

EXPERIENCES OF FEMALE BASKETBALL OFFICIALS: STEREOTYPE THREAT,  
PERFORMANCE AND COPING

by

AMY KINCAID TODEY

(Under the direction of Alan E. Stewart)

ABSTRACT

Through a mixed methods design, this study examines discriminatory experiences encountered by female referees and the impact of these experiences on their emotions, cognition and performance. 102 female basketball officials across 18 U.S. states completed a survey via Survey Monkey. Participants' responses to select qualitative questions on the survey were grouped thematically. Principle Components Analyses were used reduce select quantitative items to a smaller number of factors which were used in subsequent ANOVA and correlation analyses. Findings indicate that up to 70 percent of female officials have experienced some type of gender discrimination and up to 50 percent noted that discrimination has some impact on aspects of their emotions, cognitive abilities and performance. Overall, less experienced officials and those who referee high school basketball were more prone to both experiencing discrimination and sustaining negative outcomes associated with stereotype threat. A majority of sample participants identified role models as helpful in offsetting negative impact of discrimination with lesbian officials reporting a significantly higher reliance on role models than heterosexual officials. This research implies that efforts to educate and mentor female officials are essential to their mental well-being and ability to progress within the officiating field.

INDEX WORDS: stereotype threat, sport, women, discrimination, referee, officiating, role models

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AMY KINCAID TODEY

B.S. The University of Georgia, 2003

B.A. University of Georgia, 2003

M.Ed. University of Georgia, 2008

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AMY KINCAID TODEY

Major Professor: Alan E. Stewart

Committee: Georgia Calhoun  
Linda Campbell  
Debra P. Williamson

Electronic Version Approved:

Maureen Grasso  
Dean of the Graduate School  
The University of Georgia  
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## DEDICATION

This paper is dedicated to Christopher S. Ford, my partner both on the basketball court and in my life. Chris, you have encouraged me to persevere through the most difficult times in my research and have provided an optimistic outlook, new perspectives and unending support as I encountered many challenges along the way. I truly could not have done it without you.

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## CHAPTER 1

### INTRODUCTION

Incidents of discrimination toward female game officials are well documented in the media and widely acknowledged by leaders within the female officiating community. Mary Struckhoff, former National Collegiate Athletic Association (NCAA) National Coordinator of Women's Basketball Officiating and Assistant Director of the National Federation of High Schools (NFHS), has stated that "there remain a lot of issues with sexism overtones in...officiating – from refs who still try to 'overprotect' girls to female officials having a hard time getting game assignments" (Voepel, 2005). Although experiences of gender discrimination toward female game officials have been recognized by leaders such as Struckhoff, little research exists to show how these experiences affect their self-efficacy and performance. This study will serve as a preliminary, exploratory inquiry into the experiences of female basketball officials. To this end, this study aims to identify 1) the source and magnitude of female basketball officials' experiences of gender discrimination 2) the cognitive/ emotional impact of discrimination experiences on female officials and 3) ways in which female basketball officials cope with these extraordinary stressors.

#### **Statement of the Problem**

Sports provide an open forum in which people from many diverse backgrounds both collaborate and compete. Within the context of athletic contests, sporting performance serves as an avenue for the expression of emotions in which a number of different phenomena such as excitement, drama, tradition, competition, passion and aggression play out (Folkesson, Nyberg, Archer & Norlander, 2002). Implicit in sporting culture is also masculine hegemony that serves

to define traditional patriarchal roles within this atmosphere and enforce adherence through policy, administration, and access (Meân & Kassing, 2008).

Sport provides a powerful site for identities...that is especially notable for its traditional *hypermasculine* forms and significance for male identities. As such, sport has a major impact on understanding, definitions, and demarcations of gender and sexuality that reach beyond the boundaries of sport and into wider culture (Meân & Halone, 2011, p. 255). Iconic gendered depictions of sport participants (e.g coach, player, game official) perpetuated through the psychological culture and masculine traditions of sport further circumscribe acceptable/ prohibited behavior and social functions of individuals in the sporting environment.

Within this dynamic context, sports officials function as the game's ultimate authority figures and arbitrators and hold a powerful position in the sport environment. The presence of game officials in the limelight makes them easy targets for criticism and assault. Verbal aggression directed toward officials is often tolerated and even encouraged by being framed as "part of the game". Indeed, sports officials are frequently blamed, criticized and personally threatened due to the game decisions that they make on the court or the field (Folkesson, Nyberg, Archer & Norlander, 2002). In these situations, it is not uncommon for coaches, fans and spectators to make personal attacks in an effort to denigrate officials and to ultimately undermine their authority. While a majority of game officials experience public censure (Folkesson, Nyberg, Archer & Norlander, 2002), female game officials are targeted from the outset because of their token status in the male-dominated field of athletic officiating (Borzi, 2011; Manor, 2011; Smith, 2011; McManus, 2011). Furthermore, as participants in the socially inequitable, masculine gender-typed environment of sports, women officials also frequently contend with discriminatory behavior from their peers and supervisors (Warner, Kellett & Tingle, 2011).

Although experiences of discrimination are common among female sports officials, psychological studies on officiating have neglected to account for the impact of these experiences on their performance. With the growing popularity of women in sports initiated by Title IX and the respective increase in female officials, it is important to include female game officials' perspectives in research on sports officiating, to examine the pervasiveness of gender-based stereotypes in sports and to determine the effect of the sporting environment on female game officials' self-confidence, professional identity and ability to carry out officiating responsibilities.

### **Female Officials in the Media**

Stories describing challenges faced by female game officials proliferate in the media. The following section includes media stories that illustrate how discrimination toward female game officials is perpetuated by coaches, spectators, supervisors and game administrators, laying a foundation for the purpose and utility of the present study.

On February 2, 2008, during a high school basketball game in Kansas, a female basketball official named Michelle Campbell was forbidden to referee by the gym director at a private Catholic school called St. Mary's Academy because she is a woman. According to an article written by the *The Washington Post*, the administration of St. Mary's told the officials that the school "did not allow women to have authority over men, and therefore could not permit a woman to referee boys" (Orton, 2008).

The experience of Michelle Campbell is similar to that of many female sports officials across the United States who find themselves the target of gender-based discrimination. In 1992, Sandra Ortiz-Del Valle won a lawsuit against the National Basketball Association (NBA) on the grounds of gender discrimination when she was repeatedly not hired to officiate in the

professional league despite her credentials (Anderson & Hauser, 1999). In 2008 *The Paly Voice* published an article discussing the sexist experiences faced by an aspiring National Football League (NFL) female referee, Terri Valenti, who cites gender discrimination as an obstacle preventing her from officiating professional football. According to Valenti, “They [the male officials] remember you, whether you were good or bad. There are coaches that tell the other officials, ‘I don’t want her here’” (Linebarger, 2008). In 2009, the National Association of Sports Officials (NASO) published an article (Collins, 2009) warning against gender-based discrimination in high school basketball in response to a question posed to them by a high school basketball association member. Concerned about incurring a lawsuit, the member wrote “Our groups assignor told a female referee member of the association that she was not being assigned any boys’ games because the coaches don’t want women officiating their games”.

In addition to the overt discrimination of female officials by coaches, supervisors and other officials, many women referees are the target of gender and sexual based assault by sports fans and analysts. In the 2010 Georgia High School Association State Basketball Tournament two female referees on a crew of three (the third partner was male) officiating a girls’ championship game were the target of gender slurs on a sports forum, *Georgia Varsity Sports Vent*. One fan wrote “To the two b---hes from Atlanta who called the game...I hope you are proud of yourselves...” (Blazereid, 2010). In another example, in 2007, Cedric Maxwell, former Boston Celtics player and Celtics radio analyst, said that Violet Palmer, the only female official in the NBA should “get back in the kitchen and fix me some bacon and eggs” (Smith, 2011). In an example reported by *The Herald*, female rugby referee Julie Young was the target of one fan’s threat “We’re going to rape you” (Goffet, 2009).

In August 2011, ESPNW published a week-long series of articles describing the various challenges faced by female sports officials who are attempting to penetrate officiating networks within Major League Baseball (MLB), the National Basketball Association (NBA), Major League Soccer, the National Hockey League (NHL) and the National Football League (NFL). Together, these articles illustrate the pervasive masculine hegemony and social resistance to the inclusion of women in sports, especially in leadership and authority roles. According to these articles, female officials are frequently relegated to the lower tiers of sport and systematically excluded from officiating men's sports, particularly at the professional level. This resistance is felt not only by those women who have failed to progress in sports, but also by those who have had some success in men's sports, such as female baseball umpire Perry Barber. Barber states:

I still really believe they think women are incompetent... We're tolerated because admitting it would be illegal, but we're not regarded as capable or competent on some level. We have to go through the same B.S. over and over and over, and it just doesn't seem to be getting any better. It's a stagnant pool where nothing is growing or changing (McManus, 2011).

Similar to Barber, female hockey official Erin Blair discusses the challenges faced by female hockey officials hoping to make it in the NHL.

I think there are definitely plenty of women officials that are capable of working men's hockey at the highest level. It's just a matter of getting the right attitudes and the right people to help you break through the obstacles that are there. It would probably take a lot (Manor, 2011).

The experiences cited by Barber and Blair highlight the stagnation and deterioration of progress for female officials attempting to move into professional sports arenas.



## **Sports Officiating and Stress**

Given the multitude of discriminatory experiences faced by female game officials in their work environments, one would naturally infer that they would be faced with an inordinate amount of stress. A major limitation in the literature is the lack of attention to the perspectives and experiences of sports officials, especially those who are female. Nevertheless, it is well-known that sustaining criticism and verbal abuse from sports participants and spectators is a predictable part of the job of a referee. It would be logical to anticipate that this contentious environment would provoke stress and burnout and possibly lead to attrition, particularly for female officials.

Research shows that many officials indeed expect to be the target of verbal abuse by coaches, players and spectators (Wolfson & Neave, 2007) and a majority have been exposed to threat and aggression (Folkesson, Nyberg, Archer & Norlander, 2002). For example, in a study of soccer referees, Folkesson et al (2002) found that 72.9 % of referees in their sample had been exposed to verbal and physical threats and aggression at least once over the course of their careers. Specifically, 35.1% experienced threats from players, coaches and spectators, 63.6% reported that they suffered verbal aggression and 15% reported that they suffered physical aggression during their work as a sports official.

Most officials report that they experience low to moderate levels of stress as a result of abusive behavior directed towards them (Rainey & Winterich, 1995). Recent studies suggest that many officials have found systematic ways to reframe abusive language as an expected part of their role as arbitrators and seldom experience verbal abuse by sports participants or spectators to be particularly offensive or stressful (Kellett & Shilbury, 2007). Nevertheless, some research on sports officials indicates that demographic and personality variables may differentially impact

the ability of officials to withstand abusive behavior that they experience on the court or field. For example, research has demonstrated that younger officials experience greater problems with concentration in matches due to aggression they encounter during the game. Similarly, life orientation (e.g. optimism vs. pessimism) has been shown to significantly mediate the relationship between aggressive behavior and the performance and motivation of officials with pessimistic officials experiencing more problems (Folkesson et al., 2002).

Research on stress in officiating has also demonstrated that female officials report significantly higher levels of stress than their male counterparts (Rainey & Winterich, 1995) and possess a felt sense of social inequity within the officiating field (Warner, Tingle & Kellett, 2011). Similarly, research on female umpires who quit has revealed that some female officials experience gendered discourse from their referee peers, lack role models and mentors and experience unfair managerial treatment (Warner, Tingle & Kellett, 2011). Despite the compelling disparity between male and female game officials' experiences, and evidence indicating the significance of demographic variables in game officials' response to stress, gender aspects have been sorely neglected in sports officiating research. No study to date has examined the role of gender discrimination as a component of the stress experienced by female game officials and studies examining stress levels and coping responses of officials contain inadequate numbers of female participants, if females are included at all (Anshel & Weinburg, 1995; Anshel & Weinburg, 1996; Anshel & Weinburg, 1999; Rainey & Winterich, 1995; Wolfson & Neave, 2007; Folkesson, Nyberg, Archer & Norlander, 2002).

### **Purpose of the Study**

Historically, the field of sports officiating has been dominated by men, whose values and traditions serve to define the psychological context and culture of the sports environment. With

the advent of Title IX in 1972, the physical landscape of sports changed dramatically yielding an almost threefold increase in the percentage of female NCAA athletes by 2011. However, many argue that while female sports participation has improved, the psychological climate of sports has not similarly evolved and continues to cater to the values and preferences of men. This means that as opportunities for female officials have increased, more women are exposed to the challenges and risks associated with working in a male-dominated culture.

Research has shown that discriminatory environments such as the one that exists for female game officials have significant deleterious effects on the anxiety, self-confidence and subsequent performance of afflicted individuals. Steele (1997) terms this condition “stereotype threat” which he defines as “a threat in the air”, a situation that arises in which it is likely that negative stereotypes about one’s group apply (p. 614). This theory suggests that when a person determines that the threat of being negatively stereotyped exists in a certain context, the individual will cognitively prepare for the damaging emotional effects of being typecast. While this defense mechanism may preserve a person’s personal integrity and sense of self worth, research has shown that the emotional and intellectual energy required to protect against stereotypes depletes cognitive resources causing an ultimate deterioration in performance (Roberson & Kulik, 2007; Steele, 1997).

Research on stereotype threat has demonstrated that it significantly negatively impacts athletic performance (Stone, Lynch, Sjomeling & Darley, 1999; Beilock & McConnell, 2004) and performance of women in positions of authority in the workplace (Bergeron, Block & Echtenkamp, 2006). Female sports officials are both athletes and women in authority positions. Further, research on stress in officiating has demonstrated that female officials report significantly higher levels of stress than male officials (Rainey & Winterich, 1995), view

themselves as less competent and skilled than their male counterparts and possess less confidence in their ability to control and accurately officiate sporting events (Phillipe, Vallerand, Andrianarisoa & Brunel, 2009). The origin of the disparity between female and male officials' stress levels and self-efficacy has not been addressed empirically by research.

While testimonials of women's experiences can be found in the media and among female officiating groups, a review of the literature on sports officiating has revealed a lack of documentation of the female point of view. This study will contribute to the preliminary endeavor of giving voice to the female perspective in sports officiating. To this end, this study first aims to identify the emotional pressures that women face in the gendered environment of sports officiating and to document their experiences of discrimination and unfair treatment. Further, this study will address the ways in which pressures associated with stereotype threat affect female officials' sense of their self-efficacy and performance and will explore how female officials cope with these pressures within the context of the sports environment. Although some past research has addressed experiences of female officials, it has focused largely on the effects of their experiences on attrition and has not accounted for the impact of discriminatory experiences on current female officials' self-efficacy or performance. Moreover, past research is limited in that it has contained inadequate sample size to reliably account for the broad and diverse experiences of female officials (Warner, Kellett & Tingle, 2011). Primarily, the present study provides greater understanding of how female officials' experiences of social inequity within the sports environment impact their stress levels, anxiety, confidence and subsequent ability to perform officiating responsibilities.

