

STEREOTYPE THREAT AND THE MASS MEDIA: THE ATHLETIC TEST PERFORMANCE OF BLACK AND  
WHITE STUDENTS

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by

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The undersigned, appointed by the dean of the Graduate School, have examined the thesis entitled

STEREOTYPE THREAT AND THE MASS MEDIA: THE ATHLETIC PERFORMANCE TEST OF BLACK AND WHITE STUDENTS

presented by Martenzie Johnson,

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and hereby certify that, in their opinion, it is worthy of acceptance.

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## **Dedication**

*With Gratitude...*

For my mother and father, who pushed me to succeed in school, something I didn't truly realize and appreciate until a few years ago.

For my brother and sister, Eric and Jennifer, who, unknowingly, push me to be the best I can be in all that I do. Also, for my niece Mackenzie, just because.

And for Tierra – who has dealt with me being away for two years. Those days and weeks of not being able to talk on the phone are finally over with the completion of this thesis. Love you.

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## Introduction

Conservative radio host Rush Limbaugh, while working for ESPN in 2003, discredited the abilities of National Football League (NFL) quarterback Donovan McNabb, an African American. Limbaugh said the “media is desirous that a Black quarterback do well,” which is why McNabb, in Limbaugh’s opinion, was lauded so heavily despite his shortcomings as a professional quarterback (Niven, 2005, p. 684).

What makes Limbaugh’s comments so controversial is that they insinuate that African Americans are not equipped to play quarterback, a position in football that has historically been held by White males and has been assumed to be reserved for those who are intelligent and can make smart decisions (Birrell, 1989; McCarthy & Jones, 1997). Limbaugh’s comments illustrate how much race is engrained in sports and how racial ideologies can affect media coverage of athletes (Hartmann, 2007).

Today, Black athletes make up over two-thirds of the population in the NFL and over 76 percent of the population in the National Basketball Association (NBA). African American athletes are some of the highest-paid professionals in the country, yet the descriptions and portrayals of Black and White athletes are still based on traditional stereotypes (Andrews, 1996; Bruce, 2004; Girdwood, 2010; Wenner, 1998).

Existing literature has explored the relationship between racial stereotypes and the realm of sports. Play-by-play commentators are more likely to refer to athletes by their first names only when it is an African American with what is considered a unique name (Bruce, 2004). Black quarterbacks’ success is more likely attributed to superior

athletic skill, while White quarterbacks' failures are more likely attributed to their lack of athletic skill (Billings, 2010a). Tiger Woods was portrayed as lacking concentration, composure and emotional control when he struggled during the 2001 Grand Slam golf tournaments (Billings, 2010b). Content, composure and control are all components attributed to intellectual superiority, which is a stereotypical characteristic of White people (Girdwood, 2010; Hoberman, 1997; Wenner, 1998). Media messages that rely on racial stereotypes – like those directed at Woods – have been found to have an effect on the mass media audience. Azzarito and Harrison (2008) found that White high school boys were “complicit with dominant discourses of race,” based on sports media and culture, such as the socially constructed notion that White men can't jump – and Black physical superiority (p. 360). This plays into Black children being encouraged to play sports at statistically higher rates than White, Hispanic and Asian children combined (Shakib & Veliz, 2012). Harrison, Lawrence and Bukstein (2011) found that White college students recognized the influence of media messages, specifically the perpetuation of stereotypes directed at athletic inferiority and superiority.

Negative racial stereotypes directed at Black and White males have the possibility of becoming a plausible self-characterization of individuals who make up those groups. This assumption is based on the stereotype threat theory, which is “being at risk of confirming, as self-characteristic, a negative stereotype about one's group” (Steele & Aronson, 1995, p. 797). According to previous research, when racial stereotypes – or race, itself – become salient to a specific social group, academic and athletic performance can be negatively affected (Spencer, Steele, & Aronson, 2002;

Steele & Aronson, 1997; Stone, Lynch, Sjomeling, & Darley, 1999; Walton & Cohen, 2003;).

Touré, co-host of MSNBC's "The Cycle" (2012), explored the connection between stereotype threat and sports. He used the rise of NBA star and Asian American Jeremy Lin as an example of how common assumptions and beliefs could affect athletic performance. According to conventional wisdom, Asians are not supposed to be good at basketball. Despite an outlier like former NBA player Yao Ming, Asian men are not expected to excel at a sport that is dominated by African Americans. As Touré stated:

Lin was almost certainly underestimated, or misevaluated, because as an Asian American he does not look the way scouts and general managers expect an NBA player to look...That's the prejudice Lin had to fight through. Stereotype threat is the potential internalization of that prejudice.

The present study examined what effect these stereotypes have on the athletic performance of Black and White males. The experiment investigated if media messages that are based on Black athletic superiority and intellectual inferiority, and vice versa for Whites, impacted the sports performance of the two races. A 2 (article exposure type) x 2 (pretest/posttest) x 2 (race) factorial design study was conducted using a sports news article that adopts racial stereotypes of Black and White athletes and a sports news article that does not. Specifically, this research investigated whether or not there is a significant difference in athletic performance when negative racial stereotypes are introduced to participants.

## Theoretical Framework

### **Stereotypes of Black Athletes in Media**

In U.S. society, people of African descent have been characterized as “ignorant, lazy, happy-go-lucky, savage and animal-like” for centuries (Wenner, 1998, p. 157).

When it comes to sports, Black male athletes are stereotyped as well. Blacks are portrayed as natural athletes compared to the hard-worker image of Whites (Wenner, 1998). White athletes are usually portrayed as more intellectual than their Black counterparts; Black players appear as not making for good team leaders, coaches or administrators because they lack requisite knowledge possessed by European-Americans and are viewed as self-centered, selfish and arrogant (Wenner, 1998; also see Girdwood, 2010).

The mass media’s ability to reach audiences through a multitude of mediums plays a vital role in the distribution of racial stereotypes (Desmarais & Bruce, 2010). The use of language in print-, broadcast-, and Internet-based media has the ability to create and apply meaning to words that are delivered and exchanged with the audience (Desmarais & Bruce, 2010). As Bruce (2004) stated, the days of overt racism are arguably gone but grounded beliefs in racial difference are still here, using a system of *othering* to present differences in different races (Wenner, 1998). Stereotypical and divisive language and images *naturalize* the athletic and societal differences between Blacks and Whites (Andrews, 1996). Although there are societal factors that build Black stereotypes and institutionalize racial roles in the world – such as encouragement from

Black family and non-family members to play sports at a young age (Shakib & Veliz, 2012) – these ideas also come from the media.

