DELAYED DISENGAGEMENT FROM DISSIMILAR OTHERS:
EVIDENCE OF IMPLICIT BIASES FROM EYETRACKING?

by

Elizabeth G. Esser
A Thesis
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of
Master of Arts
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Bachelor of Science
George Mason University, 2015

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DEDICATION

This manuscript is dedicated to my parents, Roseann and Robert Esser, who have shown invaluable support and encouragement throughout my academic career and in all aspects of my life. I would also like to acknowledge the love, support, and patience that Kofi Adomako has demonstrated throughout this process. Their unwavering belief in me and my capabilities has made this possible.

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I would like to thank my advisor, Dr. Matthew Peterson, for his guidance and advice as well as for providing me the opportunity to work in his lab beginning as an undergraduate and continuing throughout my graduate studies at George Mason University. I would also like to thank the members of my committee, Dr. James Thompson and Dr. Eva Wiese, in addition to Dr. Chrosniak who oversaw the earliest stages of the development of this research endeavor during my time in the Honors Psychology Program as an undergraduate. Their advice, input, and flexibility is highly valuable and greatly appreciated.

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ABSTRACT

DELAYED DISENGAGEMENT FROM DISSIMILAR OTHERS: EVIDENCE OF IMPLICIT BIASES FROM EYETRACKING?

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George Mason University, 2016

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Previous work has demonstrated that individuals show a biased tendency to allocate their visual attention toward threat-relevant stimuli, including depictions of Black and Middle Eastern men. Such biases can be attributed to societal danger-stereotypes and implicit associations of these stigmatized social groups. The present study uses eyetracking to record saccade latencies in response to a spatial cueing task designed to measure the time it takes to disengage attention from a centrally presented face toward a peripheral target. We predicted that participants would demonstrate a tendency to delay the disengagement of their attention from faces of a race different from their own. More specifically, we expected to find the greatest delay in disengagement from the faces of Middle Eastern men and the shortest disengagement latencies in response to White men, with responses to Black men falling in-between the two. We also hypothesized that stronger implicit preference for a social group would be associated with shorter disengagement reaction times. The results indicate that there is a main effect of SOA, with shorter reaction time latencies in response to the longer 200ms SOA, compared to the 50ms SOA. There is also

evidence that trait anxiety levels may affect attentional disengagement. However, the data provides no reliable evidence that there are differences in disengagement tendencies according to stimulus race. Possible reasons for the lack of support for our hypotheses are discussed.

INTRODUCTION

Interracial interactions are commonplace in modern western societies, and while significant advances have been made in reducing explicit racism and prejudice, these interactions are still heavily influenced by implicit attitudes and biases that occur outside of conscious awareness (e.g. Correll, Park, Judd, & Wittenbrink, 2002). Prior research has indicated that the level of *perceived* threat that another individual or social group poses seems to be a driving factor in the formation and perseverance of implicit biases and stereotypes (Aberson & Gaffney, 2009; Ciftci, 2012; Stephan et al., 2002). Some stereotypes resulting from this threat perception process become so prevalent throughout society that it becomes culturally entrenched and persists through the generations, regardless of evidence disproving the stereotype. An obvious example of this is the widespread stereotype in the United States that Black men are dangerous criminals. Throughout history, this biased perception has been used as an excuse to justify blatant racism and government-endorsed policies ranging from segregation in the 1950s to modern day anti-crime policies that target African Americans.

Although modern prejudices may be more subtle than in past decades, they still exist in the unconscious biases and prejudices that guide individuals' and society's daily interactions. Current events and slanted media exposure contribute to society's biased perception of social groups (Jaihyun Park, Felix, & Lee, 2007; Saleem & Anderson,

2013; Saleem, Prot, Anderson, & Lemieux, 2015). During the past two decades, a rise in violence and terrorist attacks perpetrated by Islamic extremist groups, which has been extensively covered by the media, has led many Americans to falsely associate all Arabs, Muslims, and Middle Easterners, in general, with danger and aggression (Ciftci, 2012; Horry & Wright, 2009; Jaihyun Park et al., 2007; Saleem & Anderson, 2013). This widespread perception of people of Middle Eastern descent as dangerous and radical has far reaching consequences, affecting not only how such individuals are treated in interpersonal interactions, but also inspiring policies that harm this social group (Saleem et al., 2015; Welch, 2016). Research investigating implicit associations and the related attentional biases they produce is very limited when it comes to this new Middle Eastern-terrorist stereotype. This study aims to synthesize past research evaluating threat-perception and Black-danger associations and biases with new data evaluating the Middle Eastern-threat stereotype that is quickly gaining ground in America.

Evolutionary Functions of Heightened Attention to Threat

The ability to detect potential threat in the surrounding environment provides an obvious evolutionary advantage: those individuals best able to quickly and accurately identify and allocate attention toward potential threats in the environment are better able to devise and execute a plan of escape (Öhman & Mineka, 2001). As a result, humans have developed an attentional system specialized to scan for and detect threat. Studies have shown that individuals detect and orient their attention toward threats such as spiders and snakes (Öhman, Flykt, & Esteves, 2001a), as well as angry faces (Fox et al., 2000, Öhman, Lundqvist, & Esteves, 2001b). In addition, individuals show a tendency to

dwell on threat-related words (Fox, Russo, Bowles, & Dutton, 2001), pictures (Yiend & Mathews, 2001), and emotional faces (Belopolsky, Devue, & Theeuwes, 2011; Fox et al., 2001; Fox, Russo, & Dutton, 2002; Georgiou et al., 2005).

Much research conducted on threat-related attentional allocation has focused on the biases found in anxious individuals, compared with normal (non-anxious) individuals (Azarian, Esser, & Peterson, 2015a; Azarian et al., 2015b; Fox, Mathews, Calder, & Yiend, 2007; Fox et al., 2001, 2002; Georgiou et al., 2005; Yiend & Mathews, 2001). These studies indicate that high trait-anxious individuals display a tendency to both allocate attention toward threat-relevant stimuli more quickly, as well as dwell on threat-relevant stimuli for longer. Overall, these findings indicate that threat-perception plays a critical role in understanding why, where, and for how long we allocate our visual attentional resources. It is obvious that the perceived threat-value of stimuli has a significant impact on attention processes, even though it may not always be as clearly advantageous in modern society as it was in evolutionary history.

Danger Stereotypes and Black Threat

Previous studies have shown that members belonging to a race different from an individual's own tend to capture attention more quickly and hold attention for longer (Al-Janabi, MacLeod, & Rhodes, 2012). This fast capture of attention is known as facilitated engagement, whereas the tendency for attention to be held for a longer period of time is known as delayed disengagement (Fox et al., 2000, 2001, 2002; Georgiou et al., 2005; Koster, Crombez, Verschuere, & De Houwer, 2004; Posner, 1980). More specifically, it has been theorized that this is the case because people tend to perceive members of other

races as more threatening than members of their own (Cunningham et al., 2004; Maner et al., 2005; Payne, 2001; Sagar & Schofield, 1980). This tendency is particularly evident when individuals respond to images of black males, a social group that has endured a long history of being stigmatized as especially dangerous and physically threatening (e.g., Donders, Correll, & Wittenbrink, 2008; Payne, 2001). Theories of perceived threat espouse the belief that the perception that out-group members pose either a real or symbolic threat to the in-group causes negative feelings; this negative affect and threat perception subsequently fuels discrimination and prejudice (Aberson & Gaffney, 2009; Ciftci, 2012; Stephan et al., 2002).

In a study in which participants were instructed to identify the offset and onset of different facial expressions in Black and White faces, participants with higher levels of implicit prejudice were more likely to perceive anger as lingering and faster to detect the onset of anger in Black, but not White faces (Hugenberg & Bodenhausen, 2003). These results demonstrate the readiness of individuals with implicit biases to perceive Black men as hostile, a view consistent with modern stereotypes. Using event-related fMRI technology, Cunningham et al. (2004) found greater amygdala activation, indicative of heightened fear and emotionality, in response to Black faces, compared to White faces. The effects of these widespread negative stereotypes of African Americans have also been shown to influence children's perception. In a study executed by Sagar and Schofield (1980), both Black and White 6th grade boys interpreted ambiguously aggressive behaviors (pictures) as more threatening and mean-spirited if the figure committing the transgression was Black, rather than White. This result demonstrates both

the prevalence of the Black-danger association in American society as well as the ability of this association to affect the basic processes of perception.