## **Research Questions**

While policy, legislation and programming have engendered significant opportunities for women in athletics, masculine values and traditions continue to define the culture of sport. Although female sports officials face significant challenges as they foray into the masculine domain of sport, their experiences within this environment are sparsely researched and poorly understood. The primary purpose of this study is to investigate the experiences of female sports officials within their work environment and to assess the impact that discriminatory experiences have on female officials' emotions and self-perceptions of their performance. Learning about discriminatory experiences and their effect(s) will facilitate the provision of preventative education and support for women who choose to pursue careers in sports officiating. The following questions will be explored in this study:

### **Question 1**

To what extent do female officials face gender-based discrimination and/or unfair treatment within their work environment? What is the nature of female officials' experiences of discrimination? To what or whom do female officials attribute their experiences of discriminatory actions, beliefs or attitudes?

### **Question 2**

What emotional effect(s) do negative, gender-based discriminatory experiences have on female officials? How does discrimination impact their self-confidence and felt sense of competence? To what extent do female officials worry about confirming negative stereotypes about women?

### **Question 3**

What is the perceived impact of discriminatory experiences on the behavior and self-perceived performance of female officials? To what degree do female officials engage in self-monitoring

and/or other compensatory behaviors to protect against the possibility of being negatively stereotyped?

**Question 4**

What methods do female officials use to cope with and safeguard against the emotional and behavioral effects of being negatively stereotyped based on their gender?

## CHAPTER 2

### REVIEW OF RELEVANT LITERATURE

This section presents a review of the literature and relevant empirical findings that highlight the importance of the current study and its contribution to the literature on stereotype threat and sports officiating. Due to the routine exclusion of female perspectives in literature on sports officiating, theoretical and empirical support for the present study was sought in the areas of women in the workplace, women in athletics, and stereotype threat.

#### **Women in the Workplace**

Research has demonstrated that discriminatory work environments such as the one that exists for women officials have significant deleterious effects on the anxiety, self-confidence and subsequent performance of afflicted individuals (Beilock & McConnell, 2004; Goldenhar, Swanson, Hurrell, Ruder & Deddens, 1998; Stone, Lynch, Sjomeling & Darley, 1999). Specifically, research has enumerated multiple detrimental effects of gender-based discrimination and sexism in the workplace and has furthermore shown that job related stressors are often exacerbated for women in male-dominated careers such as officiating. For example, in a study on gender-discrimination in female construction workers Goldenhar, Swanson, Hurrell, Ruder and Deddens (1998) discovered that the female construction workers reported significantly more psychological symptoms when they perceived increased gender-based discrimination and sexual harassment in their work environment. Similarly, Schaffer, Joplin, Bell, Lau & Oguz (2000) found gender discrimination to be positively associated with turnover rate and life stress in samples of working women in the United States and China. In their study, gender evaluation, or “using gender as a criterion for employment decisions” (p. 396), was

found to have a significant, negative influence on job satisfaction, turnover rates and commitment of women.

A consistent theme found in the literature on women in the workplace is that women in leadership, managerial and traditionally masculine gender-typed roles experience heightened concern about appearing incompetent and unqualified to fulfill job tasks, leading to a decline in performance. Bergeron, Block & Echtenkamp (2006) found that implicit social stereotypes about women's inferiority to males in managerial positions evoked female participants' concern about proving the stereotype correct, which in turn served to undermine their performance in their role as manager. This effect was especially pronounced for women participants who endorsed low identification with masculine gender roles. In a similar study, Logel et al (2009) investigated the effects of sexist interactions with men on women's performance on an engineering test. Results of their investigation indicated that female engineering students who interacted with sexist men performed worse on engineering tasks than did those who interacted with non-sexist men. Conversely, the underperformance of women on an engineering test in the Logel et al (2009) study did not similarly extend to their performance on an English test, an area in which women are not negatively stereotyped. Logel et al (2009) concluded that in domains in which women are negatively stereotyped (i.e. engineering), sexist interactions with males threaten women's social identity and trigger performance decline. In a study on women and computers, Koch, Müller & Sieverding (2008) found that women in their study tended to make internal attributions (i.e. self-blame) about computer malfunction when negative stereotypes about women's competence with computers were induced whereas men in similar conditions tended to make external attributions (i.e. faulty equipment). This study suggests that when exposed to socially constructed gender



stereotypes (i.e. “men are more competent at computer use than women are”), women tend to interpret problems that arise as personal failures, rather than as events beyond their control.

Collectively, studies on the experiences of women in the workplace, particularly within work domains that are traditionally masculine, indicate without a doubt that women experience threats to their social identity, self-confidence and self-efficacy that trigger performance decline. Clearly, sports in general and sports officiating in particular have been branded as masculine domains (Meân & Kassing, 2008) in which burgeoning stereotypes of women as un-athletic, unassertive, emotional, weak and incompetent proliferate. Given the growing body of compelling research demonstrating challenges faced by women who work in male gender-typed domains, the question of whether similar phenomena exist in sports officiating certainly merits investigation.

### **Women in Athletics**

An examination of the literature surrounding women in athletics pertains to the present inquiry for several important reasons. First, studies indicate that referees view themselves as sports participants in their own right with a passion for their sport that equals that of players (Philippe et al, 2009). As female sports participants within the male-dominated context of sports, female officials may share similar experiences with female players, coaches and game administrators. Additionally, Title IX has been a significant impetus for empowerment, change and progress for female athletes and, by extension, for female coaches, administrators and officials. Although officials have been excluded from analyses of the impact of Title IX, it is important to examine the advances in gender equity inspired by Title IX for coaches, players and administrators and to determine ways in which gender discrimination continues to perpetuate in the realm of sports.

It is an undeniable fact that Title IX has had significant, positive and lasting effects on opportunities for female athletes since its inception in 1972. Indeed, according to the NCAA Sports Sponsorship and Participation Rates Report in 2011, 43% of NCAA athletes were female compared to 30% in 1982 (Bracken, 2011). Studies show that girls and women benefit from increased athletic participation engendered by Title IX in that female athletes have improved cognitive skills, higher self-esteem, stronger college and career aspirations, lower rates of obesity and mental illness, better physical fitness and health and are more likely to graduate from college (American Association of University Women (AAUW), 2010; Kaestner & Xu, 2006). In fact, many argue that over the past 40 years Title IX has not only leveled the playing field for women but has in fact overcompensated for gendered inequalities to the point that male sport participants have been disadvantaged (AAUW, 2010).

Despite significant gains in gender equity over the past thirty years, the claim that women have achieved empowerment and equality in sport is certainly not reflected in statistics describing participation, employment and remuneration of female sports participants. Overt and systematic inequalities continue to pervade sporting environments, placing female players, coaches and administrators at a distinct disadvantage compared to their male counterparts. For example, according to the 2004-2010 Gender-Equity Report, NCAA Division I teams spent an average of \$72,500 less in recruiting expenses and \$2,339,500 less in overall expenses on women's teams than on men's teams, allocated an average of \$174,800 less in scholarships and student aid to female student-athletes, and paid head coaches of women's teams only 71% of the salaries earned by men's teams' coaches (Bracken & Irick, 2012). Similar gender disparity exists in high school sports. In 2008, females accounted for only 41% of participants in high school interscholastic athletics although they comprised 49% of the overall school population

(Lakowski & Lerner, 2009). An analysis of the gender composition of state organizations within the National Interscholastic Athletic Administrators Association revealed that only 13% of high school interscholastic athletic administrators are female (Whisenant, 2003). The inequalities illustrated by these statistics clearly indicate that opportunities for women in sports do not equate those for men, especially in leadership and power positions.

Many scholars have pointed out that since the decrease of overt discrimination initiated by Title IX, discrimination against female athletes, coaches and administrators has evolved to a form that is more insidious and sophisticated, infused in hegemonic narratives, sexist naming practices and gendered discourse (Fielding-Lloyd & Meân, 2008; Meân & Halone, 2011; Meân & Kassing, 2008; Pelak, 2008). These scholars assert that women's athletics are frequently neglected, rendered invisible or trivialized on college campuses, thus maintaining a subtle form of social resistance to the inclusion of women in sports systematically perpetuated by higher education (Pelak, 2008). Such insidious forms of discrimination are of course difficult to quantify, substantiate and regulate through policy. Thus, remediation may entail a broader change in social climate through the propagation of more gender-inclusive discourse in sports.

In a qualitative study analyzing 20 interviews with professional female athletes, Meân and Kassing (2008) sought to understand how women construct their identities as athletes within the hegemonic context and prevailing, powerful masculine discourse of sport. Results of their analysis revealed that women athletes often sought to maintain their identification to the field of athletics by (1) deploying a hegemonic discourse that characterized normal women as un-athletic and then (2) cognitively distancing themselves from this stereotypical characterization. Meân and Kassing (2008) concluded from their study, that women continue to view themselves and be

viewed as peripheral participants in athletics and possess limited ways to self-define within the traditionally masculine domain of sports.

Similarly, in a qualitative study of 27 participants in soccer coach education in England, Fielding-Lloyd and Meân (2008) found that by employing separatist policies for training female soccer coaches, denying women's oppression in the context of soccer coaching and perpetuating constructs such as reverse racism and female inferiority in the area of soccer coaching, individuals within a regional division of an organization regulating English soccer reproduced gender inequalities and reinforced the centrality of masculinity in soccer. Fielding-Lloyd and Meân (2008) concluded from their research that separatist policies can be problematic in sporting environments because they emphasize gender difference in a context that is already highly resistant to female participation and where women are already viewed as peripheral.

Several studies examining the effects of sexist naming practices on opportunities for female athletes revealed aversive effects of gendered language on athletes. For example, Pelak (2008) found a negative correlation between sexist naming practices (i.e. utilizing the feminine qualifier "lady" to describe women's sports teams), and equitable athletic opportunities of female students. Similarly, Ward (2004) found that women's athletics and the employment of female coaches were stronger at schools with nonsexist nicknames for their teams.

Collectively, statistics and research in the area of women in sport indicate that (1) opportunities for women in sports are not commensurate with those for men, (2) discrimination against women in the sports environment takes both overt and covert forms and has a negative impact on women's participation and self-definition in athletics and (3) narratives and discourse surrounding sports serve as powerful media for the transmission, dissemination and propagation of masculine hegemony within the sport domain.

Although the effects of discrimination of female game officials has not been addressed directly by research, conditions similar to the ones described in studies on women in athletics exist for female officials as well. For example, separatist policies are frequently utilized in the development and progression of female game officials, as evidenced by the systematic assignment of women officials to referee sports played by women and/or to referee the female side of sports, in spite of their preference. Similarly, a glass ceiling frequently precludes women from holding the most lucrative positions in professional sports (Borzi, 2011; Manor, 2011; Smith, 2011; McManus, 2011). Furthermore, similar to female athletes and sports teams, female officials are frequently defined as “other” within the sport narrative and treated as peripheral. To illustrate, Appendix 1 contains a photo of the locker rooms designated for the officials for the 2010 – 2011 Georgia High School Basketball State Championship Games. This photo displays how female officials are subject to negative gendered messages that define them as “other” within sports officiating narratives. The sign on the right reading “Game Officials” that denotes the locker room to be utilized by male referees does not explicitly contain a gender qualifier indicating that the masculinity of officials is presumed. On the other hand, the sign reading “Female Official” does not contain “Game” as a descriptor in the title. “Game” is replaced with the feminine qualifier “Female” and “Officials” is converted from plural to singular form. This example illustrates how sexist naming practices are employed to separate female sports officials from the masculine ideal, maintain and reproduce the inherent centrality of masculinity as germane to the identity of referees, minimize and trivialize the role of female officials and ultimately undermine their value.

## **Stereotype Threat**

Stereotype threat pertains to concern about being judged according to a negative stereotype or fear of confirming a negative stereotype of one's demographic group (Roberson & Kulik, 2007; Wout, Shih, Jackson & Sellers, 2009). Steele (1997) describes stereotype threat as "a threat in the air", a situation that arises in which it is likely that negative stereotypes about one's group apply (p. 614). When a person determines that the threat of being negatively stereotyped exists in a certain context, the individual will cognitively prepare for the damaging emotional effects of being typecast. While this defense mechanism may preserve a person's personal integrity and sense of self worth, research has shown that the emotional and intellectual energy required to protect against stereotypes depletes cognitive resources causing an ultimate deterioration in performance (Roberson & Kulik, 2007; Steele, 1997).

While most studies on stereotype threat address its effects on intellectual performance (Steele & Aronson, 1995; Steele, 1997; Wout, Shih, Jackson & Sellers, 2009), some research demonstrates that athletic performance also worsens when the conditions for stereotype threat exist (Stone, Lynch, Sjomeling & Darley, 1999; Beilock & McConnell, 2004). For example, Beilock and McConnell (2004) suggest that stereotype threat has a significant negative impact on athletes' performance and may be the cause of the paucity of minorities in certain sports. Stereotype threat affects working memory by filling it with anxiety about being judged. This loss of working memory causes athletes to pay more attention to step-by-step control of skill execution, which, in turn, disrupts the fluid, natural performance of the athlete. This phenomenon, termed "explicit monitoring hypothesis", often results in "choking under pressure" for competitors.

The impact of stereotype threat on working memory and skill execution as described by Beilock and McConnell (2004) may also have important implications for sports officials. In basketball officiating, for example, it is necessary for referees to maintain an open field of vision, be aware of competitive match-ups, coordinate fluid, cohesive rotations with their partners and avoid becoming so focused on their primary area of coverage that they neglect their awareness of the game as a whole (Collegiate Commissioners Association, 2011; Weinburg & Richardson, 1990). If female officials' working memory is obstructed by anxiety induced by stereotype threat, they may revert to close monitoring of skills that they would otherwise perform intuitively in order to avoid making a mistake such as miscalling a play, losing a foul or misapplying a rule. In a study examining the cognitive experiences of officials in sports situations, Phillippe, Vallerand, Andrianarisoa and Brunel (2009) corroborate this hypothesis. In an investigation of 90 soccer officials, they found that female officials experience significantly less "flow" during games than male officials. Specifically, female referees in their study reported a lower sense of control over the game and a lack of "challenge-skill balance" or "the feeling of balance between the demands of the situation and one's personal skills" (p. 82).