Shakib and Veliz (2012) identified a 1970s *Sports Illustrated* article, “An assessment of Black is Best,” as a propagator of the “Black natural athlete” myth, stating:

[Martin] Kane argued that African Americans’ sporting successes had to do with differences in muscle mass and fibers, skeletal structure, levels of testosterone, fat distribution and lung capacity. These differences ... were due to numerous unsubstantiated genetic theories and theories related to slavery and inbreeding. (p. 4)

Kane sought to explain why Blacks dominated in sports like basketball and football and drew on age-old stereotypes of the Black body to explain this phenomenon. In similar fashion, sports commentator Jimmy “the Greek” Snyder, in 1988, said Black athletes were bred to be superior athletes based on slave owners and the slave trade.

Journalists – like Kane and Snyder– construct narratives to fit their audience, which can introduce stereotypes to society (Desmarais & Bruce, 2010). Researchers have identified male sports as a promoter of stereotypical and divisive descriptions (Andrews, 1996; Azzarito & Harrison, 2008; Billings, 2010a; Billings, 2010b; Murrell & Curtis, 1994). In 2012, *Sporting News* columnist David Whitley – a White male – stated that quarterbacks in the NFL should not have tattoos because they are the CEOs of their respective teams. Then, Whitley accused quarterbacks who do have ink; i.e., the Black ones, of resembling convicts in federal prison. Audiences interpret these types of messages differently depending on the context in which the interpretations are made,

and those perceptions are enhanced when sports media uses certain “descriptors, metaphors and analogies” (McCarthy, Jones, & Potrac, 2003, p. 218).

*Sports Illustrated* has surfaced in a multitude of research about the link between sports media and race (King et al., 2002; Mayeda, 1999; Niven, 2005) and gender (Bishop, 2003). Research has found that a quarterback’s race affects how sports reporters describe the quarterback’s performance (Murrell & Curtis, 1994) and that there is a disparity when it comes to the type and amount of coverage of Black and White NFL head coaches. Owusu (2005) uncovered a disproportionate amount of coverage of NFL head coaches with similar season ending records; White coaches were featured in more articles, editorials and sports blurbs.

A study of more than 3,000 on-air comments made by soccer commentators found that Black athletes were praised more for their physical attributes than were their White counterparts, who were praised more for their cognitive abilities (McCarthy et al., 2003). This, as the authors stated, perpetuates the stereotype that Black athletes are naturally gifted in sports but underperform when it comes to intelligence. But, as Rainville and McCormick (1977) found, this *praise* of Black athletes more or less stops at their physical abilities. The authors found that announcers from the three major television networks – ABC, CBS, and NBC – built a “positive reputation for White players and a comparatively negative reputation for Black players” during live NFL games (p. 24). While White athletes were lauded for more for their cognitive attributes, Black athletes were criticized for their past off-the-field failures; and announcers had more

negative speculations about their performance. The dichotomy between descriptions of Black and White athletes might be due to commentators adapting their communication to fit the historical racial narrative of America (Desmarais & Bruce, 2010). Thus, it could be easier for broadcasters, who are thrown into ambiguous or unexpected situations, to revert back to racial stereotypes that already exist.

### **Stereotype Threat Theory**

Steele and Aronson (1995) concluded that humans are at risk of confirming a negative stereotype about their social group when the stereotype is applicable in a given situation. The two authors explored how negative stereotypes of Black males in an academic setting – that Black men are intellectually inferior to White men – can impair performance on standardized tests when that stereotype becomes salient. Through four experiments, the authors found that: (a) Blacks performed worse on standardized tests when the test was presented as a measure of their intellectual ability; (b) the mere idea of taking an intellectual test made Blacks show greater concern about their abilities; and (c) Black performance suffered based solely on priming racial identity (asking students to identify their race on a test).

Spencer et al. (1999) found similar results when comparing men's and women's math scores. There is an assumption that women have weaker math abilities than men, and when the gender difference is explicitly stated before a math test, women underperform. That is to say, when women are reminded of the stereotype that men are smarter than them at math, they succumb to the stereotype and perform worse.

Research has also explored the opposite of stereotype threat theory. Stereotype *lift* is described as the “performance boost caused by awareness that an out group is negatively stereotyped” (Walton & Cohen, 2003). Individuals are expected to perform better when negative stereotypes about another group are activated. However, the researchers did not study how stereotype lift and stereotype threat work in conjunction with one another.

Stone et al. (1999) investigated how stereotype threat applies to the sports realm, using the game of golf as a laboratory experiment. The researchers found statistically significant differences in the golf scores of Black and White participants who were exposed to racial stereotypes and those who were not. That study, along with others (Steele & Aronson, 1995; Spencer et al., 1999), manipulated racial stereotypes through different design measures that they presented to participants. Researchers would describe the study as a measure of natural athletic ability or strategic thinking to prime the participants to a specific condition.

The present research also investigated the effects of racial stereotypes on athletic performance, substituting manipulated design measures for sports news articles.

H 1: Exposure to negative stereotypical media messages will negatively affect the athletic performance of participants in the study.

R 1: Is there a significant difference in how Black and White males are affected by the stereotypical media messages when it comes to shooting and throwing accuracy?

## **Situational Anxiety**

The possible psychological mediators of the relationship between stereotype threat and performance have been examined in the past (Jones & Berglas, 1978; Steele & Aronson, 1995). Potential mediators include: distraction, narrowed attention, self-consciousness, withdrawal of effort, and too much effort (Baumeister, 1984). Jones and Berglas (1978) theorized the concept of self-handicapping, which is when individuals become aware of racial stereotypes during a study and seek to offer explanations for *future* performance that do not conform to their social group's stereotypes.

Stone et al. (1999) investigated how high levels of anxiety correlate to athletic performance, specifically in regard to arousal levels. When race or racial stereotypes become salient, it appears individuals become concerned with confirming to stereotypes, and their levels of anxiety increase. In a pretest-posttest study, Black participants who received the stimulus reported increased levels of anxiety; they performed significantly worse in the athletic test portion of the experiment (Stone et al. 1999). This increase in anxiety, according to the researchers, is related to emotional arousal, which is at the core of the Yerkes-Dodson Law, defined as:

an easily acquired habit, that is, one which does not demand difficult sense discrimination or complex associations, may readily be formed under strong stimulation, whereas a difficult habit may be acquired readily only under relatively weak stimulation. (Cox, 2012, p. 168)

Robert M. Yerkes and John Dillingham Dodson studied the relationship between arousal and performance, which later led to the inverted-U theory (Cox, 2012). Inverted-u theory “states that the relationship between performance and arousal is curvilinear as

opposed to linear, and takes the form of an inverted-U” (p.167). Performance can reach an *optimal* level, which is the point at which there is the preferred amount of arousal for peak performance. If there is too little or too much arousal, performance can be negatively affected. With that said, it is nearly impossible for humans to precisely measure arousal (Cox, 2012).