Payne and colleagues (2001) found that participants primed with images of Black faces, rather than White faces, identified guns more quickly and misidentified tools as guns more frequently. Other studies have found a similar racial bias in the decision to shoot, with implicit attitudes and cultural stereotypes leading participants to be more likely and faster to shoot an armed "suspect" if he is Black, as opposed to White (Correll et al., 2002; Correll, Urland, & Ito, 2006). Additionally, Correll et al. (2002) found that participants were faster to respond by not shooting an unarmed target if that target was White. These biases occurred across White and Black participants and across differences in measures of explicit prejudice, suggesting that one has only to be aware of the cultural stereotype, not necessarily endorse it, for it to exert a behavioral influence.

Numerous studies have been conducted in order to examine the role of visual attention in this unfortunately common stereotype in society (Al-Janabi et al., 2012; Bean et al., 2012; Donders et al., 2008; Eberhardt, Goff, Purdie, & Davies, 2004; Trawalter, Todd, Baird, & Richeson, 2008). These studies were conducted with the goal of more fully understanding the mechanisms of culturally ingrained racial biases and stereotypes, and how they influence our perceptions of and reactions to individuals of different races.

In a study by Donders et al. (2008), the strength of participants' implicit associations between African Americans and danger predicted the extent of facilitated engagement of and delayed disengagement from Black faces, compared with White faces. Thus, participants who had strong Black-threat stereotypes oriented their attention

more quickly toward Black faces and their attention was held for longer by Black faces, compared to White faces. Similarly, when a Black and a White face were presented side by side in a dot-probe task, results suggest that participants preferentially attended to the Black faces (Trawalter et al., 2008). However, when eye gaze was averted, the "threat" posed by the Black faces was attenuated, thus eliminating the preference to attend to the Black faces first. Collectively these attentional biases are consistent with those seen in response to a variety of threatening stimuli (Fox et al., 2000, 2007; Georgiou et al., 2005; Koster et al., 2004; Öhman, Flykt, & Esteves, 2001; Öhman, Lundqvist, & Esteves, 2001), suggesting that implicit Black-danger stereotypes are strong enough to bias patterns of visual attention.

With the use of eyetracking, Bean et al. (2012) found that individuals high in external motivation (EM) to respond without prejudice exhibited a preference for first attending to and subsequently avoiding Black faces presented alongside White faces; whereas no bias was found in participants with low EM scores. This is an interesting display of not only how implicit biases affect early attentional processes, but also how social desirability influences individuals' attention. Bean et al. (2012), points out that external motivation to respond without prejudice can be viewed as an indirect measure of anxiety (those with high EM tend to be more anxious), once again suggesting that anxiety levels may play a critical role in social threat perception.

The Age of Perceived Middle Eastern Threat

Anti-Muslim sentiment has proliferated throughout much of Western Europe and the United States in recent years, following numerous infamous terrorist attacks

committed by extremist Islamic groups such as al Qaeda and ISIL (Ciftci, 2012; Horry & Wright, 2009; Jaihyun Park et al., 2007; Saleem & Anderson, 2013; Saleem et al., 2015; Welch, 2016). Research on the topic, though fairly limited, points to the media as a critical source of negative, anti-Muslim sentiment (Saleem & Anderson, 2013; Saleem et al., 2015). This body of work suggests that extensive, repeated exposure to such information strengthens the association between Arabs, Muslims, and Middle Easterners and concepts like terrorism, aggression, violence, extremism, and hatred (Ciftci, 2012; Saleem & Anderson, 2013; Saleem et al., 2015; Welch, 2016). Results of several studies indicate that individuals' perceptions of and exposure to information labeling Middle Eastern men as highly threatening and aggressive contribute to increases in support for policies that exclusively harm this social group (Saleem et al., 2015; Welch, 2016).

The General Aggression Model suggests that concepts which are simultaneously presented, become intrinsically linked over time, and with repeated exposure these associations grow in strength (Anderson & Bushman, 2002). Thus, when primed with images or information relating to one concept, the other is also automatically activated. This process helps explain how over time, the presentation of people of Middle Eastern descent as terrorists or in violent settings automatically strengthen society's (inaccurate) stereotype of Middle Eastern people as especially threatening and aggressive (Anderson & Bushman, 2002; Ciftci, 2012; Saleem & Anderson, 2013). A study by Saleem and Anderson (2013), found that individuals' implicit and explicit attitudes towards and stereotypical perceptions of Arabs became more negative after playing violent video games involving terrorism. In this case, the portrayal of Arabs as violent terrorists

strengthened this negative stereotypical association in participants' minds, consequently affecting their attitudes and beliefs to be more consistent with this portrayal.

Park, Felix, and Lee (2007) found that participants displayed a strong implicit preference for Whites over Arab-Muslims using the IAT, but no such preference was uncovered using explicit measures. Furthermore, IAT results also indicated that participants preferred Blacks over Arab-Muslims, but this effect was diminished if participants were exposed to positive information about Arab-Muslims. These results reveal that the implicit negative stereotypes of Arab-Muslims in America are even stronger than those of a historically stigmatized social group (African Americans). But these findings, as well as those of Saleem et al. (2015), suggest that increasing exposure to positive information about Arab-Muslims in the media reduces negative attitudes towards this social group.

Very few studies have investigated whether these stereotypes and implicit negative feelings towards Middle Easterners are related to the biased allocation of visual attention, as is seen in similar research studying attentional biases in response to African American faces (Bean et al., 2012; Donders et al., 2008; Eberhardt et al., 2004; Trawalter et al., 2008). In one such study, Horry and Wright (2009) found that high trait-anxious individuals displayed a visual bias toward Middle Eastern faces after being primed with terrorism-related words, whereas non-anxious participants showed a bias toward White faces. In a second study in the same experiment, Horry and Wright found that high anxious participants were also better at recognizing White and Middle Eastern faces, compared to their non-anxious counterparts. These results are similar to previous work

demonstrating that anxious individuals show a bias in attending to threat-relevant stimuli (Azarian et al., 2015a, 2015b; Fox et al., 2007, 2001, 2002; Yiend & Mathews, 2001).

The goal of the present study is to expand the limited body of research investigating the interaction of implicit race-based prejudices and biases of the visuospatial attention system. Specifically, we investigated the tendency for individuals to delay disengagement from Black, White, and Middle Eastern male stimulus faces. We used eyetracking technology in conjunction with a modified version of the classic spatial cueing paradigm (Posner, 1980) to record participants' saccadic reaction times in identifying a peripheral target, made after the presentation of a face stimulus. Additionally, participants completed two versions of the Implicit Association Test (Greenwald, McGhee, & Schwartz, 1998) to ascertain pre-existing attitudes and preferences for members of the three included social groups. Participant responses to the Multigroup Ethnic Identity Measure (Phinney, 1992), the State-Trait Anxiety Inventory (Spielberger et al., 1983), as well as a questionnaire designed to determine participants' ethnic/racial backgrounds and the extent of their exposure to diverse populations were also collected. A main effect of SOA is expected, with shorter reaction times in response to earlier presentation of the stimuli, because the appearance of the face stimuli acts as a warning signal, alerting participants to the approaching target onset. As time goes on, the target onset becomes more likely, resulting in heightened attention and shorter response times to the target (Luce, 1986). We hypothesized that in addition to an overall main effect of SOA, participants would show a tendency to delay the disengagement of their attention from faces of a race different from their own. More specifically, we predicted

that participants would generally show the greatest delay in disengagement (longest saccadic latencies) in response to the Middle Eastern stimulus faces due to stronger threat perceptions of this social group, and the shortest disengagement reaction times in response to the White stimulus faces, with reaction times in response to Black faces falling in the middle.