The Phillippe et al (2009) investigation indicates that female officials view themselves as less competent and skilled than their male counterparts and that they possess less confidence in their ability to control and accurately officiate sporting events. These negative self-perceptions on the part of female officials may result from internalized stereotypes and may represent the deleterious impact of stereotype threat. As Steele (1997) describes, "Through long exposure to negative stereotypes about their group, members of prejudiced-against groups often internalize the stereotypes, and the resulting sense of inadequacy becomes part of their personality" (p.617). Indeed, there are many stereotypes of women in general and of women in athletics specifically

that may impact the self-assessment and performance of women. For example, stereotypes often dictate that women are not strong, fast or athletic; qualities required of sports officials in order to get into position to see plays and to keep up with the pace of the game. Additionally, women are commonly viewed as emotional and spontaneous, traits that contrast greatly with the rational, logical skills and behavioral integrity needed to manage intense game situations fairly and consistently. Female officials who feel threatened by these stereotypes may be reluctant to penalize poor sportsmanship, verbal abuse by coaches and players or profanity for fear of confirming a stereotype of being too sensitive. Further, they may attempt to appear more athletic, assertive and in control in attempt to disprove the stereotype that women are passive, weak and slow. This hyper vigilant behavior may then disrupt the normal artful, fluid performance of the official, cause a decline in concentration and increase the likelihood of officiating mistakes (Beilock & McConnell, 2004). Such a process would create a vicious cycle whereby the sporting event evokes a negative stereotype about women that threatens the self-concept of the female official who attempts to compensate by over-performing. The stress of over-performing then results in serious officiating errors that serve to reinforce the initial stereotype (Roberson & Kulik, 2007; Steele, 1997; Weinburg & Richardson, 1990).

In addition to being subject to negative stereotypes about women in athletics, female officials are also victims of stereotypes about women in the workplace. Successful officiating entails a plethora of complex skills including athletic prowess, intelligence and poise as well as managerial and leadership abilities. The male dominated domain of sports frequently compels female officials into a role of authority over male coaches, players and spectators. The experience of female officials as authority figures at sports events is likely similar to the



experience of women in managerial and executive positions in the workplace who face the task of asserting control over male subordinates.

Studies investigating the experience and performance of women in positions of authority have identified various results of stereotype threat that pertain to the present inquiry. Bergeron, Block and Echtenkamp (2006) examined the stereotype that women are less competent than men in performing managerial and executive tasks in the workplace. To this end, they assessed both the quality and quantity of women's performance in masculine sex role-type managerial positions and feminine sex role-typed managerial positions. Results of the study indicated that women experienced stereotype threat in both the masculine and feminine sex role-typed conditions. While the adverse consequences on quantity and quality of performance were most pronounced in the masculine sex role-typed condition, feminine sex role-typed managerial condition also generated enough threat to cause concern about proving the stereotype of incompetence. Bergeron, Block and Echtenkamp (2006) therefore surmised that "the masculinity of the position level is the reason women felt threatened in both conditions" (p.151).

The findings of Bergeron, Block and Echtenkamp (2006) may have important implications for female officials in that they suggest the universality of stereotype threat. According to the results of their study, even female officials who referee women's sports in a feminine sex role-typed domain may feel the pressure of stereotype threat due to the fact that officiating is traditionally masculine work. Thus, the observation made by former NCAA coordinator Mary Struckhoff that concerns about sexism in athletics are less prevalent at the women's college level may not eliminate the pervasiveness and influence of existing sexist stereotypes, even for women's college officials.

### **Conditions of Stereotype Threat**

While research has illustrated that the proliferation of gender stereotypes has a wide breadth of influence in both masculine and feminine domains, stereotype threat does not unequivocally impact every environment (Roberson & Kulik, 2007; Steele, 1997). There are certain conditions that increase the likelihood of the occurrence and severity of stereotype threat in different contexts. Roberson and Kulik (2007) enumerate several conditions that engender the emergence of stereotype threat in the workplace. The next few paragraphs will focus on the relevance of these conditions in the sphere of sports officiating.

#### **Stereotype Relevance of the Task**

In order for stereotype threat to operate in an environment, a relevant stereotype must exist in both the broad social context and the immediate setting (Roberson & Kulik, 2007; Wout, Shih, Jackson & Sellers, 2009). For example, in a seminal investigation of stereotype threat examining Black and White students' performance on a difficult test, Steele and Aronson (1995) found that when the test was described as a laboratory problem-solving task, Black participants performed significantly better than when the test was described as a measure of genuine intellectual ability and deficit. In this study, stereotype relevance accounted for the differential performance of participants. When Black participants viewed the test as an assessment of genuine intellect they became aware of the stereotype that Blacks lack intellectual ability, felt threatened by it and wanted to avoid confirming it. However, when Black participants conceptualized the test as a benign laboratory measure, no negative stereotype was evoked and participants did not feel threatened.

In officiating, there are many stereotypes about women that could present as threatening. Common stereotypes of women as un-athletic, emotional, passive and capricious are all

detrimental to the strong, assertive, rational, confident image that sports officials must project in order to maintain control and credibility during sport contests. Furthermore, according to a study by Csizma, Wittig and Schurr (1988), women such as Michelle Campbell, Terri Valenti and Sandra Ortiz-Del Valle who choose to officiate stereotypically masculine sports such as boxing, football, baseball and basketball may be more at risk of stereotype threat than those who officiate stereotypically feminine sports such as gymnastics or cheerleading. In addition to the gender differences in sport stereotypes discussed by Csizma et al (1988), the study also reveals that sports, in general, are viewed by society as a masculine domain with men having much more social latitude in terms of sport participation. Consequently, in the domain of sports officiating, regardless of the sport, it seems that negative stereotypes of women would be frequent, relevant and pervasive.

### **Task Difficulty**

In order for stereotype threat to occur, a stereotype must not only have relevance to a particular task, the task must also be judged to be difficult and to push the limits of an individual's abilities. Roberson and Kulik (2007) describe how stereotype threat can deplete the mental resources needed to execute cognitively taxing tasks causing a significant decrease in overall performance.

Difficult jobs require concentration and focus; all of one's cognitive/ mental resources must be directed toward accomplishing the work. If some of those resources are diverted towards worrying about one's skills and how one will be viewed by others, performance decrements occur. Thus, difficult tasks trigger stereotype threat, and also are most affected by it (p. 30 – 31).

Sport officiating is widely acknowledged to be a difficult task. Not only are officials under the constant scrutiny their supervisors and referee peers, they also must withstand the criticism of players, coaches, spectators, and the media. Michelle Voepel (2005) of the *Kansas City Star* describes the universal censure of officials stating “Officials are far too easily caricatured, second-guessed, verbally abused and taken for granted”. Likewise, division I women’s college official and former NBA official Dee Kantner states honestly “It’s not a vocation or an avocation that a lot of people innately say, ‘That’s what I want to be,’ because there is so much negativity surrounding it...” (Wheelock, 2007). Sports officials must make split-second decisions at critical moments in sporting contests, have thorough knowledge of the rules of the game and keep their bodies in prime physical condition (Wofson & Neave, 2007). In addition, they undergo rigorous training and evaluation in order to move up into more competitive leagues. Each league represents a new challenge to earn respect and credibility from coaches, supervisors and peers (Wheelock, 2007).

The experience of reaching the next level in officiating can be daunting, even for officials who have been seasoned at lower levels. According to division I women’s college officiating supervisor, Patty Broderich, each step up represents a new opportunity for success and chance of failure as the pressure surrounding the game intensifies (Wheelock, 2007). Officiating presents task difficulty at every level due to the intensity of athletic contests and the accountability surrounding referees decision making on the court or playing field. However, it is perhaps at the junctures in a female official’s career that stereotype threat presents as most intense. Certainly, in high pressure situations and in unfamiliar territory developing officials need maximum concentration, memory and cognitive assets in order to perform at their best. If these officials feel threatened by the possibility of being stereotyped, they may lose their ability to succeed.

The many acute and ongoing stressful events encountered by female officials make them vulnerable targets for stereotype threat.

### **Personal Task Investment**

Along with task difficulty, another condition that makes individuals especially susceptible to stereotype threat is task investment. Roberson and Kulik (2007) define task investment as “how important doing well on the task is to the individual’s self identity” (p.31). Research has shown that the more important the task is to the individual, the more likely the individual will be affected by stereotype threat. Specifically, individuals who take pride in their accomplishments and who are personally invested in their performance may be most disturbed by the notion of being unjustly, negatively stereotyped. Furthermore, since individuals are often personally invested in activities in which they excel, stereotypes may be most detrimental to capable, committed individuals (Roberson & Kulik, 2007; Steele, 1997).

Officiating is certainly one domain in which individuals are personally invested in their work. The vast majority of game officials pursues officiating as an avocation or leisure activity and sees it as a way to stay involved in a sport that they love and to stay in shape. For example, Terri Valenti describes her personal investment in officiating football stating:

I have loved football since I was a little girl. I played the sport, marched in the band, and was a cheerleader in high school. As I became older, I wanted to know what I could do to still be involved in the game...Reffing is great exercise, and it’s really fun being out there with the kids. It’s a neat combo of physical and mental activity” (Linebarger, 2008).

The affection and high regard that Valenti holds for football resembles that of many officials of various sports.

Research corroborates officials' experience of passion for their sport as described by Valenti. In one study, Philippe, Vallerand, Andrianarisoa and Brunel (2009) examined the role of passion in soccer referees. They define passion as "a strong inclination or desire toward a self-defining activity that one likes (or even loves), finds important (high valuation), and in which one invests time and energy" (p. 78). This definition of passion used in the Philippe et al (2009) study mirrors the definition of task investment provided by Roberson and Kulik (2007). Results of their study indicate that game officials are almost all passionate about officiating, demonstrating passion for their sports that equals that of athletes. Further, demographic variables such as gender were found to be unrelated to the level of passion reported by game officials in the study.

According to the present research, the high level of passion and identification that most female referees feel for officiating and for their sport may make them particularly prone to the adverse effects of stereotype threat. Steele (1997) points out how this very sense of identification is a risk factor for individuals who are the target of stereotypes. "This means that stereotype threat should have its greatest effect on the better, more confident students in stereotyped groups, those who have not internalized the group stereotype to the point of doubting their own ability and have thus remained identified with the domain" (p. 617). According to the current research, stereotype threat may present as an especially significant issue for female officials who identify strongly with nontraditional male dominated domains.

## **Context**

A final condition of stereotype threat that pertains to the experience of female officials is the context in which stereotypes operate. Roberson & Kulik (2007) point out that environments that lack diversity reinforce negative stereotypes and increase the risk that stereotype threat will

occur. Specifically, “token” individuals, or “those who are different from others on a salient demographic dimension” such as gender feel very “visible” and are much more likely to be threatened by negative stereotypes (p.32). Furthermore, the lack of representation of the token individual’s demographic group in a particular setting reinforces negative stereotypes about the group’s performance in that setting. Research has revealed a correlation between token status and stereotype threat. For example, in their study of the effect of stereotype threat on student performance, Inzlicht and BenZeev (2003) demonstrated that token women performed worse on a math task (a male sex-typed domain), as compared with non-token women.

The issue of tokenism has significant implications for female sports officials. Many female sports officials have token statuses in their associations and work environments. A prime example of the lack of female representation sports officiating becomes evident through an analysis of professional sports referees. For instance, Violet Palmer is the only female official out of 64 total officials who referees in the National Basketball Association (NBA). There are currently no female officials in the National Football League (NFL) (Linebarger, 2008) or in Major League Baseball (Henig, 2009). Lack of representation of female game officials in sports exists at lower levels of competition and on the women’s side of sports as well. For example, in the 2010 Georgia High School Association (GHSA) state basketball tournament, of the 56 officials assigned to both boys and girls high school semi-finals and finals, only 7 were female (A. Cowart, personal communication, March 8, 2010). As this data indicates, female officials often find themselves in situations in which they are the only one. Their status as “the lady ref” makes them more visible to others and places stereotypes of women at the forefront of their personal and professional identities. The context of the male dominated sports environment in

which female officials participate renders it likely that they are threatened by the risk of being negatively typecast.

### **Disidentification**

As illustrated in this paper, stereotype threat has many deleterious effects on the performance and self-concept of women in multiple domains. Specifically, this review has also pointed out that it may be especially salient to consider the conditions of stereotype threat when examining experiences of discrimination of female sports officials. Indeed, female officials are passionately invested in their work, perform arduous officiating duties despite numerous external performance pressures, often have a token status and frequently contend with pervasive negative stereotypes about their gender. Unfortunately, psychological research has not directly addressed experiences of stereotype threat and discrimination for female sports officials. Therefore, little is known about the extent and magnitude of the effect of discrimination on female referees. However, research on stereotype threat suggests that most individuals affected by negative stereotypes are impacted in ways that exceed simple stunts in immediate performance.

One effect of stereotype threat discussed at length in the literature that may speak to negative macro effects of discrimination in the domain of female officiating is the concept of disidentification. Disidentification as described by Steele (1997) may occur for women, such as sports officials, who spend time in competitive, male-dominated environments. According to Steele, these environments “can pressure *disidentification*, a reconceptualiation of the self and of one’s values so as to remove the domain as a self-identity, as a basis of self-evaluation” (p. 614). While Steele (1997) acknowledges that disidentification can protect individuals from the loss of positive self-concept imposed by stereotype threat, he also points out that it “can undermine sustained motivation in the domain” (p. 614).



For the domain of sports officiating, the disidentification of women from the field due to discrimination and stereotype threat could have significant, long-term negative effects. Disidentification may, as Steele (1997) predicts, cause a decline in motivation of female officials to perform well and progress in officiating. Moreover, the disidentification of women from officiating may entail a loss of strong female role models for aspiring young female officials to emulate and further entrench the conditions of stereotype threat that already exist. Although not named specifically, factors that may exacerbate stereotype threat in officiating have been addressed by leaders in the field. For example, among many factors related to the decision of a referee to discontinue officiating, former NCAA coordinator Mary Struckhoff cited sportsmanship (Wheelock, 2007) and sexism (Voepel, 2005) as demanding attention and change by NCAA and NFHS leadership. Struckhoff furthermore acknowledges that many individuals who would make excellent officials shy away from officiating due to the negative treatment of officials by coaches, players and spectators. For many female referees, this negative treatment includes sexist language, behavior and undertones that inhibit their ability to excel in the officiating field (Voepel, 2005).

### **Coping**

While research has shown that the work conditions of female officials that put them at risk for developing symptoms of stereotype threat, the literature also suggests some things that can be done to mitigate the harmful outcome of discriminatory practices and attitudes on female referees and to improve their experience of their work environment.

### **Role Models**

Psychological studies indicate that positive ingroup role models can be effective in reducing performance differences caused by stereotype threat. In one study, Marx, Ko and

Friedman (2009) demonstrated how salient Black American role models can protect Black Americans' academic performance from the deleterious effects of racial stereotypes. Their study examined the test performance of 472 Black and White Americans at four predetermined data collection times before, during and after the election of Barack Obama as United States President. Results of the study show that Obama's accomplishments and emergence as a symbol of hope had a dramatic, positive effect on the exam performance of Black Americans. These positive effects on academic performance persisted even when participants expressed concern about stereotype threat. The results of this study indicate that powerful impact role models can help individuals overcome the oppressive effects of stereotype threat in their environments.

Other studies have rendered similar results by examining the effect of positive role models on women. For example, Marx and Roman (2002) found that women participants underperformed on a math test relative to men only when the test administrator was male. Results of a follow up study showed that perceived competence of the female test administrator accounted for the improvement in women's performance on the test. The mere presence of a female expert in the math domain helped participants believe in their own math abilities and enhanced the outcome of their test. In another study on stereotype threat and female leadership, female students were asked to give a speech while being exposed to a picture of either Hillary Clinton, Angela Merkel or Bill Clinton. Exposure to female role models in this study led to longer speaking times and higher perceived speech quality for participants (Latu, Mast, Lammers and Bombari, 2013).

