to support this assumption but, despite this, stereotype

threat did alternatively predict how participants rated the police encounter overall. As aforementioned, when stereotype threat was reported as lower for the participant, they were more likely to rate the police encounter as satisfactory. Satisfaction of the overall encounter can be influenced by the activation of stereotype threat and, thus, as law enforcement officers that are serving the community, this knowledge can benefit their understanding of the police-civilian dynamic. Police officers have an already stressful and psychologically demanding occupation (Anderson, Litzenberger & Plecas, 2002) but this research study could assist in preventing negative outcomes during a police encounter, hence, keeping the officer safe in tenuous and threatening situations. According to communication accommodation theory, the more an officer can engender trust from the civilian, the more likely they will comply with the directions given by the officer (Giles, Hajek, Barker, Lin, Zhang, Hummert, & Anderson, 2007). With this in mind, officers could potentially use these tactics to create an experience whereby both parties involved are satisfied or content with the circumstance.

Counseling psychology can use this body of work to better understand the psychological impact that police encounters have on African Americans. These interactions with police officers can potentially create situations of race-based traumatic stress for African Americans (Geller, Fagan, Tyler, & Link, 2014; Aymer, 2016) and understanding this dynamic can allow psychologists the opportunity to advocate for Black people surrounding this issue. Furthermore, mental health professionals in the counseling and psychiatric fields have yet to thoroughly examine the specific encounters or circumstances that predict race-based traumatic stress for minority groups (Carter, 2007) so this is an endeavor that the field of psychology needs to consider since there is evidence showing the connection between racism and trauma (Bryant-

Davis & Ocampo, 2005; Bryant-Davis & Ocampo, 2006; Loo, Fairbank, Scurfield, Ruch, King, Adams & Chemtob, 2001).

In conclusion, this study added to the literature on stereotype threat and its relatedness to police officer communication accommodation. This research can give further insight into the dynamic between police officers and African American suspects and whether stereotype threat can play a role during this encounter. This will give police officers the knowledge that Black citizens could be inhibited by the effects of stereotype threat during police-civilian encounters but that perceived officer communication accommodation or perceived police-civilian interaction satisfaction could mitigate these effects. African Americans compared to European Americans are at a greater risk of incurring an officer's use-of-force during police-civilian encounters (Kahn, Steele, McMahon, & Stewart, 2017; Smith, Visher, & Davidson, 1984) and furthermore, being killed by an officer (Barber, Azrael, Cohen, Miller, Thymes, Wang, & Hemenway, 2016). In essence, this research can contribute to the overall understanding of the interaction between police officers and African Americans and perhaps assist in decreasing the preceding outcomes.

Appendix A
References

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Appendix B
List of Surveys
Researcher Script of Manipulation or Control Group

Stereotype Threat Condition:

Thank you for participating in this study. This study will ask you to complete a few brief surveys and listen to an audio clip with images of a police-civilian interaction. ***This study focuses on evaluations of criminality and its implications as it relates to individual interactions with police officers.*** Please reflect upon the interaction between the police officer and the citizen in this video and how you may feel in similar circumstances. Upon listening to the audio clip, you will be asked to complete a short series of questions related to what you hear.

Control Condition:

Thank you for participating in this study. This study will ask you to complete a few brief surveys and listen to an audio clip with images of a police-civilian interaction. Please reflect upon the interaction between the police officer and the citizen in this video and how you may feel in similar circumstances. Upon listening to the audio clip you will be asked to complete a short series of questions related to what you hear.

Word-Stem Completion Task

Please read the following word fragments. Complete each fragment with the *FIRST* real word that comes to your mind by inserting the missing letters. Do not change your answers—any answer is correct as long as it is a real word. Please work quickly.

1. PR _ D _ CT	6. G _ OV _	11. _ EAS _ N	16. _ UNN _
2. G _ _ S	7. _ _ OR	12. _ RA _ ER	17. _ OUS _
3. _ U _ CH	8. _ LO _ ING	13. _ R _ _ INAL	18. T _ _ G
4. _ RU _ S	9. _ _ ARING	14. _ _ VER	19. S_ _ CK
5. _ _ EET	10. _ AN _ S	15. GH _ _ T _	20. V _ OL _ N _

Audio Clip Script of Police-Civilian Interaction

(Officer approaches the vehicle)

Officer: License and registration.

(Officer inspects the paperwork, writes ticket)

Officer: I'm issuing you a ticket for speeding. Sign here.

(Citizen signs)

Officer: You're free to go.

Images

Police officer interacting with an African American male

Police officer interacting with a European American male

Perceived Officer Communication Accommodation Scale

The following questions are about the police encounter that you heard.