METHODS

Participants

30 undergraduate students (23 female) between the ages of 18 and 38 years (Mean age = 20.34 years, SD = 3.71) from a large mid-Atlantic university participated in this experiment in partial fulfilment of course credit. The sample was composed of participants who self-identified themselves as members of one of the three racial groups included as stimuli in the study (13 White, 8 Black, and 9 Middle Eastern). All participants had normal or corrected-to-normal vision.

Materials and Apparatus

***Demographics & Ethnic Identity Questionnaire*.** We devised a unique questionnaire to determine participants' basic demographic information, ethnic background, sense of belonging to certain racial/ethnic groups, views/attitudes toward their own and other racial/ethnic groups, and exposure to diverse populations. This questionnaire consists of 47 items, composed of fill-in-the-blank, multiple choice, and Likert-type scale questions. An example of a multiple choice question item is "With which racial or ethnic group do *you most identify*?" To respond to this item, participants are to choose one of the following provided options: "Arab/Middle Eastern," "Asian/Pacific Islander," "Black/African American," "Caucasian/White," "Hispanic/Latino," "Indian/South Asian," Native American/American Indian/Aleut," or

"Other". An example of one of the Likert-type items is "I enjoy spending time with people who come from different ethnic backgrounds," to which participants should respond by choosing the number which best describes how they feel, ranging from "1" (strongly disagree) to "4" (strongly agree) (See Appendix A for a full list of items).

Multigroup Ethnic Identity Measure (MEIM). The MEIM (Phinney, 1992) was used in the present study to assess participants' ethnicity, sense of belonging to their ethnic group(s), how they feel about their ethnicity, and the extent of participation in their ethnic group. The MEIM uses a 4-point Likert-type scale to assess participants' agreement with 12 statements about their ethnicity and feelings toward their ethnic group, with a score of "1" indicating strong disagreement and a score of "4" indicating strong agreement with the statement. The mean score of five items (items 1, 2, 4, 8, and 10) constitutes the "ethnic identity search" factor. An example of one of these statements is "I am active in organizations of social groups that include mostly members of my own ethnic group". The mean of the remaining seven items (items 3, 5, 6, 7, 9, 11, and 12) is considered the "affirmation, belonging, and commitment" score. The following statement is an example of one of the affirmation, belonging, and commitment items: "I feel a strong attachment towards my own ethnic group". An over-all mean score is also usually considered in analyses. Seven additional items, modeled after the MEIM, were also included to gauge participants' involvement in and attitude towards diverse cultural experiences (see Appendix B for a full list of the items).

State-Trait Anxiety Inventory (STAI). The STAI is a measure designed to ascertain individuals' state and trait anxiety levels (Spielberger et al., 1983). Only the

"trait" portion of the STAI was used in the current study, which consists of 20 items designed to measure the extent to which individuals feel anxious in general, as opposed to at a particular moment in time (i.e. state anxiety). Trait anxiety level is considered a relatively stable and enduring characteristic of the individual. The STAI uses a 4-point Likert-type scale ranging from "1" (almost never) to "4" (almost always) that participants use to indicate how well each statement describes how they generally feel. Positive items (e.g., "I feel pleasant") are reverse coded, such that higher scores represent elevated levels of anxiety. Possible scores range from 20 to 80, with scores of 45 or above indicative of high levels of anxiety and scores of 35 or below indicating low anxiety.

Implicit Association Test (IAT). We measured the extent of participants' automatic stereotyping and prejudices using the Implicit Association Test (Greenwald, McGhee, & Schwartz, 1998b), which uses keypress response time latencies to measure the strength of the association between two concepts. Participants responded to two different IAT measures: 1) the Race ('Black – White') IAT, which measures the strength of associations between photographs of people of different races (Black/White) and attributes (good/bad), and 2) the Arab-Muslim ('Arab Muslim – Other People') IAT, which measures the strength of associations between ethnic names (Arab-Muslim/other nationalities/religions) and attributes (good/bad). When completed online at https://implicit.harvard.edu/implicit/, each version of the IAT returns the participants' preference (i.e. preference for White over Black faces) as well as the strength of this preference (i.e. no, slight, moderate, or strong preference) based on participants' keypress reaction times.

Stimuli. A stimulus set previously used by Kelly et al. (2005) in an investigation of infants' preferences for faces from their own-ethnic group was used in the present study. The stimulus set consisted of faces of White, Black, and Middle Eastern males; there were 4 different male actors from each race category, rendering 12 unique facial stimuli. These images were rated by an independent sample and normalized on the basis of attractiveness and emotional valence (n=115). It should be noted, however, that one of the original Middle Eastern faces was replaced with a new photo due to consistent negatively-valenced ratings. This image was resized and normalized to match the other stimuli. The images appeared in grayscale on a medium-grey background (See *Figure 1* for sample stimuli). The choice of male gender was based on previous findings showing men are perceived as more threatening than women (Al-Janabi et al., 2012; Kret, Pichon, Grèzes, & de Gelder, 2011). Stimulus images were sized to 400 X 400 pixels. Target dots subtended 1° of visual angle and were presented 10° to either the left or right of fixation.

Stimuli were presented on a MacPro (2x2 Ghz Dual-Core Intel Xenon) equipped with a 20-inch CRT monitor operating at 75 Hz with a resolution of 1024 x 768. This computer is networked to a Dell Pentium 4 that collected eyetracking data in conjunction with an Eyelink 2 eye tracker (SR Research, Ontario, Canada).

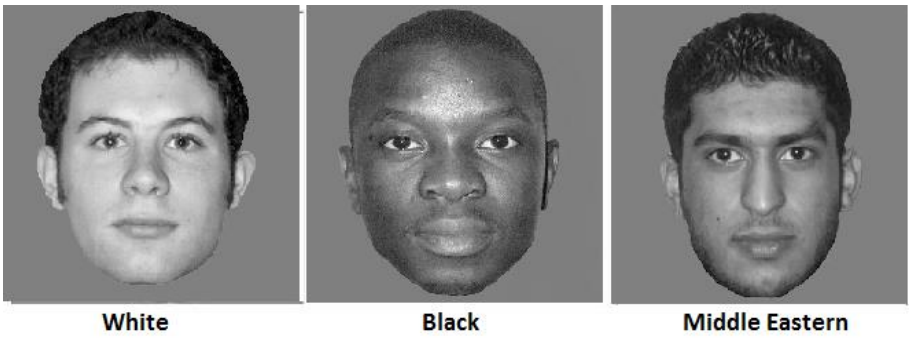

Figure 1. Sample Stimuli (not to scale)

Procedure

Participants completed the Demographics & Ethnic Identity Questionnaire, the MEIM (Phinney, 1992), and the STAI (Spielberger et al., 1983) online via a university psychology research participation system. Participants who responded that they are "Arab/Middle Eastern," "Black/African American," or "Caucasian/White" on the Demographics & Ethnic Identity Questionnaire were invited by email to participate in a follow-up eyetracking study.

We used a modified version of the classic spatial cueing task (Posner, 1980), in which participants must disengage attention from a central stimulus in order to locate a subsequent peripheral target. For our purposes, each trial began with a central fixation cross displayed for 1000ms followed by a face stimulus, which was presented for either 50ms or 200ms prior to target onset. The target then appeared either to the left or to the right of the face. Both the target and the face stimulus remained on the screen until a saccade was made to the location of the target dot or until 2000ms elapsed. Participants were instructed to keep their eyes focused on the center of the screen until the target

appeared, at which point they were to make an eye movement to the target as quickly and accurately as possible (See *Figure 2* for an example trial). If a saccade was made prematurely, the message "You Moved Your Eyes Too Soon!" appeared on the screen and that trial was recycled and later randomly inserted into the experiment. Participants completed a practice block of 12 trials, followed by an experimental block of 192 trials.