This research suggests that the identification of positive role models and the implementation of a mentoring system for female officials could buffer them from negative effects of discrimination. In the officiating arena, many female leaders such as former NCAA

coordinator Mary Struckhoff and division I women's college official and WNBA supervisor Dee Kantner already serve as role models, encourage mentoring on the part of other officials and work to promote other female role models within the field (Voepel, 2005; Wheelock, 2007). According to Struckhoff, "...there are some really good folk out there who are mentoring and who are recruiting officials...we're trying to work with those [experienced] officials in how to do those things..." (Wheelock, 2007). Female officials have identified that the lack of female role models and mentoring significantly contributes to their experience of social inequality, detracts from their identification with the officiating community and is a part of the reason that they quit (Warner, Kellett & Tingle, 2011). This literature suggests that female officials who have identified mentors and/or strong female role models may have a higher ability to cope with officiating stressors than those who have not.

### **Reframing the Threat**

In addition to the impact of positive role models, another strategy that research has shown effective for reducing stereotype threat is reframing the threat as a challenge. In one study, Adler, Aronson, Darley, Rodriguez and Ruble (2009) examined the effect of stereotype threat on the math test performance of university undergraduates at Princeton. These researchers discovered that when they evoked the conditions of stereotype threat students performed more poorly on the test. However, when they framed the test as challenge, the negative effects of stereotype threat on their performance disappeared and they performed as well as their non-stereotype threatened peers. The Adler et al (2009) study demonstrates that even if conditions of stereotype threat are present, the effects of stereotype threat can be eradicated when the task at hand is framed as a challenge. Furthermore, the authors suggest that the technique of reframing stereotype threat as a challenge is generalizable beyond the academic domain. "The same

intervention might apply to other traditionally stressful performance domains - for example athletes might perform better under pressure when the event is reframed as a challenge” (p. 170). This technique may therefore be a useful safeguarding method for female referees to implement in order to protect from harmful stereotypes of their incompetence in athletic and authority roles. Anecdotal evidence demonstrates that many successful female officials may already adopt this approach to their careers. For example, baseball umpire Perry Barber states the following regarding her frustration with the discrimination that exists in MLB officiating:

At this point I’m convinced that being nice about it and patient and sending women out now and then, here and there, is not going to do. We’re just going to have to storm the Bastille, baby and flood the schools with women candidates and shatter what I call the stained grass ceiling, because they are not cracking it open for us (Henig, 2009).

Barber’s powerful, inspirational and empowering statement demonstrates that the gender oppression that she has faced motivates her to fight even harder to inspire change.

Substantial evidence indicates that female sports officials face a work environment that is male-dominated and often discriminatory toward women. However, the question of whether this environment impacts their emotions and performance has not been empirically pursued. The purpose of the present study is to document discriminatory experiences that female officials encounter, investigate whether the sport environment engenders stereotype threat in female sports officials and discover how female officials cope with the threat of being negatively typecast.

## CHAPTER 3

### RESEARCH METHODOLOGY

The present study aims to explore the experiences of female officials with a mixed methods approach that will include the collection of objective and qualitative data through survey research.

#### **Sample**

A total of 102 surveys were completed. The sample consisted of female basketball officials ages 18 and older who work at high school, collegiate, international and professional levels. Participants were recruited primarily by email based on email addresses that were obtained through contact lists of high school association and collegiate conferences. The primary associations and conferences contacted for recruitment purposes were: Peach State Basketball Officials Association, Austin Area High School Association and the Big South, Southern, Atlantic Coast, Ohio Valley, Atlantic Sun, Sun Belt, Southeastern, Atlantic 10, Great Southwest, Great South, Southern States and Peach Belt College Conferences. Conference Coordinators were sent a letter approved by the Institutional Review Board (IRB) asking for contact information for their officials and permission to send a survey request to officials listed on their rosters. Officials were also contacted informally via word of mouth.

#### **Development of the Instrument**

Survey questions were designed to capture experiences of stereotype threat. Questions were derived from stereotype threat literature, discussion with female officials about their experiences of discriminatory treatment in the officiating sphere and documented media examples of discrimination against female officials. Due to the exploratory nature of the study, questions were designed to capture women officials' experiences in a variety of ways, through

true/ false, Likert scale and open-ended response methods organized into sections. Demographic questions were developed to obtain data about the female officials who participated in this study. Demographics of interest included racial heritage, age, officiating experience, and level of officiating. Several questions were created to capture the breadth of the overall experience of female officials and the extent to which they experience discrimination. The survey also contains items intended to elicit data about the impact of discriminatory experiences on female officials' confidence, stress level and felt sense of competence. The final two sections included questions about how officials react to negative, discriminatory experiences through self-monitoring and coping. The final survey contained 85 questions including 7 questions about demographic variables, 12 open-ended questions, and 66 true/false and Likert scale items.

A pilot study was conducted in order to solicit feedback about the survey's efficacy in capturing experiences of female officials. The pilot survey was sent to ten female officials and completed by five. Feedback about the content and structure of the survey given by pilot participants was incorporated into the final survey design.

### **Procedure**

Basketball high school association and collegiate conference coordinators were contacted by an IRB-approved email requesting access to their rosters and permission to send survey completion requests to their officials. A link to the survey containing information about the purpose, benefits and confidentiality limits was included in these emails. After permission was given, participants solicited from these high school and collegiate officiating rosters were then invited to complete the survey on Survey Monkey by an IRB-approved email. The email included a general introduction to the study, terms of participation and a link to the survey on Survey Monkey. Two reminder emails were sent to recruited participants one and two weeks

after the initial request was sent. The wording of these reminders was not intrusive or coercive and contained the same content as the original email.

The survey began with a consent form that informed participants of risks and benefits of participation, the confidential nature of the survey and the purpose of the study. Participants were also informed about the limits of confidentiality and were given the contact information for both the primary and secondary researchers. Participants were required to provide informed consent to the terms of the study before being allowed to proceed to answer survey questions. The survey included a demographic section which elicited information about age, race/ethnicity, sexual orientation, years officiating, and officiating experience level. Participants proceeded to a series of 8 open-ended questions inquiring about their experiences of discrimination and perceived advantages and disadvantages of being a female in the basketball officiating field. The next 5 sections of the survey contained Likert scale and true/false questions inquiring about experiences of discrimination and self-perceived confidence, competence, self-monitoring and stress. A final section was comprised of both open-ended, true/false and Likert-scale items addressing the ways in which female officials cope with discriminatory experiences. Based on the pilot study, it was estimated that surveys would take approximately 30 minutes to complete. However, time required to take the survey may have been longer for participants who elected to compose more lengthy responses to open-ended questions.

### **Statistical Analysis**

A mixed-methods approach was used to address research questions. Descriptive statistics of participant demographic variables were calculated in order to describe overall characteristics of the research sample. The analysis of qualitative data (i.e. open-ended survey questions) involved grouping responses according to thematic content and conducting an inter-rater

crosscheck and reliability analysis using the Kappa statistic. General themes that emerged were reported and summarized.

Selected quantitative items assessing (1) experiences of discrimination (2) cognitive/emotional impact of discrimination and (3) coping were extracted from the survey for analysis and three separate Principle Components Analyses (PCA) were conducted to identify underlying common factors describing female officials' experiences. The Kaiser-Meyer-Olkin (KMO) measure, Bartlett's Test of Sphericity and the anti-image Correlation Matrix were used to determine the strength of intercorrelation among items and to verify that the statistical assumptions for factor analysis were met in each PCA. The communalities and pattern matrix factor loadings were also examined in each of the analyses and items with communality values lower than .4 and/or high pattern matrix factor cross-loading were removed. The factor eigenvalues and scree plots were examined in order to determine the number of factors to retain in each analysis. After deriving a factor solution, the variables loading onto each factor were examined in order to develop labels for the underlying factors. Frequency distributions were calculated for variables loading onto each factor and factor scores were computed by summing participant responses to variables contained within each factor and saved for subsequent analyses.

One-way ANOVAs were calculated using the summed factor scores from each analysis in order to describe differences on the factors between demographic groups. Tukey post-hoc tests were conducted when the omnibus test was significant. Finally, Pearson Correlation analyses were conducted in order to assess the relationship between female officials' experiences of gender discrimination and (1) the self-reported cognitive and emotional impact of these



experiences (i.e. confidence, stress, anxiety and self-monitoring behaviors) and (2) female officials' use of Role Models to safeguarding against and cope with discrimination.

## CHAPTER 4

### RESULTS

#### **Sample Descriptive Statistics**

Given the exploratory nature of this study, the delineation of demographic variables is essential to understanding who is most vulnerable and/or most resilient to the impact of discriminatory experiences and to what groups the results of this inquiry will apply. The current sample contained female officials that spanned across a wide range of ages, cultural backgrounds and sexual orientations. By age group, the greatest proportion of the sample was comprised of individuals between 39 and 48 years old (N=45, 44.1%) followed by the 29 to 38 (N=33, 32.4%), 49 to 58 (N=18, 17.6%) and 18 to 28 (N=6, 5.9%) groups. Similarly, a variety of races and ethnicities were represented with the largest groups being White (N=53, 52%) and Black (N=33, 32.4%) followed by Asian/Pacific Islander (N=3, 2.9%), Hispanic (N=4, 3.9%), and American Indian/Alaskan Native (N=2, 2.0%). 7 participants (6.8%) identified as having mixed or other racial/ethnic heritage. With respect to sexual orientation, the majority of participants identified as heterosexual (N=62, 60.8%) followed by lesbian (N=32, 31.4%) and bisexual (N=5, 4.9%) orientations with 3 participants (2.9%) describing themselves as other or failing to respond to this item.

Participants also reported officiating at a variety of levels ranging from high school basketball (N=65, 63.7%) to collegiate women's (N=86, 84.3%) and men's (N=1, 1.0%) basketball to professional women's (N=8, 7.8%) and men's (N=1, 1.0%) basketball. They ranged in years of officiating experience with 4.9% (N=5) having 0 to 2 years of experience followed by 12.7% (N=13) with 3 to 5 years, 25.5% (N=26) with 6 to 10 years, 38.2% (N=39) with 11 to 20 years, 15.7% (N=16) with 21 to 30 years and 2.9% (N=3) with over 30 years of officiating

experience. In addition to experience level and years officiating, it was also of interest to the researchers to understand the degree to which participants viewed themselves as experienced. Most officials in this sample viewed themselves as having *moderate* (N=25, 24.5%), *much* (N=36, 35.3%) or *very much* (N=36, 35.3%) officiating experience with only several officials describing themselves as having only *some experience* (N=4, 3.9%) or as being *not at all experienced* (N=1, 1.0%).

Officiating experiences may also be impacted by regional cultures that may implicitly tolerate, perpetuate or prohibit sexism and discrimination of women to varying degrees. Eighteen of the 50 U.S. states were represented in the current sample with the majority of participants coming from California (N=17, 16.7%), Georgia (N=24, 23.5%), Texas (N=23, 22.5%) and Alabama (N=7, 6.9%). By U.S. region, the Southeast was most highly represented with 50% (N=51) participants, followed by the Southwest (N=28, 27.5%), West (N=18, 17.6%), Northeast (N=4, 3.9%) and Midwest (N=1, 1%).

### **Qualitative Analysis of Open-Ended Responses**

Participants were asked to respond to several open-ended items related to their experiences as a female official. These items were strategically presented at the beginning of the survey in order to avoid the potential influence of the content of quantitative items on participants' qualitative responses. In order to address Research Question 1, which relates to the overall experience of female officials, responses from the first open-ended item, "From your perspective, how is your experience as a female official different than that of male officials?", were analyzed. Participant responses containing multiple distinct themes were separated to foster a simple structure for analysis while still accounting for the breadth and complexity of the comments that were made. This process yielded a total of 130 valid responses generated by 96 participants who responded

to this item. The researcher reviewed each of the responses and grouped them into categories according to thematic content. The researcher then created a key to assist in inter-rater coding. The key was comprised of a title for each of the categories and brief guidelines for the classification of constituent responses. The purpose of this key was to eliminate ambiguities for the raters by creating categories that were logical, distinct and self-evident.

The initial thematic content analysis engendered ten categories: (1) Proving Oneself; (2) Limited Opportunities; (3) Pay; (4) Stereotyped/Targeted for Criticism; (5) Body Ideal; (6) Respect and Authority; (7) Tokenism; (8) Male Entitlement; (9) Advantages to Being Female; (10) No Differences. A crosscheck of all 130 responses was conducted via an independent rater who used the aforementioned key to group responses into the categories listed above. An inter-rater reliability analysis using the Kappa statistic was performed to determine consistency among raters. The Kappa statistic is used to determine the agreement that exists between raters, controlling for the amount of agreement expected to occur due to chance alone (Viera & Garrett, 2005). For this analysis, Kappa was found to be equal to .90 ( $p < .001$ ), 95% CI (.83, .95) indicating that there was substantial agreement among raters regarding the classification of responses. The percentage of participants who gave responses in each category is listed in Table 4.1.

Table 4.1

*Categorized Responses for Qualitative Question: "How is your experience as a female official different than that of a male official?"*

<b>Category</b>	<b>Percentage of Responses*</b>
Stereotyped/ Targeted for Criticism	27.0%
Advantages of Being a Female Official	20.8%
Proving Oneself	17.7%
Respect and Authority	15.6%
No Differences	9.4%
Body Ideal	8.3%
Limited Opportunities	8.3%
Male Entitlement	7.3%
Pay Inadequacies	5.2%
Tokenism	5.2%

\*These values reflect the *percentage of participants* who provided responses that grouped into each category

### **Stereotyped/ Targeted for Criticism**

The Stereotyped/Targeted for Criticism category is comprised of participant responses that relate to female officials contending with preconceived attitudes that women are weaker, less competent and less skilled and/or being singled out for scrutiny or criticism more than their male counterparts. 27% of participants that responded to this question provided a response that fell into this category. Prejudiced remarks by coaches, spectators and other officials cited by participants included those that disparage female officials' physical ability, intelligence and sexuality. For example, one participant wrote: "Coaches, both male AND female will tend to single me out for complaint if they are unhappy with the game (when I am with two males). I get comments like "Oh, Barbie (as in Barbie doll) doesn't know what she's doing". In another example, a participant wrote: "Some coaches [are] more willing to jump on female officials. Fans' insults [are] more likely to be sexually oriented, such as assuming I'm a lesbian". Many

officials described feeling as if they needed to overcome an automatic stereotype of being "weak" or "soft". One participant stated: "As a female on a crew, players and coaches sometimes interpret my gender for weakness and this is evident in their attitude [and] treatment of me vs. my male partners".