This research investigated the anxiety levels of each participant, thus testing the inverted-U theory that anxiety/arousal is too high or low, based on a semantic differential scale measure of situational anxiety (Mattson, 1960).

H 2: Exposure to stereotypical media messages will increase the situation anxiety of participants in the study.

## Methodology

### Purpose

The purpose of this study was to investigate whether or not there is a significant relationship between stereotypical media messages and athletic performance. Using the stereotype threat theory, this study sought to study if participants' basketball shooting accuracy, football throwing accuracy and anxiety levels would be affected by exposure to stereotypes in the media.

### Study Design and Variables

This study used a 2 (article exposure type: race priming/non-race priming) x 2 (pretest/posttest) x 2 (race: Black/White) factorial design. This mixed-design method tested the effects of the three independent variables: between-subjects (article exposure type and race) and within-subjects (pretest/posttest). The experiment randomly (R) assigned Black and White males ( $N=43$ ) into two groups: experimental and control. The experimental group was exposed to the race priming article stimulus while the control group was exposed to the non-race primer. Both groups were observed performing two athletic tests ( $O_1$ ), based on basketball and football. For the basketball portion, this consisted of basketball shot attempts from a predetermined location on a basketball court. For the football portion, participants attempted to hit a bow and arrow target with a football. Unlike in the basketball experiment, participants were measured on how close, or accurate, they were to hitting the center of the target. After the initial

observations, both groups were exposed to a stimulus (X), which was the race priming or non-race priming article. Both groups then repeated the initial tests (O<sub>2</sub>), followed by a six-item semantic differential scale survey on anxiety level – which was also administered before the pretest.

The independent variables of the study included:

- A. Type of article exposure (race priming/non-race priming);
- B. a pretest and posttest of athletic performance (O<sub>1</sub>/O<sub>2</sub>); and
- C. race of participants (Black/White);

Dependent variables consisted of:

- A. athletic performance (shooting accuracy of participants/throwing accuracy of participants); and
- B. situation anxiety (uneasy-at ease/calm-restless/undisturbed-disturbed/comfortable-uncomfortable/upset-peaceful/relaxed-tense)

### **Sampling**

To support the hypotheses, this study used a population of Black and White males attending the University of Missouri. Participants (*N*=43) consisted of undergraduate and graduate students at the University of Missouri. There were 36 White participants and 7 Black participants. Three participants did not self-identify as Black or White, and their results were not included in this study. Participants' ages ranged from 18 to 35 years-old, with a mean age of 21 years-old. Participants were recruited through campus advertisements and visits to student organization meetings

and academic classrooms. The study took place in the Student Recreational Center during normal business hours. Each participant was randomly assigned to either the experimental group or the control group.

### **Independent Variables**

The *racial priming experimental treatment* in the study was a 2008 article by ESPN columnist Jemele Hill titled, “Whatever happened to the White tailback?” The 1,820-word column investigated the plight of White running backs in collegiate and professional football, based on the stereotypes that Caucasians are biologically and genetically inferior to African Americans when it comes to athletics. The article touches on the research of author Jon Entine, who believes that genetics is integral in the success of African Americans in sports. Hill’s article includes specific references to the “naturally gifted” stereotypes of African Americans: “[Entine] suggests athletes with West African ancestors – which would encompass a large percentage of African-Americans – dominate sports requiring speed and jumping because of the body types and other physical characteristics that are typical of people from that region.” The article also features statements from former White running backs in the NFL who speak on how they were not expected to succeed at a position that has long been dominated by Black players. As shown in previous studies (Steele & Aronson, 1995; Stone, et al., 1999) making Black and White individuals vulnerable to judgment by negative stereotypes about their intellectuality and athletic ability can negatively impact their performance – academically and athletically. The impairment of athletic performance due to stereotype threat was measured by exposure to the Hill article. The *non-racial*

*priming experimental treatment* was a 2013 article by Yahoo! Sports editor Kelly Dwyer titled, “Kevin Durant has opened up his own restaurant: ‘Kd’s Southern Cuisine.’” This piece does not invoke racial stereotypes about either race and is barely about the sport of basketball. The article is about NBA player Kevin Durant and his new restaurant business in Oklahoma City, Okla. Unlike with the Hill column, Dwyer’s article does not include the racial salience that would negatively impact athletic performance – or any other performance.

A *pretest-posttest* study design was employed to compare the athletic test performance and situational anxiety scores of participants. All of the participants ( $N=43$ ) were subject to the pretest-posttest variable, which took place before and directly after the stimuli were exposed to both groups.

The *race* of the participants was identified through the initial campus advertisements and a posttest questionnaire that required participants to list their racial identity. Race was asked at the conclusion of the study as not to prime race prior to performance of the athletic test.

Those randomly assigned to the each group condition were instructed that the test – including the reading of the Hill and Dwyer articles – was designed to measure the effects of media messages on athletic performance. But, unlike in Stone et al. (1999), natural ability, intelligence and race were not identified as measurements of the study to the participants. In other words, participants were not made aware of the racial stereotypes component of the experiment.

## **Dependent Variables**

*Athletic performance*, as explained in Stone, et al. (1999), was defined as “one’s ability to perform complex tasks that require hand-eye coordination, such as shooting and throwing a ball” (p. 1216). This type of performance was measured by the amount of made free throws and the accuracy of football throws through both observations.

*Situational anxiety* consisted of a self-reported six-item semantic differential scale measure of situational anxiety (Mattson, 1960) that was administered before the pretest and after the posttest. As was the case in previous studies, participants were instructed to indicate their current level of anxiety based on a five-point measuring scale (Mattson, 1960; Stone, et al., 1999). The six items measured included: uneasy-at ease, calm-restless, undisturbed-disturbed, comfortable-uncomfortable, upset-peaceful, and relaxed-tense. The scales were used to measure the situational tension changes before the pretest and after the posttest.