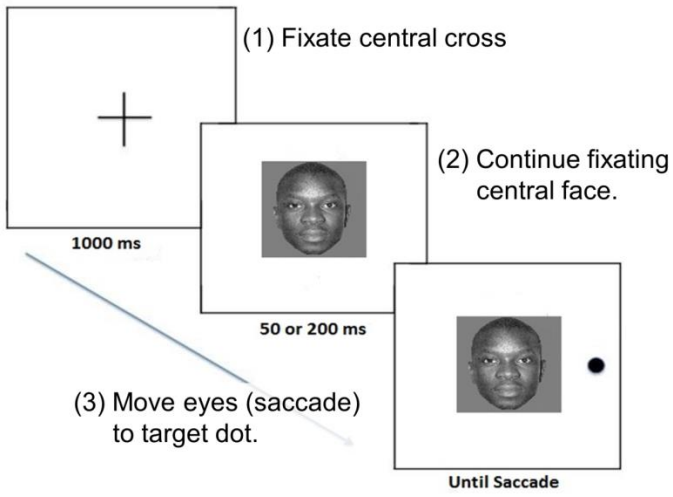

Figure 2. Example of a single trial in the experiment (not to scale)

Following the delayed disengagement pro-saccade task, participants completed publicly available online versions of the Race IAT and the Arab-Muslim IAT (https://implicit.harvard.edu/implicit/). The researcher recorded the reported results following completion of each task. Participants were fully debriefed on the purpose of the study at the conclusion of their participation.

RESULTS

Analyses were conducted using participants' saccadic reaction times, defined as the length of time it took to initiate a saccade toward the peripheral target. Experimental trials in which saccade latencies were less than 100ms or greater than 500ms were discarded from analyses. Five participants (4 White, 1 Black) were excluded from analyses do to incomplete responses on the STAI and/or too many errors on one or both of the IAT measures to determine a preference result. The remaining sample was composed of 25 participants (19 female; mean age = 20.2 years, SD = 3.94; 9 White, 7 Black, and 9 Middle Eastern).

For each participant, the median saccadic reaction time for each of the six possible conditions (White stimulus face/50ms SOA, Black/50ms, Middle Eastern/50ms, White/ 200ms, Black/200ms, Middle Eastern/200ms) was calculated and entered into a 3 (stimulus race: White, Black, Middle Eastern) x 2 (SOA: 50ms, 200ms) X 3 (participant race: White, Black, Middle Eastern) mixed ANOVA with participant race as a between-subjects factor. Median saccadic reaction times were used for all analyses due to their stability and resistance to the effects of outliers, compared to means. There was a significant main effect of SOA, $F(1) = 6.065$, $p = 0.022$. There were no other significant effects (See *Tables 1* and *2* for full results). Consistent with our hypothesis, saccadic

reaction times were shorter in response to the 200ms SOA than in response to the 50ms SOA (See *Figure 3* for visualization of the main effect of SOA).

Tables 1 & 2. Results of 3 (Stimulus Race) X 2 (SOA) X 3 (Participant Race) ANOVA

***Table 1*: Tests of Within-Subjects Effects**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
SOA	6024.174	1	6024.174	6.065	**0.022***
SOA * ParRace	6128.667	2	3064.334	3.085	0.066
Error(SOA)	21851.41	22	993.246		
StimRace	88.857	2	44.428	0.246	0.783
StimRace * ParRace	461.91	4	115.478	0.64	0.637
Error(StimRace)	7936.34	44	180.371		
SOA * StimRace	345.609	2	172.805	0.879	0.423
SOA * StimRace * ParRace	1186.784	4	296.696	1.508	0.216
Error(SOA*StimRace)	8654.713	44	196.698		

* $p < 0.05$

***Table 2*: Tests of Between-Subjects Effects**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	5192244.792	1	5192244.792	513.662	.000
ParRace	5073.721	2	2536.860	.251	.780
Error	222382.239	22	10108.284		

* $p < 0.05$

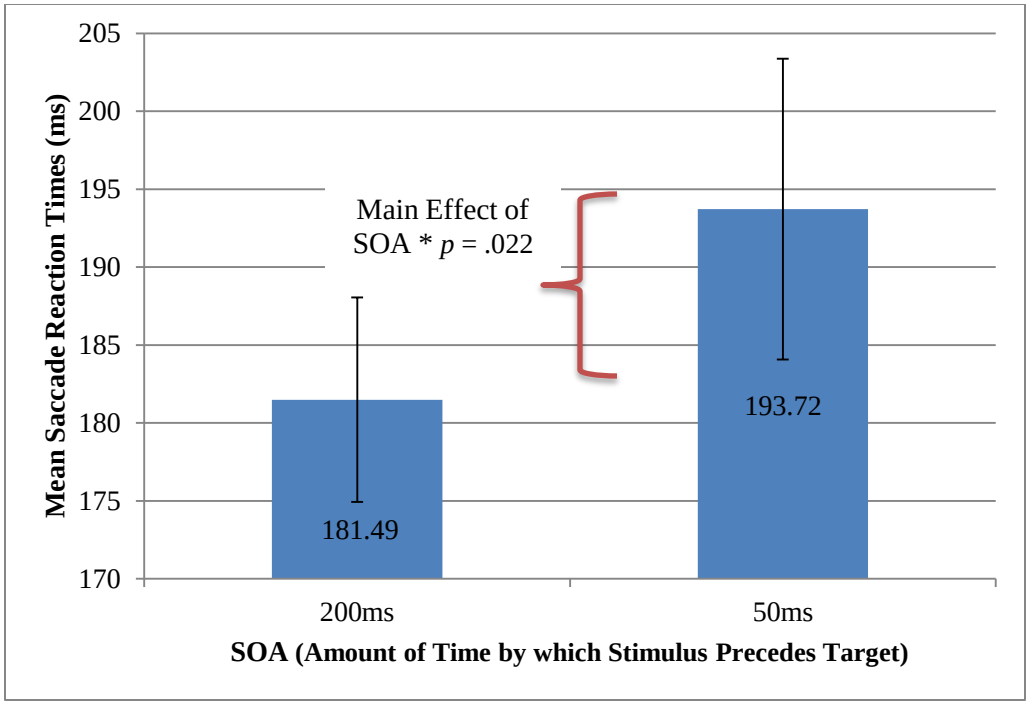

Figure 3. Mean Participant Reaction Times According to SOA, Collapsed Across Stimulus Race

In order to evaluate whether STAI trait anxiety scores are related to disengagement tendencies, we performed a median-split on the STAI data, dividing the participants into two groups: low trait-anxious (n = 13, mean score = 33.92, range = 25 – 40) and high trait-anxious (n = 12, mean score = 52.75, range = 40 - 67) participants. It should be noted that in clinical populations a score of 35 or below is considered to be indicative of low trait levels of anxiety, and a score of 45 or above is indicative of high trait anxiety. A 3 (stimulus race) X 2 (SOA) X 3 (participant race) X 2 (high/low trait anxiety) mixed ANOVA was performed, with participant race and trait anxiety group entered as between-subject variables. As with the first ANOVA, there was a significant main effect of SOA, $F(1) = 4.919$, $p = 0.039$. Additionally, the stimulus race X SOA X

STAI group interaction ($p = 0.058$) and the stimulus race X SOA X STAI group X participant race interaction ($p = 0.055$) were both marginally significant (See *Tables 3* and *4* for full results). Additional t-tests revealed that reaction times of the low trait-anxious group were significantly shorter at the 200ms SOA, $t(38) = 3.835$, $p = 0.0005$. However, no such difference was found in the high trait-anxious group ($p = 0.405$). These results indicate that high and low-trait anxious individuals differ in their attentional processing (See *Figure 4* for visualization).