### **Advantages of Being a Female Official**

The *Advantages to Being a Female Official* category contains responses that speak to positive aspects of being female in the field of basketball officiating. 20.8% of participants who responded to this question noted that being female in the officiating field has some advantages. Several participants described female officials as being more supportive of one another and having a more collectivist orientation to achieving goals than many male officials. One participant wrote: "I believe my experience as a referee is more enjoyable than a male official, specifically males who are doing the men's game. It appears the women's side of the game does a lot more helping (which makes it appear more like a community) rather than the cut-throat that seems to occur on the Men's side". Other participants noted that female officials often advance quicker in their careers than their male counterparts. "As I was starting my career, it was somewhat easier for me. There were very few female officials when I started so they were eager to give women games".

### **Proving Oneself**

This category includes responses that convey a female official's sense of needing to "prove herself" or work harder than male officials in order to obtain the same level of acceptance and respect. 17.7% of the participants that responded to this question provided a response was included in this category. Several participants commented on a felt sense that they are expected to prove to their competence to coaches. For example, one female official wrote: "At times it

seems I have to prove myself more as an official to get the respect of a male coach". Other participants reflected a sense that they must work harder than male officials to demonstrate to their assignors and their peers that they are able to handle the game. "It seems to be that I have to work harder to be afforded the same opportunities as males. Assignors automatically give men a chance to officiate games just because of gender where I, as a female, have to work twice as hard to prove I can work".

### **Respect and Authority**

This category includes responses that pertain to participants' sense that female officials are not afforded the same respect or authority as male officials. 15.6% of participants provided a response relating to female officials' experiences of disrespect, condescension and/or lack of acceptance as an authority figure. For example, one participant described her challenge to be respected by coaches and other game personnel: "Males tend to receive more respect. Males seem to be viewed as 'in charge' even when I am the R". Another official described her struggles to be accepted by officiating partners: "Over the last 21 years, it's been a challenge and initially difficult to get accepted as a equal partner on and off the court".

### **No Differences**

9.4% of participants indicated that they do not perceive differences between their experiences and those of their male peers. Participants whose responses were grouped into this category reported that they perceived "no differences" or noted equality between male and female officials (i.e. "An official is an official, is an official"). Some participants highlighted that differences between male and female officials have been especially minimized in the women's game. For example, one participant wrote: "In women's basketball, I feel the playing field is fair".

## **Body Ideal**

Responses grouped in this category pertained to the pressure that female officials experience to cultivate their physical appearance to fit an unattainable ideal body type. 8.3% of participants made comments that fell within this category, indicating that female officials face more scrutiny related to their physical appearance and are held to a stricter standard of fitness than male officials. One participant wrote: "Weight plays a lot more with females than males I have noticed". Other participants noted that female officials are sometimes even held to male standards: "Current trends seem to favor female officials who look muscular like men".

## **Limited Opportunities**

Responses by 8.3% of participants reflected concerns that female officials are afforded fewer opportunities than male officials. Several responses referred to differences in the amount and quality of game assignments given to females as compared to males. For example, "The males have the popular sites to officiate and mostly work the varsity games". Other participants pointed to the low representation of female officials who work men's basketball compared to the relatively high representation of men in the women's game. " There seems to be a double standard in that a female will most likely NOT officiate a Men's college game, but male officials are assigned to Women's games".

## **Male Entitlement**

The *Male Entitlement* category included responses that referred to female officials facing challenges penetrating the "good ole boys" network or encountering male officials who promulgate the idea that basketball is a men's game. 7.3% of participants provided a response that was grouped into this category. Female officials experiences of male entitlement is evocatively illustrated with the following response.



There is a feeling of entitlement that seems to float around officiating by men (not all, of course)...that women would have to "prove" themselves when attempting to officiate men's basketball...yet, a man would simply have to show up and know how to do the job. There are numerous examples of "men's side" officials coming to the "women's side" and "knowing" that they had a better opportunity to go further in their careers. Yet, that same reality does not exist as an expectation for women. And surely a woman would never have the nerve to say that out loud as males so readily do.

### **Pay Inadequacies**

5.2% of participants cited the lower game fees on the women's side of college basketball as a major disadvantage to being a female official. For example, one participant wrote: "The men make more money". Given the disproportionate representation of women in the women's game as compared to the men's game resulting from aforementioned lack of mobility, pay inadequacies seem particularly significant.

### **Tokenism**

*Tokenism* refers to female officials' experience of being a minority within a male dominated field. 5.2% of participants gave a response that was grouped into this category.

Male officials leave one male-dominated facet of society (the everyday) and enter another male-dominated facet (officiating), seamlessly. As a female official, officiating women's basketball, there is a feeling of lack of representation of women officials, and I am left wondering if the unbalanced male-representation is an actual repellant of interest or involvement by women.

Responses in this category spoke to the challenges that arise from being "outnumbered" by men.

### Experiences of Discrimination – Factor Analysis

Participants were asked several quantitative questions related to their experiences of discrimination. A principal components analysis was conducted of selected quantitative items in order to better identify the underlying common factors that may explain female officials' experiences. Nineteen survey items were included in the analysis (see Table 4.2 for a list of survey questions related to discriminatory experiences that were initially included in the analysis), yielding a 5:1 subject to variable (STV) ratio. Although the sample size and STV ratios are relatively small in the present study, the factor analysis literature indicates that minimum necessary sample size is influenced by levels of communalities and the extent to which factors are overdetermined (i.e. with at least three to four variables loading onto each common factor) (Fabrigar, Wegener, MacCallum & Strahan, 1999). MacCallum, Widaman, Zhang and Hong (1999) demonstrated that small samples and low STVs may be adequate in studies with high variable communalities, a small number of expected factors and low model error. Further, in an analysis of two years of PsychINFO articles, Costello and Osborne (2005) revealed that 40.5% of the studies they reviewed had a STV ratio of 5:1 or less. These researchers suggest that a small sample size may be sufficient if item communalities are above a minimum of .4, item loadings on factors exceed .32, crossloadings are minimized and factors ideally contain five but no less than three strongly loading items.

Table 4.2

#### *List of Discrimination Survey Questions Initially Included in Factor Analysis*

##### **Survey Question**

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I officiate better when at least one of my other partners is female

My officiating partners treat me differently because I am female.

I feel that some other officials do not take me seriously as a professional.

My partners don't listen to me as much as other male officials.

Some of my partners don't trust me on the court because I am female.

Coaches have made comments to me regarding my physical appearance or sexuality.

Other officials have made comments to me regarding my physical appearance or sexuality.

Coaches have made negative comments to me regarding my physical ability (e.g. strength, athleticism, speed or ability to keep up with the pace of the game) because I am female.

Other officials have made negative comments to me regarding my physical ability (e.g. strength, athleticism, speed or ability to keep up with the pace of the game) because I am female.

My gender holds me back from having the same opportunities the male officials do in some cases.

Because of my gender, I am often not considered to referee men's games.

I have had male officiating partners that sometimes state or insinuate that women's basketball is not important

My male officiating partners often try to be protective of me on the court.

I have been encouraged to officiate more "like a man".

I have been told not to run, referee or act "like a girl".

I feel that I am singled out for criticism by coaches more often than my male colleagues because I am female.

I feel that I am targeted more by fans because I am female.

Some coaches don't trust me because I am female.

I feel that some coaches do not take me seriously as a professional.

The 19 survey items used in this analysis were tested to determine their factorability and to verify that statistical assumptions for factor analysis were met. The correlation matrix was examined and it was verified that items correlated at least .4 with a minimum of one other item,

suggesting reasonable factorability. The Kaiser-Meyer-Olkin measure of sampling adequacy was .82, which is above the recommended value of .6 and Bartlett's Test of Sphericity was significant ( $\chi^2 (171) = 851.113, p < .05$ ), indicating that the correlation matrix is not an identity matrix. The diagonals of the anti-image correlation matrix were all over .5 and the off-diagonal values were closer to zero. After examining the communalities, the item "I officiate better when at least one of my other partners is female" was removed from the analysis due to having a communality value of .365. A principal components analysis was conducted with the 18 remaining survey items.

Principal components analysis (PCA) was used because the primary purpose of this analysis is to describe phenomena underlying variables that are highly correlated. The initial Eigenvalues showed that the first factor ( $\lambda = 6.36$ ) explained 35% of the variance, the second factor ( $\lambda = 2.07$ ) 11.5% of the variance, the third factor ( $\lambda = 1.36$ ) 7.5% of the variance, the fourth factor ( $\lambda = 1.22$ ) 7% of the variance and the fifth factor ( $\lambda = 1.15$ ) 6% of the variance. A five factor solution that explained 67.5% of the variance was the best fit for the data because Eigenvalues leveled off after the fifth factor and dropped below 1 (Figure 4.1). A direct Oblimin rotation was used to allow for correlation between factors. Factor loadings were examined via the pattern matrix. Two items were considered for removal from the model due to high cross-loadings (above .4). These items are listed in Table 2. Both items were ultimately retained in the model due to their high face validity, primary loadings greater than .5 and overall goodness of fit with the factor model.

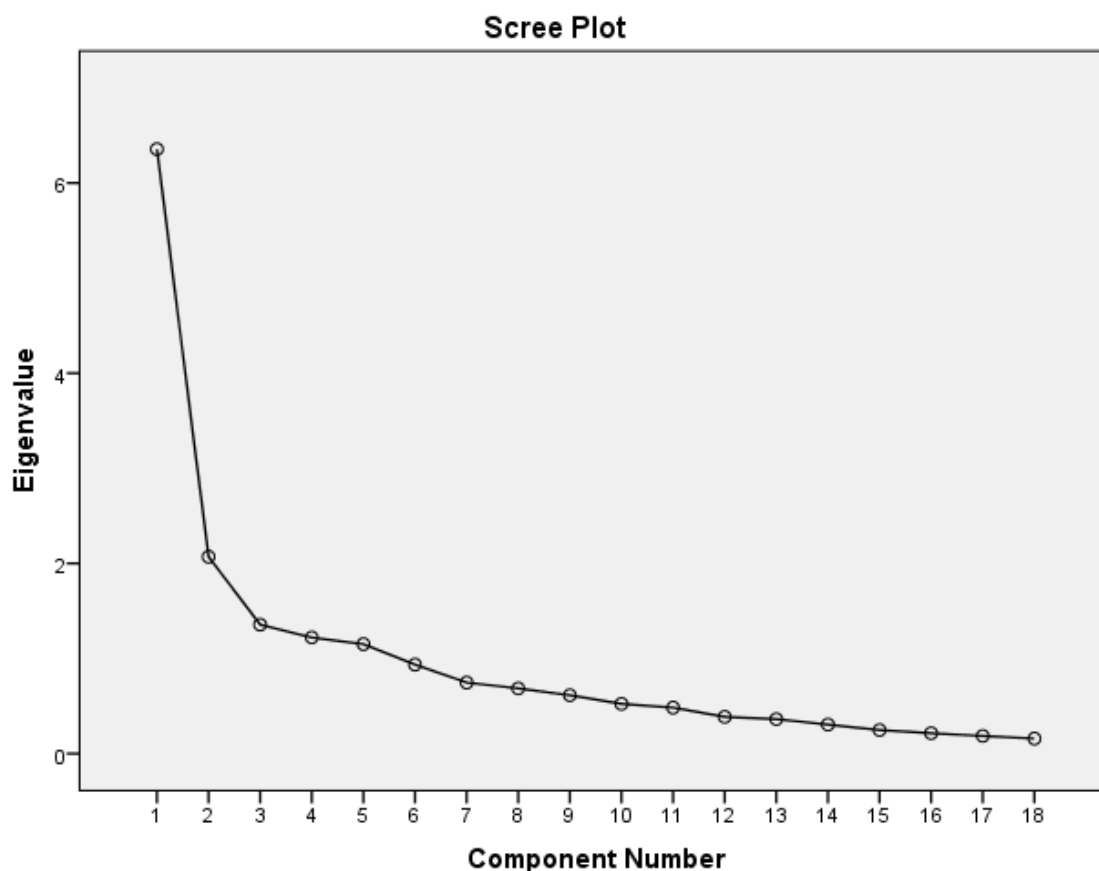


Figure 4.1. Scree plot for Discriminatory Experiences factors.

Table 4.3

*Pattern Matrix Factor Cross-loadings for Items Considered for Removal*

Item considered for removal	1	2	3	4	5
Other officials have made negative comments to me regarding my physical ability (e.g. strength, athleticism, speed or ability to keep up with the pace of the game) because I am female.*	.441	.561			
I feel that some coaches do not take me seriously as a professional.*	.417				.670

The variables that loaded onto each factor were then analyzed for underlying commonalities in order to derive factor labels. The final factors describing female officials' experiences of discrimination are as follows: (1) Partner attitudes (2) Physical factors (3) Denial

of opportunities/devaluation (4) Evocation of stereotypical gender roles (5) Game personnel (i.e. coach, fan) attitudes. The five factors and their component variables are listed in Table 4.4.

Table 4.4

*Five Factor Solution for Discriminatory Experiences with Oblimin Rotation*

<b>Factor</b>	<b>Loading</b>
<b>Factor 1: Partner Attitudes</b>	
My officiating partners treat me differently because I am female.	.710
I feel that some other officials do not take me seriously as a professional.	.697
My partners don't listen to me as much as other male officials.	.644
Some of my partners don't trust me on the court because I am female.	.578
<b>Factor 2: Physical Features</b>	
Coaches have made comments to me regarding my physical appearance or sexuality.	.855
Other officials have made comments to me regarding my physical appearance or sexuality.	.742
Coaches have made negative comments to me regarding my physical ability (e.g. strength, athleticism, speed or ability to keep up with the pace of the game) because I am female.	.665
Other officials have made negative comments to me regarding my physical ability (e.g. strength, athleticism, speed or ability to keep up with the pace of the game) because I am female.*	.561
<b>Factor 3: Denial of Opportunities/ Devaluation</b>	
My gender holds me back from having the same opportunities the male officials do in some cases.	.722
Because of my gender, I am often not considered to referee men's games.	.699
I have had male officiating partners that sometimes state or insinuate that women's basketball is not important	.693

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**Factor 4: Evocation of Stereotypical Gender Roles**


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My male officiating partners often try to be protective of me on the court.	.872
I have been encouraged to officiate more “like a man”.	.675
I have been told not to run, referee or act “like a girl”.	.537

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**Factor 5: Game Personnel (i.e. coach, fan) Attitudes**


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I feel that I am singled out for criticism by coaches more often than my male colleagues because I am female.	.857
I feel that I am targeted more by fans because I am female.	.839
Some coaches don’t trust me because I am female.	.723
I feel that some coaches do not take me seriously as a professional.*	.670

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\* Considered for removal

Reliability statistics were calculated on the new factors in order to verify internal consistency.

Cronbach's Alpha was computed for each of the factors and internal consistency scores are listed in Table 4.5.

Table 4.5

*Reliability Coefficients for the Five Factor Solution*

<b>Factor</b>	<b>Reliability</b>
Factor 1: Partner Attitudes	.83
Factor 2: Physical Features	.76
Factor 3: Denial of Opportunities/ Devaluation	.63
Factor 4: Evocation of Stereotypical Gender Roles	.65
Factor 5: Game Personnel (i.e. coach, fan) Attitudes	.89

---

Factor scores were then computed by summing participant responses to variables loading onto each of the five factors. These factor scores were then saved for subsequent analyses. One-way Analyses of Variance (ANOVAs) were conducted to determine if demographic groups differed in their experiences of discrimination across any of the five factors in the model above. Descriptions of each factor and demographic differences that exist within each are addressed below.