## **Procedure**

Participants completed the experiment individually at the University of Missouri Student Recreational Complex. The experimenter explained that a sports test would be conducted based on the games of basketball and football. Participants were then told that the purpose of the study was to test the effects of mass media on athletic performance. Participants were not told that the media messages they were exposed to are based on racial stereotypes, but instead were told that the study was broadly investigating the relationship between the mass media and athletics. The experimenter then explained that participants would complete a basketball test and football test,

followed by a short break, and then retested in the initial tests. During the intermission, participants read either the Hill article from ESPN.com or the Dwyer article from Yahoo! Sports. Both groups then repeated the original basketball and football tests.

### **Athletic Performance Test**

The athletic performance tests were designed to resemble a basketball free throw shot and a football accuracy throw:

*Basketball test.* For this test, participants attempted ten (10) shots nine feet from the front glass of the backboard. Made free throw shots were measured for each participant for  $O_1$  and  $O_2$ .

*Football test.* For this test, participants attempted five (5) throws at a target stationed 23 feet, 2 inches away. Participants were measured on how close to the center of the target (i.e., the bull's-eye) they could throw the football. After each throw, the experimenter measured the actual point of contact of the football on the target sheet, in inches, in relation to the bull's-eye.

Made free throws and football throwing accuracy were individually measured for each participant but was compiled for the data analysis portion of the study.

### **Analysis**

SPSS 13.0 was used for the data analyses. Mixed-Design ANOVA tests were ran to examine whether or not there was a statistically significant difference between the measured scores – athletic performance and situational anxiety – of the three independent variables. Mixed-Design ANOVA allowed the assessment of the effects of

each independent variable, plus the effects on the interactions between those same variables. This type of ANOVA was also a requisite for the pretest/posttest variable in the study, which calls for participants to provide data for more than one level of that independent variable. An analysis of two tests – within-subjects effects and between-subjects effects – was conducted followed by a post-hoc analysis for patterns within the results. The  $p$  value used to determine significance will be  $p < .05$ , with  $N=43$ .

### **Debriefing**

The experiment was not described as a study of racial stereotypes and its effect(s) on athletic performance. Steele and Aronson (1997) found that the mere salience of race – in this case, mentioning it being a function of the study – could affect the performance of individuals. This was observed through standardized testing, but the same can be applied to athletic performance (Stone, Lynch, Sjomeling, & Darley, 1999). Stating the racial component of the study in the beginning risked the validity and reliability of the results and made the experimental treatment redundant and useless. For that reason, participants were not made aware of the racial component of the study until after its competition. The researcher explained that the deception was necessary to prevent any influence on the initial and subsequent tests of athletic performance for both the experimental and control groups.

## Results

### Hypothesis 1:

Hypothesis one predicted that exposure to negative stereotypical media messages – i.e. the race priming experimental treatment – would negatively affect the athletic performance of participants in the study. A 2 x 2 x 2 mixed-design ANOVA was calculated to examine the effects of the experimental treatment (race priming and non-race priming), observations (pretest and posttest) and race on athletic performance.

For the basketball test, the main effect for time ( $F(1, 39) = 4.597, \eta^2 = .105, p = .04$ ) and the interaction for race x exposure ( $F(1, 39) = 6.29, \eta^2 = .139, p = .02$ ) were significant (see: Table 1). All participants, on average, made more shots during the posttest ( $M = 5.14$ ) than during the pretest ( $M = 4.65$ ). Black participants who were exposed to the race priming article averaged a higher basketball total ( $M = 8.25$ ) than Black participants who were exposed to the non-race priming article ( $M = 4.33$ ). For White participants, those exposed to the race priming article averaged lower basketball totals ( $M = 4.63$ ) than those exposed to the non-race priming article ( $M = 5.12$ ). Thus, hypothesis one was supported for White participants but not Black participants in the basketball test.

At the same time, the interactions for time x race ( $F(1, 39) = 2.62, \eta^2 = .063, p = .11$ ), time x exposure ( $F(1, 39) = 1.42, \eta^2 = .035, p = .24$ ), and time x race x exposure ( $F$

(1, 39) = .07,  $\eta^2 = .002$ ,  $p = .80$ ) were not significant. Basketball scores were not influenced by the race of the participant or the type of news article the participant was exposed to.

Table 1. *Basketball Test Mean Scores*

	Black Participants				White Participants			
	Race Prime		Non-Race Prime		Race Prime		Non-Race Prime	
	M	sd	M	sd	M	sd	M	Sd
Pretest	6	1.41	3.33	2.08	4	1.94	5.29	2.39
Posttest	8.25*	1.71	4.33*	3.06	4.63*	2.29	5.12*	2.5

Note. \* =  $p \leq .05$ ; Posttest mean totals (time): Pretest = 4.65, Posttest = 5.14.

For the football test, there was a main effect for race ( $F(1, 39) = 7.503$ ,  $\eta^2 = .161$ ,  $p = .01$ ), with White participants ( $M = 52.5$ ) being more accurate, in inches, than Black participants ( $M = 67.29$ ) after being exposed to either stimulus (see: Table 2). But, there was no significance for race x exposure ( $F(1, 39) = 2.40$ ,  $\eta^2 = .06$ ,  $p = .13$ ), meaning the type of article and race did not have a significant interaction in relation to football accuracy.

Table 2. *Football Test Mean Scores*

	Black Participants				White Participants			
	Race Prime		Non-Race Prime		Race Prime		Non-Race Prime	
	M	sd	M	sd	M	sd	M	Sd
Pretest	65	24.04	72	5.29	59.68	15.74	56.82	13.42
Posttest	58.5	16.42	79	10.39	52.32	12.63	52.71	12.06

Note. \* =  $p \leq .05$ ; Posttest mean totals (race): Black = 67.29, White = 52.5.

Also, neither article type nor time of observation had a significant effect on football totals: the interactions for time x race ( $F(1, 39) = .829, \eta^2 = .021, p = .37$ ), time x exposure ( $F(1, 39) = 1.620, \eta^2 = .040, p = .21$ ), and time x race x exposure ( $F(1, 39) = .606, \eta^2 = .015, p = .44$ ) were not significant. In addition, there was no main effect for time ( $F(1, 39) = .697, \eta^2 = .018, p = .41$ ). Hypothesis one was not supported for the football test.

#### Research Question 1:

Research question one sought to find if there would be a significant difference in how Black and White males were affected by the stereotypical media messages when it comes to shooting and throwing accuracy. There was a significant interaction for race x exposure ( $F(1, 39) = 6.29, \eta^2 = .139, p = .02$ ) when it came to basketball, as shown in Table 2, but not for football ( $F(1, 39) = 2.402, \eta^2 = .058, p > .05$ ). Therefore, there was a significant difference in how Black and White males were affected by stereotypical media messages when applied to basketball but not football. In regard to basketball, White male performance was worse ( $M = 4.63$  made shots compared to 5.12) after exposure to the race-priming article while Black performance was better ( $M = 4.33$  made shots to 8.25).