Tables 3 & 4. Results of 3 (Stimulus Race) X 2 (SOA) X 3 (Participant Race) X 2 (STAI Trait Anxiety Group)

Table 3: **Tests of Within-Subjects Effects**					
Source	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
StimRace	287.935	2	143.968	.864	.429
StimRace * NSTAI	58.128	2	29.064	.174	.841
StimRace * ParRace	1056.976	4	264.244	1.586	.198
StimRace * NSTAI * ParRace	1578.662	4	394.666	2.369	.070
Error(StimRace)	6329.364	38	166.562		
SOA	5035.480	1	5035.480	4.919	**.039***
SOA * NSTAI	42.868	1	42.868	.042	.840
SOA * ParRace	4122.934	2	2061.467	2.014	.161
SOA * NSTAI * ParRace	2226.373	2	1113.186	1.087	.357
Error(SOA)	19451.836	19	1023.781		
StimRace * SOA	10.420	2	5.210	.033	.968
StimRace * SOA * NSTAI	978.816	2	489.408	3.065	**.058**
StimRace * SOA * ParRace	1234.418	4	308.604	1.933	.125
StimRace * SOA * NSTAI * ParRace	1629.347	4	407.337	2.551	**.055**
Error(StimRace*SOA)	6067.473	38	159.670		

* $p < 0.05$

Table 4: Tests of Between-Subjects Effects					
Source	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Intercept	4181502.163	1	4181502.163	394.372	.000
NSTAI	9338.318	1	9338.318	.881	.360
ParRace	14730.197	2	7365.098	.695	.512
NSTAI * ParRace	9240.786	2	4620.393	.436	.653
Error	201456.028	19	10602.949		

* $p < 0.05$

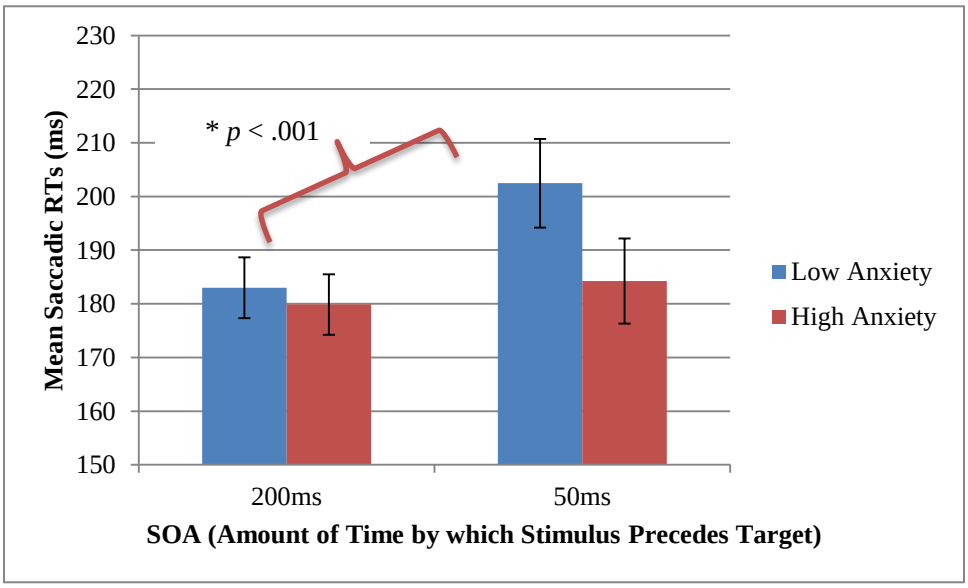

Figure 4. Comparison of Mean Saccadic RTs Collapsed Across Stimulus Race, According to Anxiety Group

In order to analyze whether there were any significant effects related to stimulus group (member of racial ingroup or outgroup of participant), we first identified each participant's race from the Demographics and Ethnic Background Questionnaire and categorized each stimulus as consistent with the participants' racial ingroup or outgroup.

For each SOA we used the median reaction times in response to the stimuli of the participant's own race as the ingroup scores. We then calculated the outgroup scores at each SOA by averaging the median reaction times of the remaining two stimulus race categories.

These ingroup and outgroup scores were then used to conduct a 2 (stimulus group: ingroup, outgroup) X 2 (SOA: 50ms, 200ms) X 3 (participant race: White, Black, Middle Eastern) mixed ANOVA. Again, the results of this ANOVA revealed only a significant main effect of SOA, $F(1) = 7.288$, $p = 0.013$ (See *Tables 5* and *6* for full results).

Tables 5 & 6. Results of 2 (Group) X 2 (SOA) X 3 (Participant Race)

Table 5: **Tests of Within-Subjects Effects**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Group	239.116	1	239.116	1.538	0.228
group * ParRace	157.461	2	78.73	0.507	0.609
Error(group)	3419.548	22	155.434		
SOA	5768.533	1	5768.533	7.288	**.013***
SOA * ParRace	3208.473	2	1604.237	2.027	0.156
Error(SOA)	17413.155	22	791.507		
group * SOA	444.864	1	444.864	2.878	0.104
group * SOA * ParRace	19.186	2	9.593	0.062	0.94
Error(group*SOA)	3400.147	22	154.552		

* $p < 0.05$

Table 6: **Tests of Between-Subjects Effects**					
Source	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Intercept	3551389.942	1	3551389.942	583.796	.000
ParRace	6630.419	2	3315.209	.545	.587
Error	133831.965	22	6083.271		

* $p < 0.05$

Next, a Spearman's rank-order correlation was conducted to determine whether there is a relationship between participants' automatic preferences for White or Black faces (as determined by participants' results from the Race IAT) and the ratio of White to Black stimulus disengagement times for each SOA. A distribution of preference results on the Race IAT according to participant race is shown in *Figure* 5. The results of this Spearman's rho correlation revealed a significant correlation between White to Black reaction time ratios and preference results on the Race IAT, $r_s(22) = 0.418$, $p = 0.037$. No other results of this correlation were statistically significant (See *Table 7* for full results). Although nonsignificant, results of another Spearman's rho correlation analysis conducted with the Middle Eastern participants excluded from the sample, demonstrated the same general trend. In contrast to our hypothesis, these results indicate that at the 50ms SOA, the ratio of White to Black stimulus reaction times is positively related to the strength of their preference results on the Race IAT. In other words, participants who demonstrated a stronger preference for White faces on the IAT were slower to disengage

from White faces in the eyetracking task (See *Figure 6* for a visualization of this correlation).

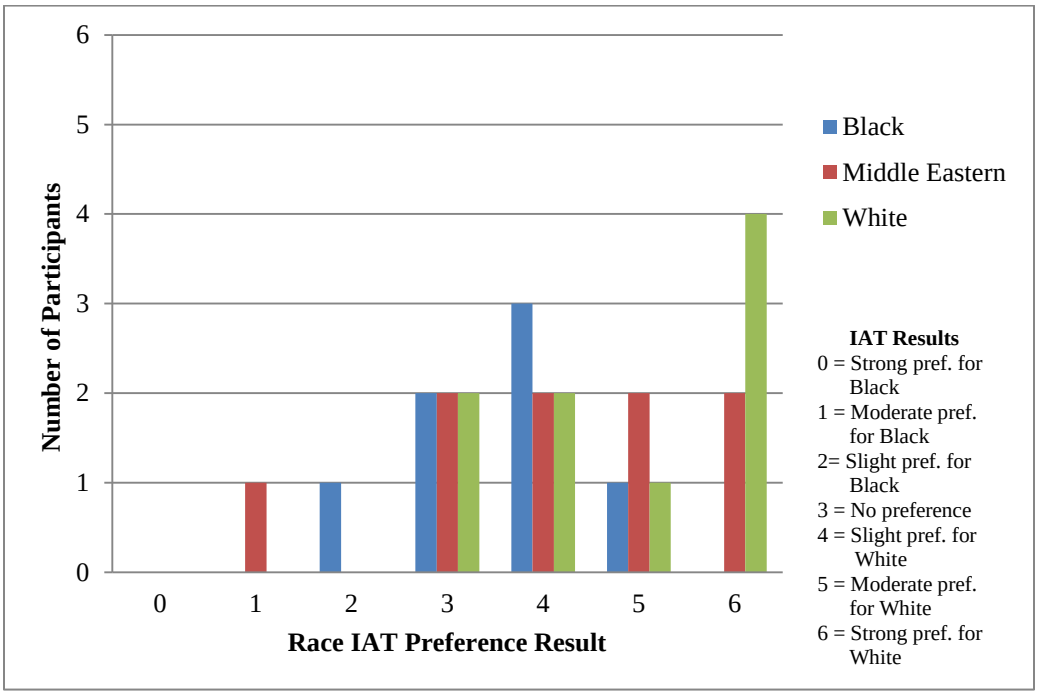

Figure 5. Distribution of Preference Results on the Race IAT According to Participant Race