### **Partner Attitudes**

The Partner Attitudes factor measures the degree to which female officials experience lack of respect, trust and unequal treatment from partners. Frequency analyses were conducted in order to describe the distribution of participant responses to the questions that comprise the Partner Attitude factor. On the first variable, "My officiating partners treat me differently because I am female", 25.5% of participants marked "Agree", 27.5% of participants marked "Neutral" and 49% of officials marked "Disagree" (31.4%) or "Strongly Disagree" (15.7%). On variable two, "My partners don't listen to me as much as other male officials", 25.5% participants reported that they "Agree" (24.5%) or "Strongly Agree" (1%), 24.5% reported "Neutral", 35.3% reported "Disagree" and 13.7% reported "Strongly Disagree". On variable three, "Some of my partners don't trust me on the court because I am female", 5% reported "Strongly Agree", 18% reported "Agree" 27.5% reported "Neutral", 39.2% reported "Disagree" and 10.8 reported "Strongly Disagree". Finally, on variable four, "I feel that some other officials do not take me seriously as a professional", 3% reported "Strongly Agree", 16.7% reported "Agree", 17.6% reported "Neutral", 43.1% reported "Disagree" and 19.6% reported "Strongly Disagree". Results of the ANOVAs comparing demographic groups revealed no significant



differences on the Partner Attitudes variable with respect to age, race/ethnicity, sexual orientation, level(s) officiated, experience level, years officiated, or U.S. Region.

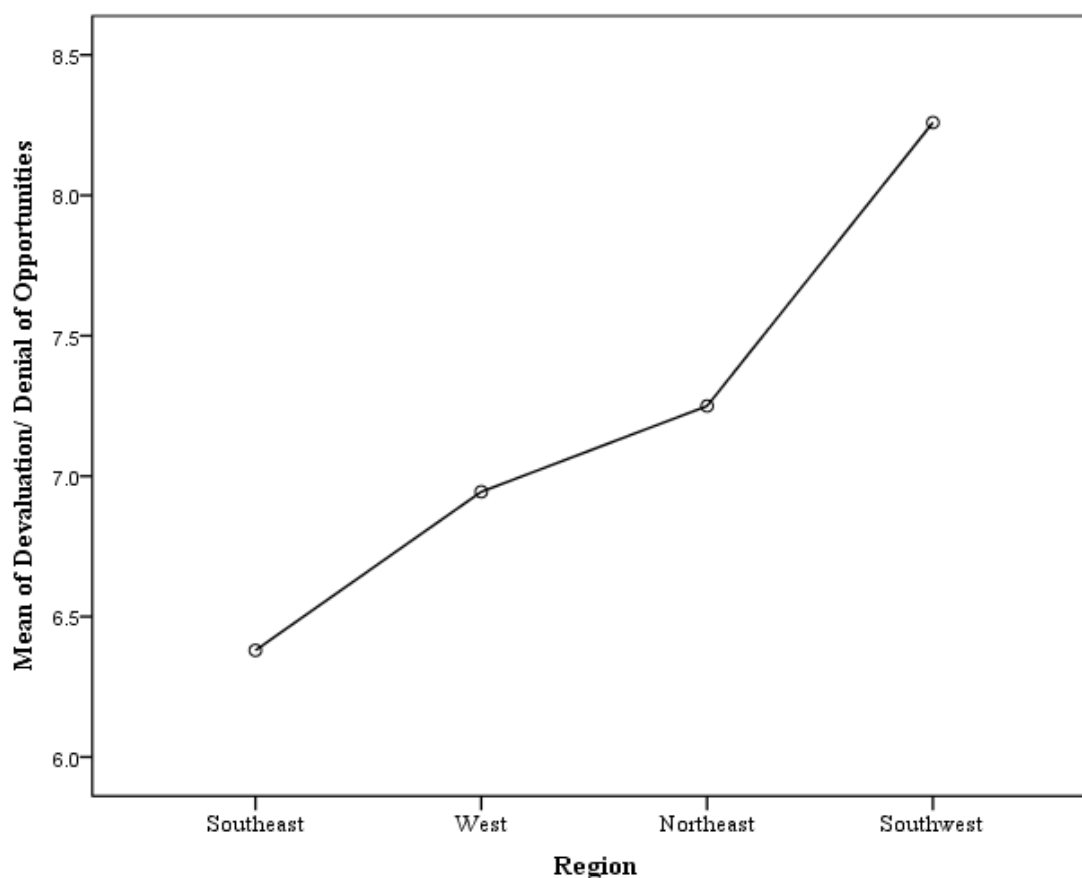
### **Physical Features**

The Physical Features factor measures the degree to which female officials have been the target of comments related to their physical appearance and abilities. 10% of female officials reported that they had been the target of coaches gender-charged comments pertaining to their physical ability (1% "Strongly Agree" and 9% "Agree") whereas the majority of officials (42% "Disagree" and 38% "Strongly Disagree") denied that this had been a part of their experience and 10% marked "Neutral". Similarly, a minority of officials reported having experienced partners comments related to their physical ability (1% "Strongly Agree, 5% Agree), 11% marked "Neutral" and 82% marked "Disagree" (42%) or "Strongly Disagree" (40%). Pertaining to physical appearance, 29% of officials reported that they had experienced comments related to their physical appearance or sexuality from coaches (6% "Strongly Agree" and 23% "Agree") compared to 67% who denied this experience (39% "Disagree" and 27.5% "Strongly Disagree") and 5% who marked "Neutral". Finally, 34% of female officials reported that they had experienced comments related to their physical appearance from other officials (10% "Strongly Agree" and 25% "Agree") where as 10% marked "Neutral", 27.5% marked "Disagree" and 27.5% marked "Strongly Disagree". Results of the ANOVAs comparing demographic groups revealed no significant differences on the Physical Features variable with respect to age, race/ethnicity, sexual orientation, level(s) officiated, experience level, years officiated, or U.S. Region.

### **Devaluation/ Denial of Opportunities**

The Devaluation/ Denial of Opportunities factor pertains to female officials' experiences of not being given the same opportunities as male officials based on gender. Within this factor, a majority of officials 47% (13% "Strongly Agree", 35% "Agree") reported feeling that their gender holds them back from having the same opportunities male officials do compared to 14% who marked "Neutral", 26.5% that marked "Disagree" and 11% that marked "Strongly Disagree". Similarly, a majority (39% "Strongly Agree" and 31% "Agree") of officials reported that their gender precluded them from being considered to referee men's games, while 12.7% were "Neutral", 13.7% marked "Disagree" and 3% marked "Strongly Disagree". Finally, a majority (23.5% "Strongly Agree" and 34.3% "Agree") reported that they have had male officiating partners who devalued women's basketball compared to 9.8% "Neutral" and 31.4% who marked "Disagree" (21.6%) or "Strongly Disagree" (9.8%).

The results of the ANOVA omnibus test indicated that significant regional differences exist on the Devaluation/Denial of Opportunities variable ( $F(3, 95) = 5.68, p = .001, \eta^2 = .15$ ). A Tukey HSD post-hoc analysis revealed significant differences in perceived opportunities for female officials between the Southeast ( $M(50) = 6.38$ ) and Southwest groups ( $M(27) = 8.26, p < .01$ ), with female officials from the Southwest endorsing significantly higher levels of discrimination (Figure 4.2). No significant differences were found between any other regions. No significant differences on the Devaluation/Denial of Opportunities variable were found among participants based on age, race/ethnicity, sexual orientation, years officiating, levels of officiating, or the degree to which female officials viewed themselves as experienced.



*Figure 4.2.* Mean regional differences among participants on the Devaluation/ Denial of Opportunity factor.

### Gender Roles

The Gender Roles factor measures the degree to which, through actions or comments, others invoke gender role stereotypes when interacting with female officials. On the first variable, "I have been encouraged to officiate more 'like a man'", 4% of officials marked "Strongly Agree", 16% marked "Agree", 10% marked "Neutral", 49% marked "Disagree" and 21.6% marked "Strongly Disagree". On variable two, "I have been told not to run, referee or act 'like a girl'", 7.8% marked "Strongly Agree", 18.6% marked "Agree", 8.8% marked "Neutral", 39.2% marked "Disagree" and 25.5% marked "Strongly Disagree". Finally, on variable three, "My male officiating partners often try to be protective of me on the court", 6.9% marked "Strongly Agree", 48% marked "Agree", 13.7% marked "Neutral", 27.5% marked "Disagree"

and 3.9% marked "Strongly Disagree". Results of the ANOVAs comparing demographic groups revealed no significant differences on the Gender Roles variable with respect to age, race/ethnicity, sexual orientation, level(s) officiated, experience level, years officiated, or U.S. Region.

### **Coach/Fan Attitudes**

The Coach/Fan Attitudes factor appears to measure the degree to which female officials experience discriminatory attitudes, beliefs and/or actions from coaches and fans. 40.2% (11.8% "Strongly Agree" and 28.4% "Agree") of female officials in this sample reported feeling that they are singled out by coaches more often than male colleagues due to their gender compared to 24.5% who marked "Neutral", 30.4% who marked "Disagree" and 4.9% who marked "Strongly Disagree". A majority also "Strongly Agree" (21.6%) or "Agree" (26.5%) that they are targeted more by fans because of their gender with 21.6% who marked "Neutral", 23.5% who marked "Disagree" and 6.9% who marked "Strongly Disagree". 44.1% of participants in the sample reported that coaches don't trust them because they are female (10.8% "Strongly Agree" and 33.3% "Agree") whereas 20.6% marked "Neutral", 28.4% marked "Disagree" and 6.9% marked "Strongly Disagree". Finally, 34.3% of officials reported that some coaches do not take them seriously as a professional (5.9% "Strongly Agree" and 28.4% "Agree"), 20.6% marked "Neutral", 30.4% marked "Disagree" and 14.7% marked "Strongly Disagree".

The results of the ANOVA omnibus test indicated that significant differences existed on the Coach/Fan Attitudes factor based on the levels of basketball that participants officiate ( $F(5, 96) = 3.64$   $p = .005$   $\eta^2 = .16$ ). A Tukey HSD post-hoc analysis revealed significant differences in perceived coach/fan attitudes between high school officials ( $M(15) = 14.5$ ) and women's collegiate officials ( $M(32) = 10.38$ ,  $p = .008$ ), with high school officials endorsing greater

experiences of disrespect from game personnel. Similar differences were shown between women's collegiate only officials ( $M(32)=10.38$ ) as compared to those women who officiate both high school and women's college ( $M(45)=12.9$ ,  $p=.045$ ). These results are displayed in Figure 4.3. No significant differences were found between any other officiating levels.

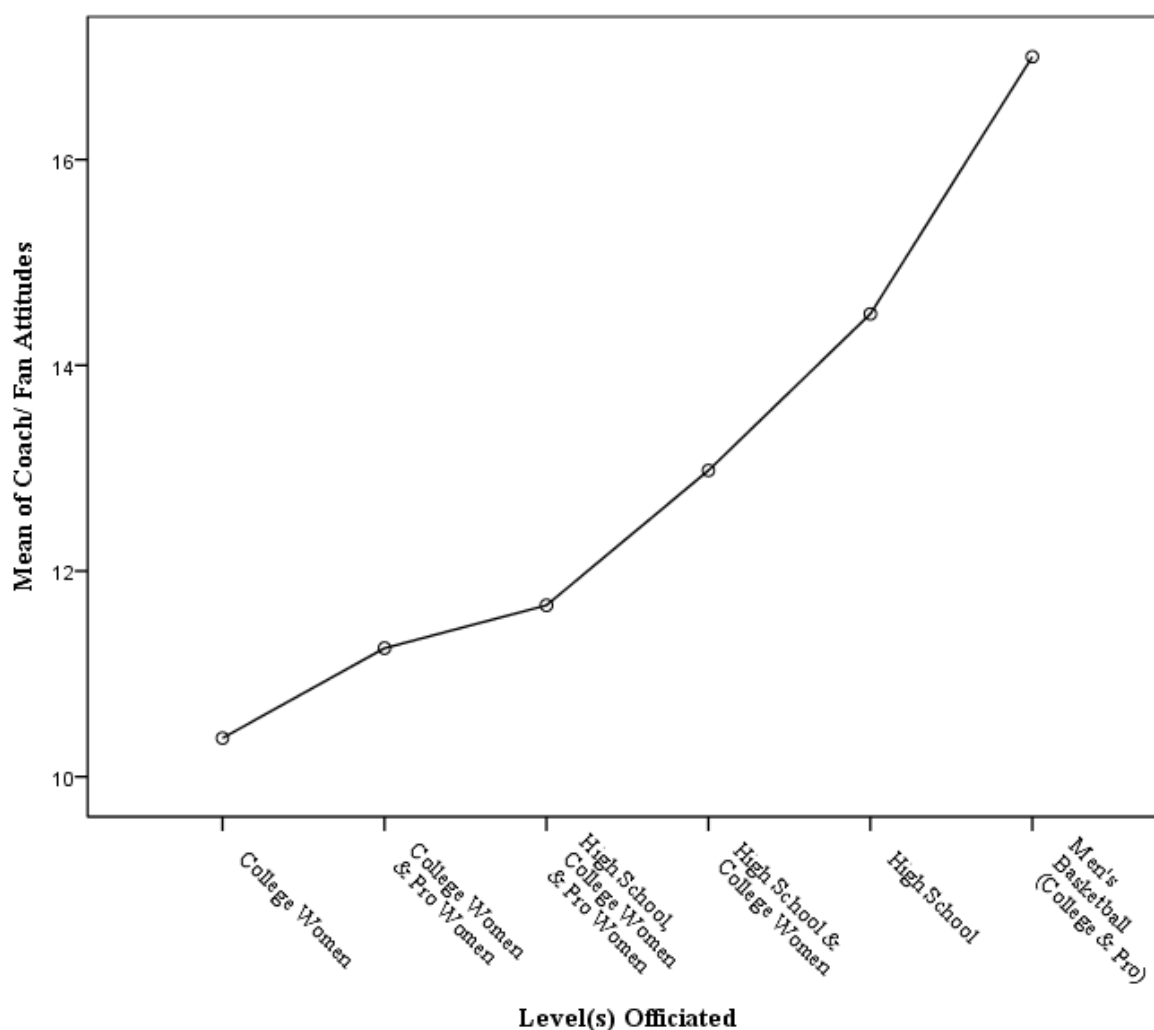
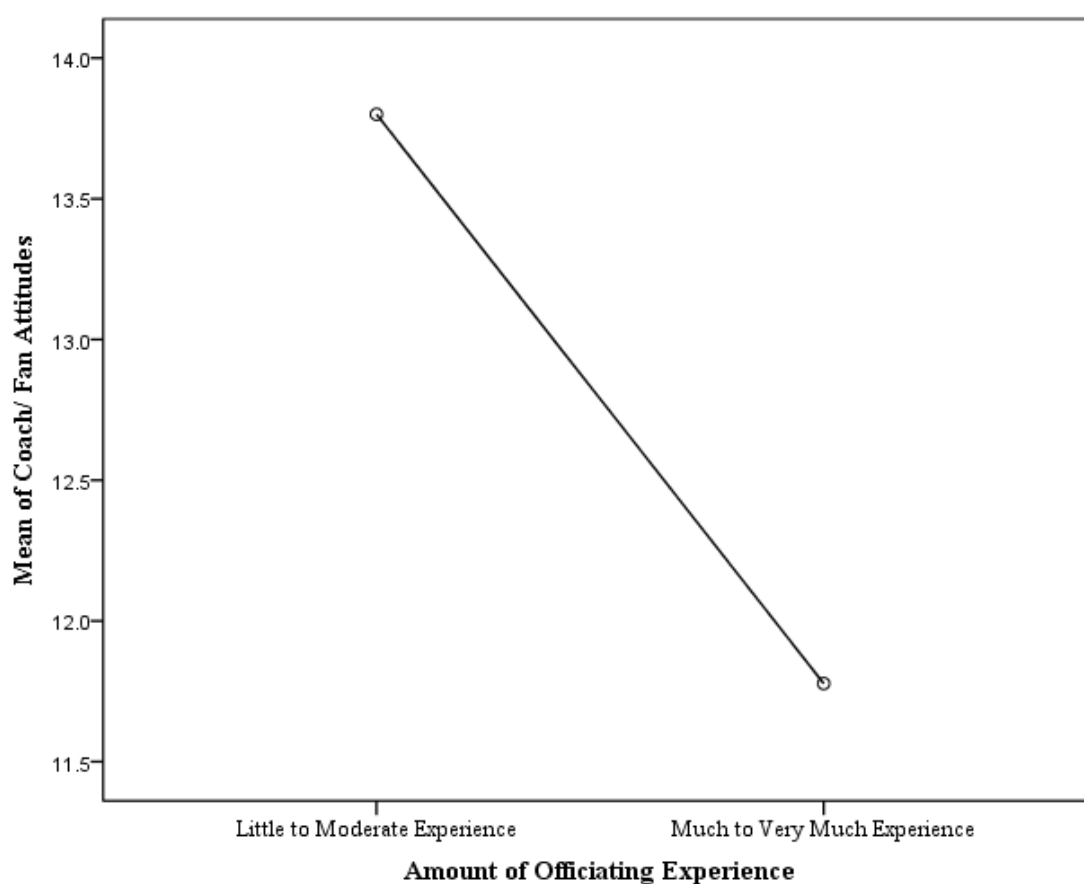