#### Hypothesis 2:

Hypothesis two predicted that exposure to stereotypical media messages would increase the situation anxiety of participants in the study. A 2 x 2 x 2 mixed-design ANOVA was calculated to examine the effects of the experimental treatment (race

priming and non-race priming), observations (pretest and posttest) and race on situational anxiety levels.

There was a significant interaction for race x exposure ( $F(1,39) = 4.716, \eta^2 = .108, p = .04$ ), but participant anxiety – for both Blacks and Whites – was lower for those exposed to the race priming article, which was the opposite of what was originally expected (see: Table 3). Thus, hypothesis two was not supported. The main effect for exposure was significant ( $F(1, 39) = 6.997, \eta^2 = .152, p = .01$ ). Those who were exposed to the race priming article ( $M = 11.39$ ) were significantly less anxious than those exposed to the non-race priming article ( $M = 14.2$ ), which, again, was the opposite of what was originally expected.

Table 3. *Situational Anxiety Scale Mean Scores*

	Black Participants				White Participants			
	Race Prime		Non-Race Prime		Race Prime		Non-Race Prime	
	M	sd	M	Sd	M	sd	M	Sd
Pretest	9.25	2.75	14.67	1.15	10.84	4.84	10.76	3.19
Posttest	8.25*	4.5	17.67*	7.77	12.05*	4.65	13.59*	4.47

Note. \* =  $p \leq .05$ ; Posttest mean totals (exposure): Race Priming = 11.39, Non-Race Priming = 14.2.

Also, the main effects for time ( $F(1, 39) = 2.339, \eta^2 = .057, p = .13$ ) and race ( $F(1, 39) = .176, \eta^2 = .004, p = .68$ ) were not significant. In addition, interactions of time x race ( $F(1, 39) = .266, \eta^2 = .007, p = .61$ ), time x exposure ( $F(1, 39) = 2.024, \eta^2 = .049, p = .16$ ) and time x race x exposure ( $F(1, 39) = .366, \eta^2 = .009, p = .55$ ) were not significant.

## Discussion

### Summary of Key Findings

The goal of this research was to investigate whether or not there is a significant relationship between stereotypical media messages and athletic performance. Using the stereotype threat theory, this study sought to study how Black and White participants' basketball shooting accuracy, football throwing accuracy and anxiety would be affected by exposure to negative stereotypes in the media. Based on the present research, there is enough evidence to suggest that exposure to stereotypical media messages can negatively impact athletic performance in certain instances. When exposed to the race priming article, White participants made less basketball shots on average compared to when they were exposed to the non-race priming article. On the other hand, Black participants' basketball and football scores were not negatively affected by the race priming articles. White participants were not negatively affected when it came to football; in fact, they threw the football more accurately when exposed to media messages that questioned the natural athleticism of White athletes.

Black participants had better shooting and throwing percentages – or more made shots and more accurate football throws – when exposed to the race priming articles. Even though the Hill article touched on subjects such as genetics and natural athleticism – which usually posits Blacks as athletic but not intelligent (Girdwood, 2010; Wenner, 1998) – Black performance improved from the initial observation. These findings are even more surprising for the football test based on past research finding

differences in how reporters describe Black and White quarterbacks (Murrell & Curtis, 1994). Black performance improvement in conjunction with negative stereotypes goes against past research on stereotype threat, salience of race and performance of Blacks (Steele & Aronson, 1995; Stone et al., 1999).

But Black performance in the race priming group lines up with the theory of stereotype lift (Walton & Cohen, 2003) and stereotype susceptibility (Shih, Pittinsky & Ambady, 1999). Those affected by stereotype lift perform better when the ability of an out-group – in this case, White athletes – is criticized. Walton & Cohen linked this *lift* to the non-stereotyped groups. Stereotype susceptibility is performance boost caused by a *positive* in-group stereotype. This means that Black participants in the present study could have fed off the stereotypes of being naturally athletic and superior.

Neither group's anxiety levels were negatively impacted by the race priming article. On average, all participants' anxiety score levels increased from  $O^1$  to  $O^2$ . Previous research found similar results, with situational anxiety levels not appearing to “mediate” performance during the athletic tests (Stone et al., 1999, p. 1218).

### **Theory Implications**

Stereotype threat has been found to impair the intellectual test performance of Black students (Steele & Aronson, 1995) and women (Spencer et al., 1999), and impair the athletic test performance of both Black and White people (Stone et al., 1999). This study attempted to move beyond the mere salience of race or racial stereotypes and expose Black and White participants to real-world news media that rely on these

stereotypes. The study expected to find interactions between athletic performance and exposure to negative stereotypical media messages for both Black and White participants, but the present research only showed a connection for Whites. Due to that connection, this present evidence extends the theory and research on stereotype threat and athletic performance by documenting the effect that media messages – and not just the mere salience of racial stereotypes – can have on the performance of White participants. Stone et al. (1999) wrote:

... When made salient, natural athletic ability activates a culturally shared negative stereotype about White athletes. Knowledge of the negative beliefs about their natural athletic ability, in turn, creates threat in the mind of the White athlete for whom performance represents an important measure of their self-worth. (p. 1224)

The present research used stereotypical media messages to make racial stereotypes salient, which, in turn, created the threat in the White participants' minds. Spencer et al. (1999), Steele & Aronson (1995) and Stone et al. (1999) made race salient by manipulating test frames into categories such as natural ability, intelligence, and general psychology. The groups the participants in those studies were assigned to determined what kind of test – academic or athletic – they were taking. The present research used test frame manipulation in the form of race priming and non-race priming news articles. Participants were not told which group they were in, thus, not making race salient, but were just expected to read one of the two types of articles. Since past research has not looked at how specific mediums of media contribute to stereotype threat theory, the present research is the first step in the direction of investigating the link between news media, stereotype threat and athletic performance.

## **Practical Implications**

The findings of this research suggest a re-evaluation of the language and tropes used by those in the mass media business. Journalists, reporters and commentators spread messages to millions of people on a daily basis, which means that racial stereotypes are communicated to large portion of the population (Desmarais & Bruce, 2010). In regard to televised broadcasts, commentators work in a fast-paced, stressful environment that can force them to rely on racial and racist ideologies (Bruce, 2004) that present Black athletes as *others* in society or less intelligent (Billings, 2010; Mastro & Greenberg, 2010; Rada & Wulfemeyer, 2010).