Table 7. Results of Spearman's Rank-Order Correlation: White:Black RT Ratios and Race IAT Results

		W:B50	W:B200	RaceIAT
W:B50	***Correlation Coefficient***	*1.000*	*.039*	*.418*
	Sig. (2-tailed)	.	.852	**.037***
	N	25	25	25
W:B200	**Correlation Coefficient**	.039	1.000	.055
	Sig. (2-tailed)	.852	.	.794
	N	25	25	25
RaceIAT	**Correlation Coefficient**	.418	.055	1.000
	Sig. (2-tailed)	.037	.794	.
	N	25	25	25

* $p < 0.05$

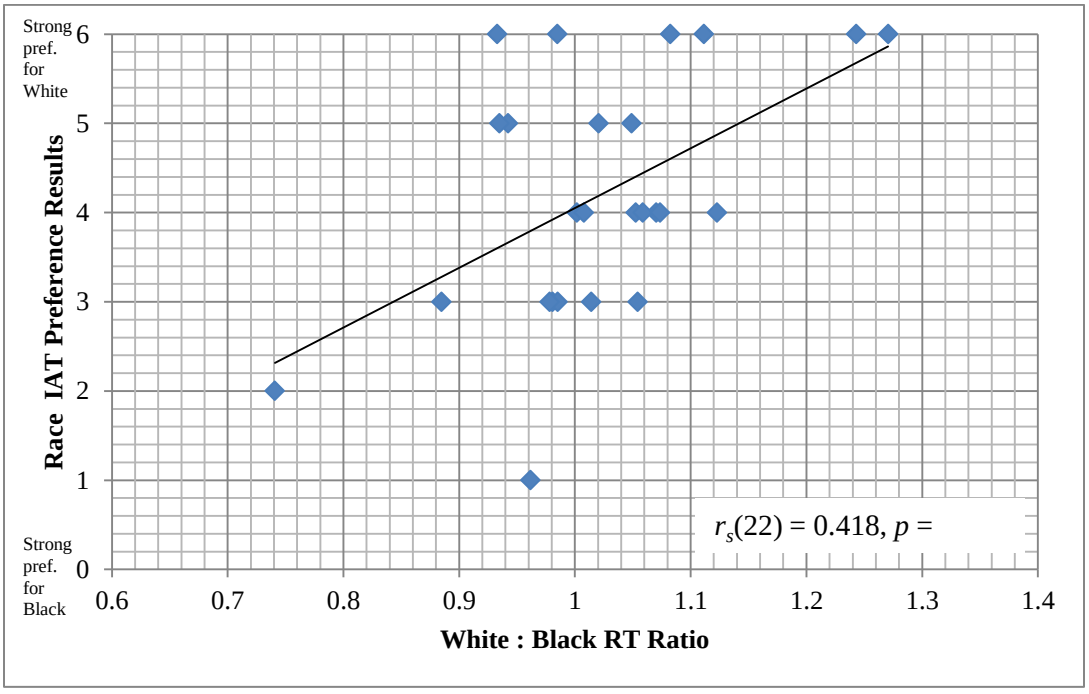

Figure 6. Longer Saccadic RTs in Response to White Faces Correlated with Stronger IAT Preferences for White Faces

A second Spearman's rank-order correlation was carried out to examine the relationship between participants' implicit preferences for Arab-Muslim or other names (as indicated by results of the Arab Muslim-Other People IAT) and the ratio of White to Middle Eastern stimulus reaction times for both the 50ms and 200ms SOAs. A distribution of preference results on the Arab Muslim-Other People IAT according to participant race is shown in *Figure* 7. The results of this Spearman's rho correlation were nonsignificant, lowest $p = 0.216$ (See Table 8 for full results). These results suggest that participants' IAT preference results on the Arab Muslim-Other People IAT, are unrelated to their saccadic reaction times in response to White and Middle Eastern stimulus faces.

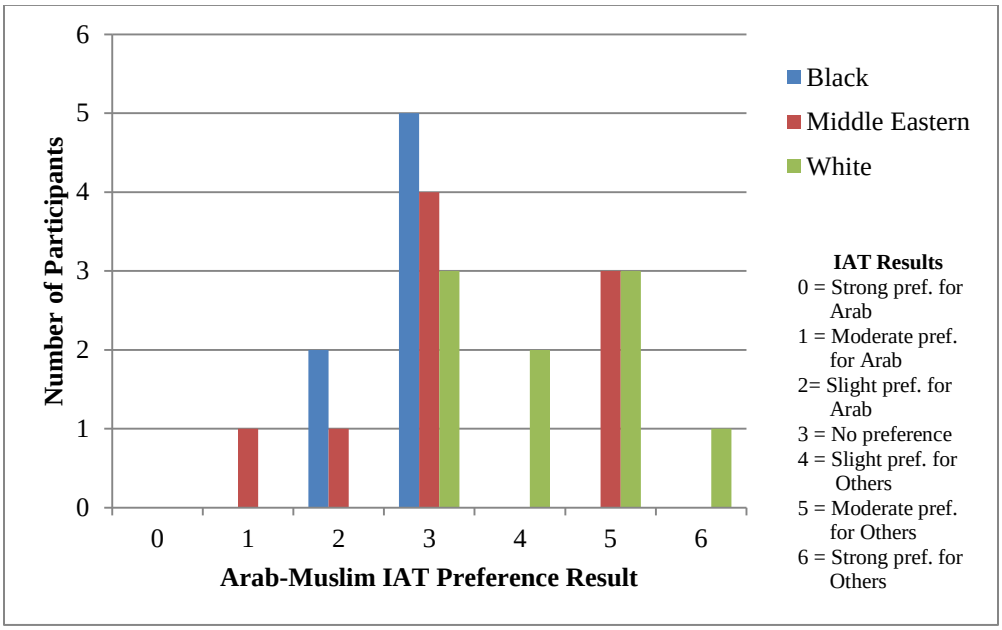

Figure 7. Distribution of Preference Results on the Arab Muslim-Other People IAT According to Participant Race

Table 8. Results of Spearman's Rank-Order Correlation: White:Middle Eastern RT Ratios and Arab-Muslim IAT Results

		W:ME50	W:ME200	ArabIAT
W:ME50	**Correlation Coefficient**	1.000	-.142	.220
	Sig. (2-tailed)	.	.497	.291
	N	25	25	25
W:ME200	**Correlation Coefficient**	-.142	1.000	.216
	Sig. (2-tailed)	.497	.	.299
	N	25	25	25
ArabIAT	**Correlation Coefficient**	.220	.216	1.000
	Sig. (2-tailed)	.291	.299	.
	N	25	25	25

* $p < 0.05$

DISCUSSION

The present work examined whether individuals display the attentional bias of delayed disengagement in response to the presentation of members of different racial groups. The sensitive measure of eyetracking enabled us to directly measure participants' disengagement reaction times in response to White, Black, and Middle Eastern male faces. This study expands upon the growing body of research investigating how race, stereotypes, and associated threat-appraisals influence attentional processes, even at the earliest stages (Bean et al., 2012; Correll et al., 2006; Cunningham et al., 2004; Donders et al., 2008; Eberhardt et al., 2004; Ito & Urland, 2003; Trawalter et al., 2008; Wykowska & Schubö, 2010). However, the results of the current study failed to offer reliable support for our hypothesis that individuals have a tendency to delay disengagement of their visual attention from Black and Middle Eastern faces, compared to Whites faces, due to the perception that these social groups are especially threatening.