Figure 4.3. Mean differences in levels officiated among participants on the Coach/Fan Attitudes factor.

The results of the ANOVA omnibus test also indicated that significant differences exist on the Coach/Fan Attitudes factor based on the extent to which participants perceived themselves as experienced ( $F(1, 100) = 5.48$ ,  $p=.021$ ,  $\eta^2 = .05$ ). For this analysis, participants' 5-point Likert

responses were regrouped due to low numbers of participants who reported that they viewed themselves as "Not at All" (N=1) experienced and or as having "Some" (N=4) experience. Responses were consolidated to create "Less Experienced" (Comprised of the "Not At All", "Some" and "Moderate" groups) and "More Experienced" (Comprised of the "Much" and "Very Much" groups). The results showed that officials in the "Less Experienced" group ( $M(30) = 13.8$ ) reported much more perceived coach and fan disrespect than the officials in the "More Experienced" group ( $M(71) = 11.78$ )(See Figure 4.4).



*Figure 4.4.* Mean differences in self-reported officiating experience among participants on the Coach/Fan Attitudes factor.

No significant differences on the Game Personnel Attitudes variable were found among participants based on age, race/ethnicity, sexual orientation, years officiating, U.S. region, or officiating level.

### **Cognitive and Emotional Impact of Discrimination Experiences - Factor Analysis**

Participants were asked True/False and Likert scale questions related to the self-perceived impact of their experiences of discrimination. Questions were originally designed to correspond to categories derived from the stereotype threat literature including *Competence*, *Confidence*, *Self-monitoring*, and *Stress*. Selected quantitative items were extracted from the questionnaire for inclusion in a principal components analysis. Questions were chosen for inclusion in the analysis if they directly assessed the emotional or cognitive impact of discriminatory experiences on participants. Likert scale items were recoded as binary with "Strongly Disagree", "Disagree" and "Neutral" responses being recategorized as "False" and "Agree" and "Strongly Agree" responses being recategorized as "True". Although variables were technically nonparametric and scored on a dichotomous (i.e. True/ False) scale, they are expected to have an underlying normal distribution and to represent continuous latent constructs. A tetrachoric correlation matrix was calculated in order to transform variables into a parametric form. However, when the tetrachoric correlations were inserted into the SPSS for analysis via Principal Components extraction, the program encountered a singularity problem and the analysis failed. Therefore, a simple Principal Components Analysis (PCA) was used.

Fifteen survey items were originally included in the PCA yielding a 7:1 subject to variable (STV) ratio which is above the recommended 5:1 minimum. The factorability of the original 15 impact items was examined. The correlation matrix showed that items in the analysis correlated at least .3 with a minimum of one other item, suggesting reasonable factorability.

Further the Kaiser-Meyer-Olkin measure of sampling adequacy was .79 which is above the recommended value of .6 and Bartlett's Test of Sphericity was significant ( $\chi^2(105) = 557.289$ ,  $p < .05$ ), indicating that the correlation matrix is not an identity matrix. The diagonals of the anti-image correlation matrix were all over .5 and the off-diagonal values were closer to zero. After an examination of the communality scores, all items were verified as having communality values greater than .3 and were therefore retained. The pattern matrix was examined and two items with high factor cross loadings were removed. These variables are listed in Table 4.6.

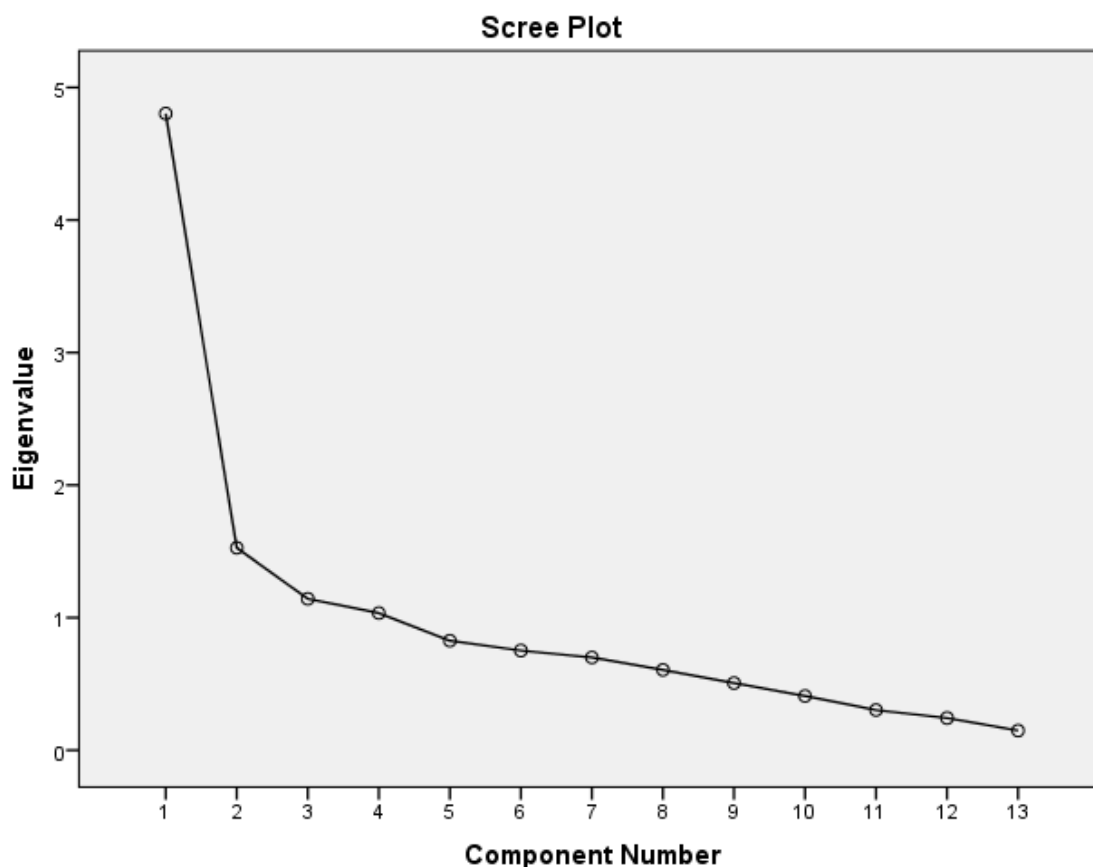
Table 4.6

*Pattern Matrix Factor Cross-loadings for Items Removed from the Analysis*

Variable	1	2	3	4
I feel more pressure to perform well and avoid missing calls when I am the only female	.393			.399
I worry that if I make a mistake in a men's game, people will attribute it to me being female	.434	.436		

The PCA was then reanalyzed with the 13 remaining items. The eigenvalues showed that the first factor ( $\lambda = 4.80$ ) accounted for 36.95% of the variance, the second factor ( $\lambda = 1.53$ ) 11.74% of the variance, the third factor ( $\lambda = 1.14$ ) 8.79% of the variance and the fourth factor ( $\lambda = 1.04$ ) 7.96% of the variance. A four factor solution that explained 65.44% of the variance was the best fit for the data because eigenvalues leveled off after the fourth factor and dropped below one (Figure 4.5).





*Figure 4.5.* Scree plot for Impact of Discriminatory Experiences factors

The variables that loaded onto each of the four factors were determined through the examination of factor loadings on the pattern matrix. Each factor was analyzed to identify its latent structure and to derive factor labels. After the pattern matrix was examined, two items ("I worry that people automatically assume that I am not competent as an official because I am female" and "I feel more pressure to avoid missing calls if I sense that my partners have a negative attitude toward female officials") were considered for removal from the model due to having cross loadings above .3. However, these items were ultimately retained due to having high primary loadings above .3. However, these items were ultimately retained due to having high primary loadings greater than .7 and high face valid fit within the factor model. The final factors describing the impact of experiences of discrimination on female officials as reported by

participants in this sample are as follows: (1) Stress, (2) Anxiety, (3) Self-monitoring and (4) Confidence. The four factors and their component variables are listed in Table 4.7.

Table 4.7.

*Four Factor Solution for Cognitive/ Emotional Impact of Discrimination with Oblimin Rotation*

<b>Factor</b>	<b>Loading</b>
<b>Factor 1: Stress</b>	
I feel uncomfortable in games in which I sense that others expect me to fail because I am female	.874
I feel more pressure to avoid missing calls if I sense that my partners have a negative attitude toward female officials	.701
I feel pressure to avoid missing calls if I sense that coaches have a negative attitude toward female officials	.672
When coaches or other officials make comments about me being female, I worry more on the court about getting calls right	.657
<b>Factor 2: Anxiety</b>	
I worry that if I make a mistake in any game, people will attribute it to me being female	.794
I worry that people automatically assume that I am not competent as an official because I am female	.702
When I miss a call, I sometimes worry that people will think I missed it because I am female	.700
<b>Factor 3: Self-monitoring</b>	
I spend more time analyzing my calls in a men's game as compared to a women's game	.870
I tend to think more about my own performance when I know that I am in the spotlight because I am female	.707
I am more aware of making mistakes when I sense that coaches or my officiating partners think negatively of me because I am female	.553

I hesitate more before making a call when I sense that coaches or other officials think negatively about me because I am female .407

#### **Factor 4: Confidence**

---

My confidence can be negatively impacted by degrading and/or sexist comments made by my partners .903

My confidence can be negatively impacted by degrading and/or sexist comments made by coaches .822

---

Reliability statistics were calculated on the new factors in order to verify internal consistency.

Cronbach's Alpha was computed and internal consistency scores are listed in Table 4.8.

Table 4.8

#### *Reliability Coefficients for the Cognitive/ Emotional Impact Four Factor Solution*

<b>Factor</b>	<b>Reliability</b>
Factor 1: Stress	.81
Factor 2: Anxiety	.66
Factor 3: Self-monitoring	.70
Factor 4: Confidence	.88

Factor scores were computed by summing participant responses to variables loading onto each of the five factors. These factor scores were then saved for subsequent analyses.

Descriptions of the factors and the variables of which they are comprised are addressed in the following paragraphs.

#### **Stress**

Stress pertains to the pressure that an official feels when she perceives that the demands placed on her exceed her relative resources. Frequency analyses were conducted on binary variables contributing to the stress factor in the current model and positive response percentages

will be reported in this section. Forty-three percent of female officials in this sample reported that they feel more pressure to avoid missing calls if they sense that their partners have a negative attitude toward female officials and 40% reported that they feel more pressure to avoid missing calls if they sense that coaches have a negative attitude toward female officials. Twenty-one point six percent reported that they feel uncomfortable in games in which they sense that others expect them to fail because they are female and 23.5% reported that when coaches or other officials make comments about them being female, they worry more on the court about getting calls right. ANOVA results comparing demographic groups revealed no significant differences on the Stress factor with respect to age, race/ethnicity, sexual orientation, level(s) officiated, experience level, years officiated or U.S. region.

### **Anxiety**

The anxiety scale measures the degree to which female officials worry about confirming stereotypes by making mistakes (i.e. missing calls) or appearing incompetent to others. Within the anxiety scale, 22.5% of participants reported that they worry that if they make a mistake in any game, people will attribute it to them being female, 18.6% reported that when they miss a call they sometimes worry that people will think they missed it because they are female and 31.4% reported that they worry that people automatically assume that they are not competent as an official because they are female. Results of the ANOVA omnibus test indicated that the amount of discrimination-related anxiety participants reported differed significantly based on the level(s) they officiate ( $F(5, 95) = 2.37$   $p = .045$   $\eta^2 = .11$ ). A Tukey HSD post-hoc analysis revealed significant differences in anxiety between participants who referee high school only ( $M(16) = 1.31$ ) and those that referee women's college only ( $M(32) = .41$ ) with high school only officials reporting significantly higher discrimination-related stress (see Figure 4.6).