1. How pleasant was the police officer?

Very Unpleasant	Unpleasant	Somewhat Unpleasant	Neutral	Somewhat Pleasant	Pleasant	Very Pleasant

2. How accommodating was the police officer?

Very Nonaccommodating	Nonaccommodating	Somewhat Nonaccommodating	Neutral	Somewhat Accommodating	Accommodating	Very Accommodating

3. How respectful was police officer towards the driver?

Very Disrespectful	Disrespectful	Somewhat Disrespectful	Neutral	Somewhat Respectful	Respectful	Very Respectful

4. How polite was the police officer?

Very Unpolite	Unpolite	Somewhat Unpolite	Neutral	Somewhat Polite	Polite	Very Polite

5. How well did the police officer explain things?

Very Poorly	Poorly	Somewhat Poorly	Neutral	Somewhat Satisfactory	Satisfactory	Very Satisfactory

Police-Community Interaction and Overall Satisfaction Survey

The following statements are about the police encounter that you heard.

During the encounter, the officer….

1. Made decisions based on facts

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

2. Was fair and evenhanded

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

3. Discriminated against the citizen because of their race, gender, age, religion, or sexual orientation

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

4. Appeared to know what he was doing

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

5. Clearly explained the reasons for his actions

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

6. Explained what would happen next in the process

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

7. Answered any questions well

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree

Overall Satisfaction of the Encounter

1. Taking the whole experience into account, how satisfied are you with the way the driver was treated by the officer in this case?

Very Dissatisfied	Dissatisfied	Somewhat Dissatisfied	Neutral	Somewhat Satisfied	Satisfied	Very Satisfied

n-back

In this task, you will see a sequence of letters. Each letter is shown for a few seconds. You need to decide if you saw the same letter 3 trials ago, that is, this is a *n* = 3-back task.

If you saw the same letter 3 trials ago, you type the letter m (m for Memory). If it was not a letter shown 3 trials ago, you type the letter n (for No).

For example, if you get the below letters, you press the key that should be associated with it based the prior sequencing:

A B L T B R H I R
n n n n m n n n m

This is actually very difficult! So you need some time to get better at it. When you respond correctly, you see bars around the key turn green, and red if you answer incorrectly!

Modified Explicit Stereotype Threat Scale

Please circle one number to indicate how much you disagree or agree with the following statements if you were in the same scenario as the driver.

1. I would worry that something I do might be misinterpreted as suspicious by the police officer.

Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree

2. I would worry that the police officer might stereotype me as a criminal because of my race.

Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree

3. I would worry that the police officer's perceptions of me might be affected by my race.

Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree

4. Because I know the stereotype about my race and crime, I would worry that my anxiety about confirming that stereotype will negatively influence my interactions with the police officer.

Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree

5. I would worry that the police officer will suspect me of having committed a crime just because of my race.

Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree

Demographic Questionnaire

1. Sex
    a. Male
    b. Female

2. Please indicate your race/ethnicity that best describes your background:
    a. African/Black American
    b. Asian American/Pacific Islander
    c. Biracial/Multiracial
    d. European/Caucasian American
    e. Hispanic/Hispanic American/Chicano/a/Latino/a
    f. Native American
    g. Other (specify):_____

3. Gender:
    a. Man
    b. Transgender
    c. Woman
    d. Other (specify):_____

4. Sexual Orientation
    a. Gay
    b. Heterosexual
    c. Lesbian
    d. Bisexual
    e. Pansexual
    f. Other (specify):_____

5. Age:_____

6. Please indicate your current level of education that you have obtained:
    a. Some grade school
    b. Some High School
    c. Graduated High School
    d. Technical/Vocational School
    e. Some College
    f. Associate's Degree
    g. Bachelor's Degree
    h. Master's Degree
    i. Professional/PhD/JD

7. Please indicate your household income in dollars:_____

8. How many years have you lived in the United States:_____

9. Please select the region in which you currently live:
    a. Midwest United States
    b. Northeast United States
    c. Southeast United States
    d. Southwest United States
    e. West United States

10. What is the current religion that you are affiliated/practice, if any?_____

11. Marital Status:
    a. Single—no partner
    b. Single—dating partner
    c. Married
    d. Divorced
    e. Widowed

Validity and Honesty Check Questions

These validity questions will be distributed throughout the experiment.

1. What is 2 + 2?
    a. 2
    b. 3
    c. 4
    d. 5
2. What color is the sky?
    a. Yellow
    b. Red
    c. Green
    d. Blue
3. Who is the president of the United States?
    a. Donald Trump
    b. Barack Obama
    c. Hillary Clinton
    d. George Bush
4. What color is grass?
    a. Blue
    b. Green
    c. Yellow
    d. Red
5. Are there stars in the sky?
    a. Yes
    b. No
6. Is the sun hot?
    a. Yes
    b. No
7. To what extent were you honest while participating in this study?