In accordance with our expectations, overall participants demonstrated faster saccadic reaction times in response to images presented at the 200ms SOA. Generally speaking, it makes sense that reaction times are faster at longer SOAs, because the stimuli warns participants that the target will soon appear. As time progresses, target onset becomes more and more likely causing participants to be more alert and prepared to make an appropriate response (Luce, 1986). However, if differences in reaction times between

conditions (i.e. a main effect of stimulus race) had occurred at only one SOA, we could extrapolate whether this effect was a result of an automated, bottom-up process (if an effect is seen at the shorter SOA) or a controlled, top-down process (if an effect is seen at the longer SOA).

Further analysis revealed that the difference in reaction times between SOAs was highly significant only for the low-anxious group, whereas this difference was nonsignificant for the high-anxious group. Previous research has suggested that highly anxious individuals differ from individuals with low levels of anxiety in the way in which they attend to threat-related stimuli (Azarian et al., 2015a, 2015b; Fox et al., 2007, 2001; Yiend & Mathews, 2001). Results of a previous study conducted by our lab suggest that, anxious individuals are faster to respond to non-threatening postures than non-anxious individuals (Azarian et al., 2015a). Yet, anxious individuals also displayed a tendency to delay disengagement from threat-related postures. Both of these effects were only seen at the shorter SOA used in the study (100ms versus 500ms). Taken together, these results may suggest that the lack of a significant difference in mean reaction times between the 50ms and 200ms SOAs for the anxious group may in fact indicate that those high in anxiety are actually faster to respond to stimuli at the shorter SOA than low-anxious individuals. Additionally, this result suggests that participants did not perceive any of the face stimuli (regardless of race) as threatening.

In contrast to our hypotheses, the results of this study do not provide evidence of the tendency to delay disengagement from the faces of members of social groups heuristically associated with threat. We had expected that, compared to the White faces,

there would be a delay in disengagement from the Black faces and an even greater delay in disengagement from the Middle Eastern faces. These hypothesis were based on the growing body of research supporting the notion that danger-relevant stereotypes underlie race-based attentional biases, particularly in response to the faces of Black men, who have continually been stereotyped by society as particularly threatening and dangerous (e.g., Bean et al., 2012; Donders et al., 2008; Trawalter et al., 2008). Recently, a number of studies have brought attention to the fact that Westerners have developed similar threat stereotypes of Middle Eastern men, particularly associating this social group with terrorism and violence (e.g., Ciftci, 2012; Horry & Wright, 2009; Maner et al., 2005). These findings led us to predict that the faces of Black and Middle Eastern men would be interpreted as threatening stimuli, causing participants to dwell on these images for a longer period of time.

There are a number of theoretical reasons that may help to explain why no main effects of stimulus race were found in this experiment. To begin with, the sample of participants in this study was recruited from a pool of undergraduate students of a very ethnically diverse university. It has been proposed that individuals with first-hand knowledge of a social group are less likely to rely on stereotypes to understand and interact with that group (e.g., Aberson & Gaffney, 2009; Ciftci, 2012; Saleem & Anderson, 2013). It is possible, that due to their exposure to the diverse university population, our sample has had more experience interacting with, as well as more general knowledge of members of African American and Middle Eastern communities, and thus has less need to rely on stereotypical information about these ethnic groups.

Other studies have devised survey questions to attempt to account for differences in sources of information about members of various social groups. For example, Saleem and Anderson (2012) included a four-item scale asking participants about their sources of information about Arabs, including "my information about Arabs comes from...movies, newspapers, and TV," and "my primary source of information about Arabs is direct contact" (p. 87). Participants responded to these items using a 10-point scale ranging from least (1) to most (10) informative source. Saleem and Anderson (2012) found that participants who reported relying mostly on media sources, rather than on direct contact, for information about Arabs demonstrated greater negative explicit attitudes toward Arabs.

Another factor that may be contributing to the lack of evidence of race-based patterns of attentional disengagement in the current study is the concept of stereotype accessibility. Many studies investigating implicit biases in the perception of and response to members of stigmatized social groups (i.e., Black and Middle Eastern men) prime participants to "activate" common stereotypes pertaining to those groups (Eberhardt et al., 2004; Horry & Wright, 2009; Maner et al., 2005; Saleem & Anderson, 2013). For example, Maner et al. (2005) showed participants a frightening movie scene to activate what they called a "self-protection motive" before participants rated Black and White faces, which led participants to perceive more anger in Black male faces. The same procedure was used in a second study by Maner and colleagues, except that participants rated Arab and White faces following the movie clip and implicit attitudes were also examined. The results of this second study suggest that participants with strong Arab-

threat associations perceived greater anger only in the faces of Arab men after viewing the frightening movie clip. Horry and Wright (2008) similarly demonstrated that anxious participants primed with words related to terrorism showed an attentional bias towards Middle Eastern faces, compared to White faces. Perhaps priming participants with information relevant to prevalent stereotypes of the included social groups would have activated those stereotypes in participants' minds, resulting in a greater behavioral bias.

While other studies have found similar race-based biases in attention without such "primes" (e.g., Donders et al., 2008; Trawalter et al., 2008), the addition of priming can increase the accessibility of stereotypes and consequently makes it more likely that the activated stereotype(s) will directly affect participants' behavioral responses. For instance, in studies examining weapon biases and the decision to shoot, the mere insinuation of violence and crime seem to be enough to activate Black-threat stereotypes (Correll et al., 2002, 2006; Payne, 2001). Similarly, multiple studies have demonstrated the ability of negative, stereotype-confirming information to increase negative implicit and explicit attitudes towards the social group being portrayed (e.g., Saleem & Anderson, 2013; Saleem et al., 2015). In this way, exposure to primes and/or explicit information promoting associations between an ethnic group and negative, stereotypical attributes automatically influences perceptions of this group, and likely affects behavioral responses to members of that group. Furthermore, manipulating the appearance of the face stimuli to be more consistent with stereotypical images of members of each social group may also successfully activate participants' stereotypes of the group(s). For example, Maner et al., (2005) manipulated the face stimuli in his study so that the Middle

Eastern men and women donned gender-appropriate head coverings (i.e. turbans and hijabs), a characteristic that is central to stereotypes of people from the Middle East.

It would be beneficial for future studies to evaluate prevalent societal perceptions and stereotypes of relevant social groups, rather than only personal perceptions and biases of the participants. One way in which to make the participant feel safe and free to express their opinion without inciting judgement is by asking them how they believe the average American views members of a certain social group. Or similarly, including questions about the proportion of Americans the participant believes endorse specific attitudes toward and stereotypes of different ethnic groups enables the researcher to access the participant's awareness/perception of societal views (Maner et al., 2005). This perception is important and may be distinct from the participant's perceptions. Additionally, it has been theorized that simply being exposed to a stereotype, whether or not one actually believes it is true or endorses it, contributes to biases and negative attitudes towards the group's members.

Surprisingly, the results of the first Spearman's rank-order correlation suggests that participants with stronger IAT preferences for White rather than Black faces show a tendency to disengage more slowly from White faces, compared to Black faces, at the 50ms SOA. No such relationship was found at the 200ms SOA or between the Arab-Muslim IAT and the White to Middle Eastern reaction time ratios. It is possible that this result indicates individuals' tendency to delay disengagement from faces that they find appealing, although this seems unlikely given the face stimuli were rated as neutral on the dimensions of attractiveness and emotional valence by an independent sample.

Specifically, individuals who demonstrated stronger preferences for White faces over Black faces on the Race IAT may be slower to disengage from White faces in the eyetracking paradigm because they find them particularly attractive.

We had expected to find participant IAT scores to be related to attentional disengagement tendencies, such that stronger implicit preferences for a particular race would correspond to shorter disengagement times from stimulus faces of the same race. However, it should be noted that this lack of relationship was also seen in the findings of Donders et al.'s (2008) in that neither general prejudice nor danger-irrelevant stereotypes significantly predicted racial biases in attention. The results of Donders et al.'s study indicate, rather, that only danger-relevant stereotypes significantly predict racial biases in attentional allocation. Thus, in future variations of this study it would be advantageous to include measures that specifically evaluate the extent of participants' danger stereotypes of the included social groups, in addition to the more general biases measured by the IAT.