As Billings (2010) suggested, networks could take extra steps to coach its broadcast talent “in order to make sure that athletes of all ethnicities are being portrayed based on their game, rather than their skin color” (p. 36). The present research echoes that sentiment. Media has the power to shape cultures, minds, and ideologies (Azzarito & Harrison, 2008) which makes it all the more important that messages aren’t steeped in racial and/or racist stereotypes. This present study showed a relationship between racial stereotypes in media and athletic performance, and it was only possible because a news article – the Hill article – presented those antiquated stereotypes about Black and White athletes.

If future research was to show a stronger relationship between stereotyped media messages and athletic performance of Whites and non-Whites, these types of messages would be even more problematic, especially at the collegiate and professional levels of sports. The present study suggests editors, producers and other decision

makers in the sports news media implement practices that rely less on long-held racial stereotypes.

### **Limitations/Future Research Recommendations**

This study was able to find a significant relationship between negative stereotypical media messages and the athletic performance of White men. Based on the evidence, when White males are exposed to this sort of media content, they will perform worse (in basketball). The present research also found a significant difference in how Black and White participants were affected by the race-priming condition, finding regression and improvement, respectively. With that said, there was no significant relationship found between negative stereotypical media messages and athletic performance for Black participants; in fact, Black performance improved after participants were exposed to the race priming article. Blacks exposed to the non-race priming article saw their performance – in basketball and football – improve but not at a significant level. Also, anxiety levels of participants had no effect on their performance, which is what has happened in previous research (Stone et al., 1999) but has been investigated at length in other studies (Jones & Berglas, 1978). With that, the limitations are outlined here.

The first of these limitations is the sample size of the present study. A priori G\*Power analysis computed a sample size of 132 for this study. After four weeks of campus advertisements and classroom visits, only 46 students completed the entire experiment. Three students did not self-identify as White/Caucasian or Black/African American, so their results were not included. In the end, 43 people were measured for

the present research. Also, out of the 43 participants, only seven self-identified as Black/African American, which, assumingly, affected the final results of the Black participant's athletic performance. There were no significant interactions found between negative stereotypes and negative athletic performance for Black participants. This could be due to no actual relationship, which previous research disagrees (Steele & Aronson, 1995; Stone et al., 1999), or that the sample size of seven people was too small. This limitation can be overcome in future studies by creating advertising that reaches more of the population, having a larger budget to be able to pay participants for their time or offer other larger compensation or choosing a population larger than one public university.

Another limitation of this study was the lack of female participants. Due to a lack of previous research on women, racial stereotypes, and sports, women were not included in the present study. Previous literature has found that women in sports media are underrepresented, trivialized, stereotyped, devalued and marginalized (Creedon, 1994; Crossman, Vincent & Speed, 2007; Wenner, 1998) but the racial stereotypes of female athletes has yet to be explored. Future research could examine whether or not racial stereotypes attributed to Black and White men – athletic and intellectual superiority/inferiority – apply to Black and White women as well.

The final limitation was that this controlled study did not reflect a real-world scenario for the participants. Black and White males came to the Recreational Center, signed the research forms, began O<sup>1</sup>, stopped to read the stimulus, and restarted the

experiment. In the real world, those who may be affected by racial stereotypes in the mass media wouldn't read a news article before competing in a sport. Ideally, researchers would want to spread this research over the span of a few weeks in between observations, but that was not a possibility for the present research due to an already low participation turnout. Spreading the research over weeks, instead of one ten-minute sitting, would better replicate athletes reading articles over time and it having any effect on performance.

### **Conclusion**

The current findings add to the previous literature on stereotype threat (Steele & Aronson, 1995) and stereotype threat in regard to athletic performance (Stone et al., 1999). Although a traditional stigmatized group (Blacks) was not negatively impacted by stereotype threat in this research, there is evidence for stereotype threat among White participants. Stereotypical media messages that depend on a group's race can negatively impact the performance of White people, but there is not enough evidence to suggest that it has the same effect on Blacks.

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## Appendix A

### Sample Situational Anxiety Scale

Participation #: \_\_\_\_

*Instructions:*

*On the items below, please indicate your feelings about your current levels of anxiety. Check the line between the adjectives that best represent your feelings at the time. The lines furthest to the left and right indicate a very strong feeling. The middle line indicates you are undecided or do not understand the adjectives themselves. Please work quickly. There are no right or wrong answers.*

AT EASE	–	–	–	–	–	UNEASY
CALM	–	–	–	–	–	RESTLESS
UNDISTURBED	–	–	–	–	–	DISTURBED
COMFORTABLE	–	–	–	–	–	UNCOMFORTABLE
PEACEFUL	–	–	–	–	–	UPSET
RELAXED	–	–	–	–	–	TENSE

## Appendix B

### Sample Scoring Card for Athletic Performance Test

Participation #	FGM O <sup>1</sup>	FGM O <sup>2</sup>	Throw accuracy (in inches)
Attempt 1			
Attempt 2			
Attempt 3			
Attempt 4			
Attempt 5			
Attempt 6			
Attempt 7			
Attempt 8			
Attempt 9			
Attempt 10			

## Appendix C

### Stimulus: Race-Priming Article

When Michigan played Notre Dame, a freshman pounded the Irish for 131 yards rushing, slashing and slithering around defenders like an eel.

It was some coming-out party. But other than his ability, one thing really stuck out about this Wolverines tailback.

He's White.

Michigan hasn't had a White player start at tailback since Rob Lytle in 1976, which also was the last time a White tailback led the Maize and Blue in rushing.

If Sam McGuffie's breakout game against the Irish is any indication, maybe he'll be the one to break new ground for White tailbacks, who have become as rare a sight as Halley's Comet.

"I really don't have too much to say about that," said McGuffie, who ran for 1,711 yards and 23 touchdowns as a senior at Cy-Fair High School in Cypress, Texas, and gained YouTube fame for hurdling a defender. "If you can play the position, you can play the position."

Many of us watch sports not caring if the men on the field are purple or magenta, as long as they produce. But watch sports long enough and you inevitably notice trends and rarities. One of them is that White tailbacks at the college and professional level have become virtually nonexistent.

In 2007, just 13 of the top 100 rushers in the Football Bowl Subdivision were White. The SEC and Pac-10 each have just one White starting tailback in their respective leagues, Vanderbilt's Jared Hawkins and Stanford's Toby Gerhart. And McGuffie is the Big Ten's lone starting White tailback.