Finally, it is possible that any number of variables not measured or taken into consideration in this study may be mediating the disengagement results. For example, Bean et al. (2012) found that only individuals high in external motivation (EM) to appear nonprejudiced displayed "vigilance-avoidance" patterns of visual attention consistent with theories of social threat perception. It could be that EM, or some other theoretically valuable variable is moderating our results. Numerous studies have also examined the role explicit measures of prejudice play in determining race-based biases. Such explicit measures include the External Motivation to Respond Without Prejudice Scale (Plant &

Devine, 1998), Modern Racism Scale (McConahay, 1986), and the Discrimination and Diversity Scales (Wittenbrink, Judd, & Park, 1997). While implicit measures of prejudice like the IAT are generally viewed as more reliable than explicit measures, each may play different roles in different forms of biases.

CONCLUSIONS

Our data did not provide reliable evidence that there are differences in disengagement reaction times in response to White, Black, and Middle Eastern male faces. Nor did we find evidence that IAT preferences or STAI trait anxiety scores are related to disengagement tendencies. However, several possible explanations for this lack of significant findings and modifications of the paradigm used in the present study have been proposed in the discussion section. Nonetheless, the fact remains that identifying damaging societal stereotypes of ethnic groups, as well as the resulting implicit attitudes and conditioned physiological responses, such as attentional biases, are critical to understanding, preventing, and changing such processes in the future. Research should also focus on identifying the ways in which society reinforces negative race associations and stereotypes, such as the disproportionate amount of media coverage associating Black men with crime and the Middle East with violence and terrorism.

APPENDIX A

Demographics and Ethnic Background Questionnaire

1. Gender?
   _____ male _____ female

2. Age?
   _____ years

3. I am a(n) _____student at George Mason University.
   _____ undergraduate
   _____ graduate

4. Major?
   _____

5. Minor?
   _____

6. Expected year of graduation?
   20_____

7. To which racial or ethnic group do ***you belong***?
   _____ Arab/Middle Eastern
   _____ Asian/Pacific Islander
   _____ Black/African American
   _____ Caucasian/White
   _____ Hispanic/Latino
   _____ Indian/South Asian
   _____ Native American/American Indian/Aleut
   _____ Multiracial (Parents from two different groups)
   _____ Other

   If other or multiracial, please specify _____

8. With which racial or ethnic group do ***you most identify***?
   _____ Arab/Middle Eastern
   _____ Asian/Pacific Islander
   _____ Black/African American
   _____ Caucasian/White
   _____ Hispanic/Latino
   _____ Indian/South Asian
   _____ Native American/American Indian/Aleut
   _____ Other

   If other, please specify _____

9. To which racial or ethnic group does ***your mother*** belong?
   _____ Arab/Middle Eastern
   _____ Asian/Pacific Islander
   _____ Black/African American
   _____ Caucasian/White
   _____ Hispanic/Latino
   _____ Indian/South Asian
   _____ Native American/American Indian/Aleut
   _____ Other

   If other, please specify _____

10. To which racial or ethnic group does ***your father*** belong?
   _____ Arab/Middle Eastern
   _____ Asian/Pacific Islander
   _____ Black/African American
   _____ Caucasian/White
   _____ Hispanic/Latino
   _____ Indian/South Asian
   _____ Native American/American Indian/Aleut
   _____ Other

   If other, please specify _____

11. If you are in a romantic relationship, what is the ethnicity of your partner?
   _____ I am not currently in a romantic relationship.
   _____ Arab/Middle Eastern
   _____ Asian/Pacific Islander
   _____ Black/African American
   _____ Caucasian/White
   _____ Hispanic/Latino
   _____ Indian/South Asian

_____ Native American/American Indian/Aleut
_____ Multiracial (Parents from two different groups)
_____ Other

If other or multiracial, please specify _____

12. Where were you born? (country, state)
_____

13. Answer this section only if you were born in the US (check one):
_____I am 1st generation (parents not born in the US)
_____2nd generation American (parents born in the US)
_____3rd generation American (grandparents born in the US)
_____Other (please specify): _____

14. Citizenship. Choose the answer that best describes your citizenship:
_____ Not a citizen
_____ Naturalized citizen
_____ U.S.-born citizen
_____ Dual citizenship

15. What do you consider to be your nationality?
_____

16. Where did you grow up? (country)
_____

17. Which of the following best describes the area in which you were raised?
_____ Urban (City)
_____ Suburban
_____ Rural (Country)
_____ Other
If other, please specify _____

18. Where do you currently reside?
_____

19. How long have you been living there?
_____

20. Which of the following best describes your current living situation?
_____ College Campus dorm

_____ Apartment/home with one or more similarly-aged individuals
_____ Apartment/home alone or with a significant other
_____ Home with immediate family members (nuclear family)
_____ Home with extended family/ Multigenerational home

21. Which of the following best describes the area you currently live in?
    _____ Urban (City)
    _____ Suburban
    _____ Rural (Country)
    _____ Other
    If other, please specify _____

22. Do you speak any language(s) other than English?
    _____ yes _____ no

23. If you answered "yes" to the previous question, please specify all languages in which you are fluent.
    _____

24. What is your primary/first language?
    _____

25. What language do you speak at home?
    _____

26. What is your religion?
    _____ No religion
    _____ Agnostic
    _____ Catholic
    _____ Christian (all other denominations)
    _____ Buddhist
    _____ Hindu
    _____ Jewish
    _____ Muslim
    _____ Sikh
    _____ Other

    If other, please specify _____

27. Based on your life experiences, how diverse would you rate GMU's population?

(1) not at all diverse **(2)** somewhat diverse **(3)** diverse **(4)** very diverse **(5)** extremely diverse

28. Compared with your experiences at GMU, how diverse was the area in which you grew up?

(1) not at all diverse **(2)** somewhat diverse **(3)** about the same level of diversity as GMU

(4) very diverse **(5)** extremely diverse

APPENDIX B

Multigroup Ethnic Identity Measure

In this country, people come from many different countries and cultures, and there are many different words to describe the different backgrounds or ethnic groups that people come from. Some examples of the names of ethnic groups are Hispanic or Latino, Black or African American, Asian American, Chinese, Filipino, American Indian, Mexican American, Caucasian or White, Italian American, and many others. These questions are about your ethnicity or your ethnic group and how you feel about it or react to it.

Please fill in: In terms of ethnic group, I consider myself to be _____

Use the numbers below to indicate how much you agree or disagree with each statement.

(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree

29. I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.

30. I am active in organizations or social groups that include mostly members of my own ethnic group.

31. I have a clear sense of my ethnic background and what it means for me.

32. I think a lot about how my life will be affected by my ethnic group membership.

33. I am happy that I am a member of the group I belong to.

34. I have a strong sense of belonging to my own ethnic group.

35. I understand pretty well what my ethnic group membership means to me.

36. In order to learn more about my ethnic background, I have often talked to other people about my ethnic group.

37. I have a lot of pride in my ethnic group.

38. I participate in cultural practices of my own group, such as special food, music, or customs.

39. I feel a strong attachment towards my own ethnic group.

40. I feel good about my cultural or ethnic background.

41. My ethnicity is
    (1) Asian or Asian American, including Chinese, Japanese, and others
    (2) Black or African American
    (3) Hispanic or Latino, including Mexican American, Central American, and others
    (4) White, Caucasian, Anglo, European American; not Hispanic
    (5) American Indian/Native American
    (6) Mixed; Parents are from two different groups
    (7) Other (write in): _____

42. My father's ethnicity is (use numbers above)

43. My mother's ethnicity is (use numbers above)

Additional Items

Use the numbers below to indicate how much you agree or disagree with each statement.

(4) Strongly agree (3) Agree (2) Disagree (1) Strongly disagree

44. I am active in organizations or social groups that value diversity.

45. I enjoy spending time with people who come from different ethnic backgrounds.

46. I like exploring and learning about other cultures.

47. I participate in cultural practices and customs of groups other than my own.

48. I feel caught/conflicted between two or more cultures.

49. I feel as someone moving between two cultures.

50. I feel as if I’ve achieved a satisfactory balance between two or more cultures in my life.

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