In the NFL, White tailbacks are even scarcer. Not one White player starts at tailback on any of the NFL's 32 teams. The last time a White tailback was taken in the first round of the NFL draft was 1974, when the Los Angeles Rams selected Penn State's John Cappelletti with the 11th overall pick.

With such a deeply entrenched trend, you wonder if ESPN college football analyst Craig James might be the last White player to rush for more than 1,000 yards in the NFL or if former Washington Redskins legend John Riggins will be the last White feature back to be inducted into the Pro Football Hall of Fame.

"Fans write me all the time calling me 'The Great White Hope,'" said James, who ran for 1,227 yards with the New England Patriots during the 1985 season. "One of these days, someone will come along."

There's no doubt racial discrimination and exclusionist Jim Crow policies helped usher in "position profiling" in both the NFL and college football. For a long period of time, Blacks were stereotyped as being intellectually incapable of playing certain positions, namely quarterback.

One position where African-Americans were welcomed was running back. After the NFL lifted its freeze on Black players in 1946, one of the first players to reintegrate was Kenny Washington, a standout running

back from UCLA. In his three NFL seasons, Washington averaged 6.1 yards per carry and was a top-five rusher in his second season.

Even then the NFL was a copycat league. After Washington and Marion Motley, the Hall of Famer who joined Cleveland in the All-America Football Conference in 1946 and averaged 5.7 yards per carry in his career, a wave of Black runners entered the league in the 1950s and '60s

Suddenly the Black running back was en vogue. The dynamics of the position had changed dramatically, with speed in the backfield becoming a major emphasis. And as time passed, White feature backs became a rare sight.

Certainly some White tailbacks have had successful NFL careers after the explosion of Black players, but not many. Mike Alstott, one of the few fullbacks given feature back responsibilities, retired as the Tampa Bay Bucs' all-time leader in touchdowns (71) and the No. 2 rusher in team history (5,088). In 1999, the six-time Pro Bowler was 51 yards away from the 1,000-yard mark, finishing with a career-best 949 rushing yards. Twice, Alstott led Tampa Bay in rushing.

But Alstott has proved to be little more than an aberration among feature backs. The last team to win the Super Bowl with a White back leading the team in rushing yards was the 1983 Redskins with Riggins. A White back hasn't led the NFL in rushing since Green Bay's Jim Taylor in 1962. The last White player to lead his NFL team in rushing was Nick Goings, with the Carolina Panthers in 2004.

"I don't ever want to put a spin on it and say it's profiling," said Floyd Keith, the executive director of the Black Coaches Association. "I think it has a lot to do with the quality of player."

But there is evidence -- some of it anecdotal -- to suggest there is a degree of profiling when it comes to White runners.

"It used to be for the athletes playing in high school, if you were African-American and playing quarterback, the assumption was they were going to put you at wide receiver," James said. "That trend has been reversed and there's not a perception [African-Americans] can't play quarterback, but there is a perception that if you're a White guy and a running back, you need to move your position."

Gerhart, a junior at Stanford, said opponents used to express surprise when they realized he was the feature back.

"There were definitely times after games, the DBs, safeties or linebackers would say, 'God man, you can move for a White guy,'" said Gerhart, who ranks 15th in the nation in rushing yards among FBS players. "Even at the college level, my freshman year I played some and after they tackled me, they'd say, 'Man, you run good for a White guy' or 'You're my favorite White running back.'"

Recently, according to Gerhart, one of his friends was playing an NCAA video game and created a player with Gerhart's speed and dimensions (6-foot-2, 230 pounds, 4.43 in the 40-yard dash). When his friend made the player White, the game automatically described the video version of Gerhart as "power back." When his friend changed the skin color to Black, he became an "all-purpose back."

"Maybe it's just basic stereotypes," Gerhart said. "Even now you're described as a 'power back.' They still discredit speed."

But Jon Entine, an author and researcher who has written about the role of genetics in sports dominance in several international and national publications, doesn't buy that White tailbacks are underrepresented because of discrimination.

"That's a superficially appealing argument," Entine said. "The opposite was said 25 years ago, or 30 years ago, when all the defensive backs used to be White in the early '60s. It wasn't a level playing field because Blacks were not participating in any high numbers and sometimes it was said that Blacks don't have the mental necessities and strategy that it takes to play defensive back. They were discouraged from going into that because they had other opportunities, like being a running back. Suddenly what was used to explain why there were a dearth of Blacks is now being used to explain why [there is] a dearth of Whites.

"At 8 years old or 10 years old, you don't look around and say, 'There are no White cornerbacks in the NFL so I'm not going to go out and try to be a cornerback.' I just don't think you squelch kids' fantasies."

Instead, Entine offers a far more controversial explanation for the lack of White running backs. He believes the reason is genetics.

Entine authored the book "Taboo: Why Black Athletes Dominate Sports And Why We're Afraid To Talk About It." In the book, Entine makes the link between genetics, geography and sports dominance.

He suggests athletes with West African ancestors -- which would encompass a large percentage of African-Americans -- dominate sports requiring speed and jumping because of the body types and other physical characteristics that are typical of people from that region.

"Once the population designations were set," Entine said, "there are real differences in the gene frequencies in the east and west African population, which is quite different from populations around the world."

Entine points out athletes with East or North African ancestry and also those from Mexico and South America are likely to dominate endurance activities because they have evolved in highland terrains whose populations tend to have a larger lung capacity and lean physiques.

"It's geography and ancestry," Entine said. "It's not race."

Even though other geneticists have backed Entine's research, his findings are viewed by some as treading the same dangerous ground as Jimmy "The Greek" Snyder, who became a pariah for theorizing that Blacks were better athletes because of how slaves were bred.

While what Snyder said was crass and inexcusable, it did touch on some commonly held beliefs. In 2006, the [University of Michigan released a study](#) that found 74 percent of White men and 65 percent of White women believed Blacks were biologically and genetically superior to Whites when it came to athletics.

"The message for geneticists is that we need to be very careful when we discuss genetic differences involving human characteristics and traits," researcher Dr. Elizabeth Petty said when the study was released. "It's important to keep in mind how genetics can easily be misinterpreted by the media and the public in a way that may perpetuate racial stereotypes."

Entine refutes his research is in any way racist. He believes it is far more racist for the media to suggest the reason African-Americans succeed in sports is because they're escaping poverty -- he points to Kobe Bryant and Grant Hill as examples who contradict that assumption -- and says his research is not meant to imply that genetics is the only reason one race dominates a particular sport or position.

"I don't think it's anything to bemoan because that doesn't discredit the efforts of the African-Americans who have become great tailbacks, or great sprinters," he said. "They're all individuals. They're competing with a vast number of others and they're succeeding because of their hard work, their intelligence, all of the things that make great athletes. All their genetic endowment does is give them an opportunity to compete at a high level. As long as we don't lose sight of the individual and try to understand the pattern then I think

we're OK about this stuff. The danger is when we try to suggest that somehow great tailbacks run out of the womb, just because of their West African ancestry they're destined for greatness."

*Jemele Hill is a Page 2 columnist. She can be reached at [jemeleespn@gmail.com](mailto:jemeleespn@gmail.com)*

## Appendix D

### Stimulus: Non-Race Priming Article

Not content to sit on the sidelines when it came to taking a swing at other business ventures, [Oklahoma City Thunder](#) All-Star [Kevin Durant](#) has decided to open his own restaurant. "[Kd's Southern Cuisine](#)" opened in Oklahoma City this month, though only time will tell if KD has thrown a gutter ball in his first toss into the ring, or if his restaurant will turn out to be a real "home run."

Unlike the menus at most other athlete-themed vanity restaurants, Kd's Southern Cuisine doesn't read as if it was attempting to secure a high-end sports bar clientele. There's nary a chicken finger or tortilla wrap to be found, with fried green tomatoes, fried okra, grits and collard greens dotting entrees that include proteins like trout and catfish. Heartier types can go for the southern style meatloaf or smothered pork chop, alongside a selection of steaks. A lip-smackin' touchdown!

Thankfully, [though the menu and website is dotted with Oklahoma City Thunder colors](#), there's not a lot of "Slam Dunk Salads!" or "Three-Point Dipping Sauces" to be found.

Until you get to the "Baller Menu." Yeah, son.

From Dave Cathey at the Oklahoman:

*The Baller Menu is where KD and his NBA mates will likely choose their entrees from the private room encased in glass that frosts at the flick of a switch for privacy. The Baller Menu offers prime beef in New York strip and Tomahawk rib-eye. It also includes tenderloin medallions with toast points and a collections of iced shellfish.*

Baller Menu. Baller. Menu.

Cathey went on to call Kd's Southern Cuisine's menu "the most spectacular in town" not merely because of the choices listed within, but literally because it is the most spectacular in town – apparently it lights up from within when you open it. And that's just the plebian menu, not even the Baller Menu!

(Baller Menu.)

Jokes aside, we should credit Durant and his team for cobbling together a menu that isn't rife with jalapeño poppers and bad punditry. Any menu with collard greens and grits on it gets a thumbs up from this guy [that has angrily used Yelp twice in his life](#). He shoots, he scores!

## Appendix E

### IRB Consent Form

#### Media Effects on Athletic Performance Study Consent Form

You are being asked to take part in a research study of how media messages affect the athletic performance of college-aged men. Please read this form carefully and ask any questions you may have before agreeing to take part in the study.

**What the study is about:** The purpose of this study is to learn how certain messages in print media can affect the shooting and throwing ability of those who consume that medium. You must be a male student at the University of Missouri to take part in this study.

**What we will ask you to do:** If you agree to be in this study, we will conduct an experiment with you. The experiment will consist of shooting ten (10) free throws; five (5) football-throws at a stationed target; two (pretest and posttest) six-item surveys on your anxiety levels. Participants will also be asked to read a short excerpt from either an ESPN.com or Yahoo! Sports article. The experiment will take about 10 minutes to complete. We will record your performance.

#### Risks and benefits:

There is the risk that you may find the content of the ESPN.com article to be inappropriate or offensive. Other than that, I do not anticipate any risks to you participating in this study other than those encountered in day-to-day life.

**Compensation:** If you wish, you may be entered to win \$70 in cash.

**Your answers will be confidential.** The records of this study will be kept private. In any sort of report we make public we will not include any information that will make it possible to identify you. Research records will be kept in a locked file; only the researchers will have access to the records.

**Taking part is voluntary:** Taking part in this study is completely voluntary. You may skip any questions that you do not want to answer. If you decide not to take part or to skip some of the questions, it will not affect your current or future relationship with the University of Missouri. If you decide to take part, you are free to withdraw at any time.

**If you have questions:** The researcher conducting this study is Martenzie Johnson. Please ask any questions you have now. If you have questions later, you may contact Martenzie Johnson at [mwjtm4@mail.missouri.edu](mailto:mwjtm4@mail.missouri.edu) or his advisor, Dr. Cynthia Frisby, at [frisbyc@missouri.edu](mailto:frisbyc@missouri.edu). If you have any

questions or concerns regarding your rights as a subject in this study, you may contact the Institutional Review Board (IRB) at 573-882-9585 or access their website at <http://research.missouri.edu/cirb/>.

You will be given a copy of this form to keep for your records.

**Statement of Consent:** I have read the above information, and have received answers to any questions I asked. I consent to take part in the study.

Your Signature \_\_\_\_\_ Date \_\_\_\_\_

Your Name (printed) \_\_\_\_\_

*This consent form will be kept by the researcher for seven years beyond the end of the study and was approved by the IRB on 1/15/14.*

## Appendix F

### Debriefing Form

#### Purpose of the Study

- *Explanation of deception:*
  - *You were originally told that this study was investigating the effects of media messages on the athletic performance of male college students at the University of Missouri.*
  - *This was not the real reason for the study.*
  - *The study was actually meant to investigate the effects of racial stereotypes in media messages on athletic performance.*
  - *Deception was necessary because previous research has shown that the mere salience of race (in other words, bringing race up) is enough to show an effect on athletic and academic performance. With that in mind, the researcher(s) made the decision that in order to not jeopardize the data, subjects could not be aware of the true nature of the study.*
  - *This study is useful in the ongoing research of the “stereotype threat theory” and the effects of racial/gender/etc. stereotypes on humans.*
  - *Due to this new information, you now have an opportunity to withdraw your data from this study.*

#### Contact information

- *If you have any questions for me regarding the study, you may contact me at [mwjtm4@mail.missouri.edu](mailto:mwjtm4@mail.missouri.edu) or my advisor, Dr. Cynthia Frisby, at [frisbyc@missouri.edu](mailto:frisbyc@missouri.edu)*

#### Concerns

If you have any questions or concerns regarding your rights as a subject in this study, you may contact the Institutional Review Board (IRB) at 573-882-9585 or access their website at <http://research.missouri.edu/cirb/>.