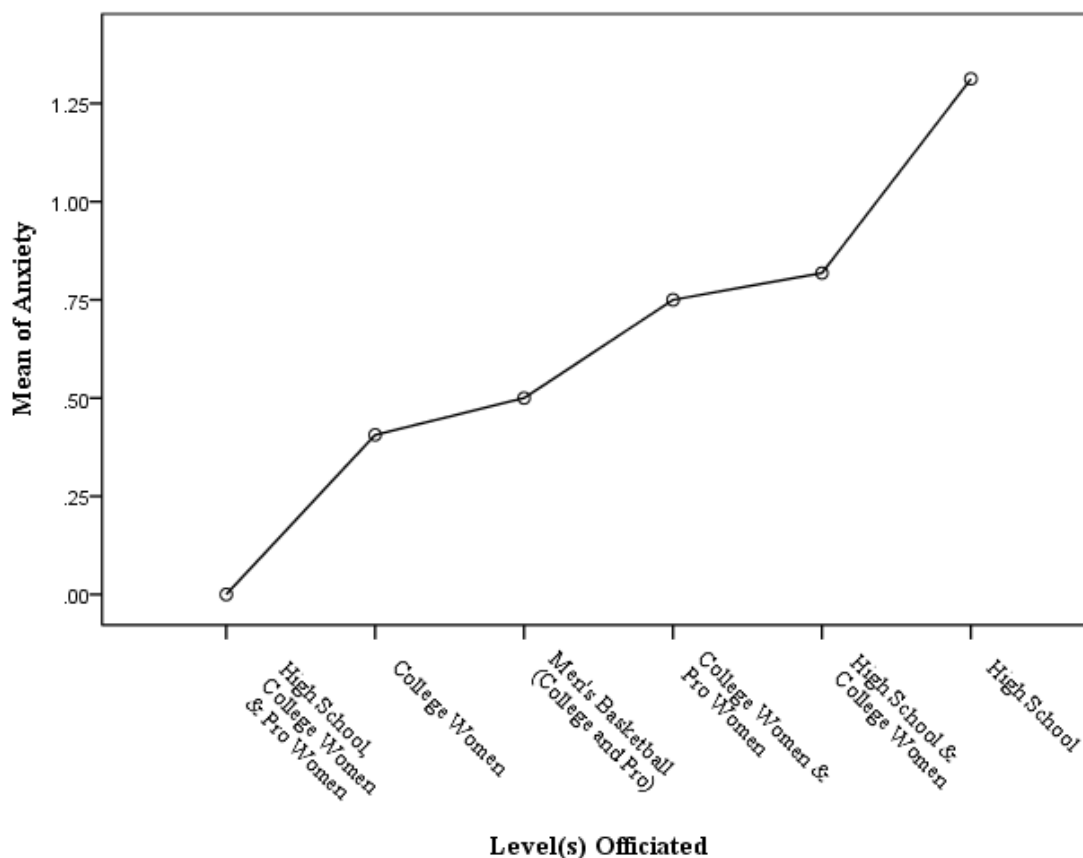


Figure 4.6. Means plots of Anxiety factor based on level officiated.

No significant differences on the Anxiety factor were found among participants based on age, race/ethnicity, sexual orientation, years officiating or U.S. region.

### Self-Monitoring

Self-monitoring refers to an official's active regulation, control and tracking of herself, her emotions, her behaviors and her successful execution of tasks. Several survey items assessed the question of whether self-monitoring behavior increases when female officials are exposed negative discriminatory experiences. The variables assessing self-monitoring behavior were dichotomous (i.e. True/False) items that aimed to capture the degree to which female officials analyze and worry about the calls that they make during the game when the conditions of stereotype threat are evoked. Approximately one-third (32%) of participants reported that they

are more aware of making mistakes when they sense that coaches or their officiating partners think negatively of them because they are female. 49% of participants reported that they tend to think more about their own performance when they know that they are in the spotlight because they are female. 21% of participants reported that they spend more time analyzing their calls in a men's game as compared to a women's game and 14.7% of participants reported that they hesitate more before making a call when they sense that coaches or other officials think negatively about them because they are female.

Results of the ANOVA omnibus test indicated that the amount of self-monitoring behavior participants reported differed significantly based on the level(s) they officiate ( $F(5, 95) = 2.93$ ,  $p = .017$ ,  $\eta^2 = .13$ ). A Tukey HSD post-hoc analysis revealed significant differences in anxiety between participants who referee high school only ( $M(16) = 2.13$ ) and those that referee women's college only ( $M(32) = .72$ ,  $p = .004$ ) with high school only officials reporting significantly higher self-monitoring (see Figure 4.7).

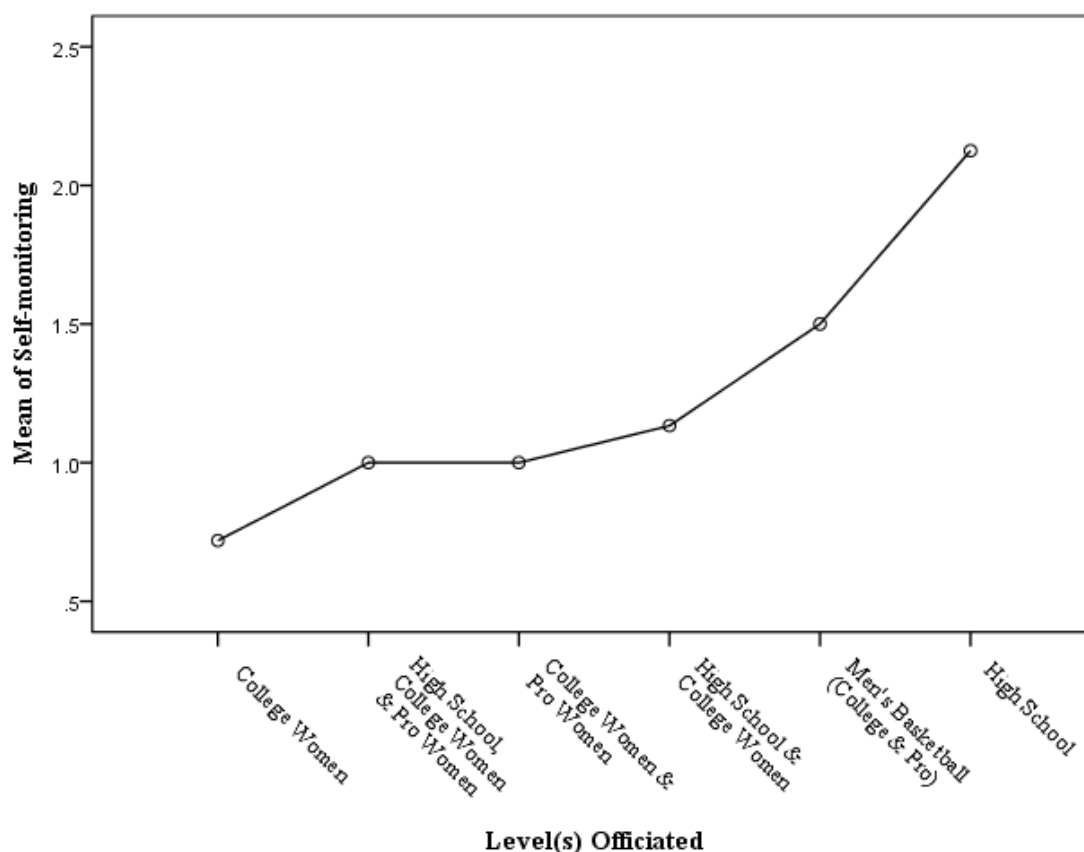


Figure 4.7. Means plots of Self-monitoring factor based on level officiated.

No significant differences on the Self-monitoring factor were found among participants based on age, race/ethnicity, sexual orientation, years officiating or U.S. region.

### Confidence

Confidence means an officials' belief in her own ability to successfully execute the officiating tasks required of her such as making correct calls, managing game situations and accurately applying game rules. Two survey questions addressed the self-perceived impact of discriminatory experiences on female officials' confidence during games. One third (33.3%) of participants in this sample reported that their confidence could be negatively impacted by degrading/sexist comments made by their partners and 27% who felt that their confidence could be negatively impacted by degrading/sexist comments made by coaches. ANOVA results

comparing demographic groups reveal no significant differences on the Confidence factor with respect to age, race/ethnicity, sexual orientation, level(s) officiated, experience level, years officiated or U.S. region.

### **Correlations between Discriminatory Experiences Factors and Psychological Impact of Discrimination Factors.**

Correlational analyses were conducted to assess the relationship between participants scores on five factors related to experiences of discrimination and the four factors measuring the cognitive/emotional impact of discriminatory experiences. Spearman's  $\rho$  was calculated as this statistic is most appropriate for nonparametric data. As for all correlation analyses in this paper, effect size was interpreted based on Cohen's (1988) standards in which a correlation coefficient of .10 corresponds to a weak correlation, .30 is considered moderate and .50 or larger is considered strong. An overview of significant correlations between these variables is listed in Table 4.9.

*Table 4.9*

*Correlations between Discrimination Experience Factors and Impact of Discrimination Factors*

	Impact of Discrimination			
	Stress	Anxiety	Self-monitoring	Confidence
<b>Discrimination Experience</b>				
Game Personnel Attitudes	.431**	.657**	.427**	.241*
Partner Attitudes	.225*	.300**	.264**	
Denial of Opportunities/ Devaluation		.266**	.247**	
Evocation of Stereotypical Gender Roles		.237*	.230*	



Physical Features	.211*
<i>Note.</i> * significant at $p < .05$ , ** significant at $p < .01$	

### Correlation of Stress with Discrimination

There was a moderate positive correlation between Stress and Game Personnel Attitudes ( $\rho = .431, p < .01$ ) and a weak positive correlation between Stress and Partner Attitudes ( $\rho = .225, p < .05$ ). The relationships between Stress and Denial of Opportunities/Devaluation, Evocation of Stereotypical Gender Roles and Physical Features variables were not significant (see Table 4.10).

Table 4.10

#### *Correlations of Stress with Five Discrimination Factors*

<b>Discrimination Experience</b>	<b>Spearman Correlation (<math>\rho</math>)</b>
Game Personnel (i.e. coach, fan) Attitudes	.431**
Partner Attitudes	.225*
Denial of Opportunities/ Devaluation	.170
Evocation of Stereotypical Gender Roles	.164
Physical Features	.069

*Note.* \* significant at  $p < .05$ , \*\* significant at  $p < .01$

### Correlation of Anxiety with Discrimination

A strong positive correlation was found between Anxiety and Game Personnel Attitudes ( $\rho = .657, p < .01$ ) and a moderate positive correlation was found between Anxiety and Denial of

Opportunities/Devaluation ( $\rho = .300, p < .01$ ). Anxiety was also found to have a weak positive correlation with Partner Attitudes ( $\rho = .266, p < .05$ ) and Physical Features ( $\rho = .237, p < .01$ ). No relationship was found to exist between Anxiety and Evocation of Stereotypical Gender Roles (see Table 4.11).

Table 4.11

*Correlations of Anxiety with Five Discrimination Factors*

<b>Discrimination Experience</b>	<b>Spearman Correlation (<math>\rho</math>)</b>
Game Personnel Attitudes	.657**
Denial of Opportunities/Devaluation	.300**
Partner Attitudes	.266**
Physical Features	.237*
Evocation of Stereotypical Gender Roles	.137

*Note.* \* significant at  $p < .05$ , \*\* significant at  $p < .01$

**Correlation of Self-Monitoring with Discrimination**

Self-monitoring was found to correlate positively with all five discrimination factors in this study. There was a moderate positive correlation between Self-Monitoring and Game Personnel Attitudes ( $\rho = .427, p < .01$ ). Weak positive correlations also were found between Self-Monitoring and Denial of Opportunities/ Devaluation ( $\rho = .264, p < .01$ ), Partner Attitudes ( $\rho = .247, p < .01$ ), Evocation of Stereotypical Gender Roles ( $\rho = .230, p < .05$ ) and Physical Features ( $\rho = .211, p < .05$ ) (see Table 4.12).

Table 4.12

*Correlations of Self-Monitoring with Five Discrimination Factors*

<b>Discrimination Experience</b>	<b>Spearman Correlation (<math>\rho</math>)</b>
Game Personnel (i.e. coach, fan) Attitudes	.427**
Denial of Opportunities/ Devaluation	.264**
Partner Attitudes	.247**
Evocation of Stereotypical Gender Roles	.230*
Physical Features	.211*

Note. \* significant at  $p < .05$ , \*\* significant at  $p < .01$

**Correlation of Confidence with Discrimination**

Confidence had a weak positive correlation with the Evocation of Stereotypical Gender Roles factor ( $\rho = .241, p < .05$ ). No relationships existed between Confidence and Game Personnel Attitudes, Partner Attitudes, Physical Features or Denial of Opportunities/Devaluation (see Table 4.13).

Table 4.13

*Correlations of Confidence with Five Discrimination Factors*

<b>Discrimination Experience</b>	<b>Spearman Correlation (<math>\rho</math>)</b>
Evocation of Stereotypical Gender Roles	.241*
Game Personnel (i.e. coach, fan) Attitudes	.162
Partner Attitudes	.132
Physical Features	.097
Denial of Opportunities/ Devaluation	.059

Note. \* significant at  $p < .05$ , \*\* significant at  $p < .01$

### **Coping – Factor Analysis**

A principal components analysis was conducted of selected quantitative items relating to coping in order to determine if coping variables could be combined into a singular factor. Six survey items were originally included in the analysis, yielding a 17:1 subject to variable ratio. These items were tested to determine their factorability and to verify that statistical assumptions for factor analysis were met. The correlation matrix was examined and it was verified that items correlated least .4 with a minimum of one other item, suggesting reasonable factorability. The Kaiser-Meyer-Olkin measure of sampling adequacy was .76, which is above the recommended value of .6 and Bartlett's Test of Sphericity was significant ( $\chi^2 (15) = 247.315, p < .05$ ), indicating that the correlation matrix is not an identity matrix. The diagonals of the anti-image correlation matrix were all over .6 and the off-diagonal values were closer to zero. After examining the communalities, the item "Using humor has helped me to cope with discriminatory comments and remarks that I hear while officiating" was removed from the analysis due to having a low communality score of .36.

The remaining five items were re-analyzed with Principle Components Analysis. Results of the analysis were consistent with a one factor solution. The initial Eigenvalues showed that 61.13% of the variance could be explained by a single factor ( $\lambda=3.06$ ) and after the first factor, Eigenvalues leveled off and dropped below one (see Figure 4.8). Because only one component was extracted, the factor solution was not rotated. Reliability statistics were calculated on the coping factor in order to verify internal consistency. Cronbach's Alpha was found to be equal to .84. The factor variables were examined to derive an appropriate factor label. The extracted factors had the common underlying theme of female officials developing confidence and

effective coping skills by relating to the actions, thoughts or example of success provided by another female official. This variable was therefore labeled *Role Models* (see Table 4.14).

Table 4.14.

*One Factor Solution for Coping Variables*

<b>Role Models Component Variables</b>	<b>Loading</b>
Reading and hearing about other female officials' successes makes me feel more confident that I can succeed in officiating.	.85
Hearing from other female officials about techniques they use to confront coaches and other officials about insensitive comments has helped me to feel more confident in confronting others as well.	.84
Hearing from other female officials about the ways in which they cope with frustrations that arise that relate to being female in a male-dominated field has helped me to cope as well.	.76
Seeing female officials referee on television helps me to feel more confident in myself as an official.	.75
Hearing other female officials' stories about the negative experiences that they have had as a female official helps me to cope with frustrations that I encounter on the court.	.69

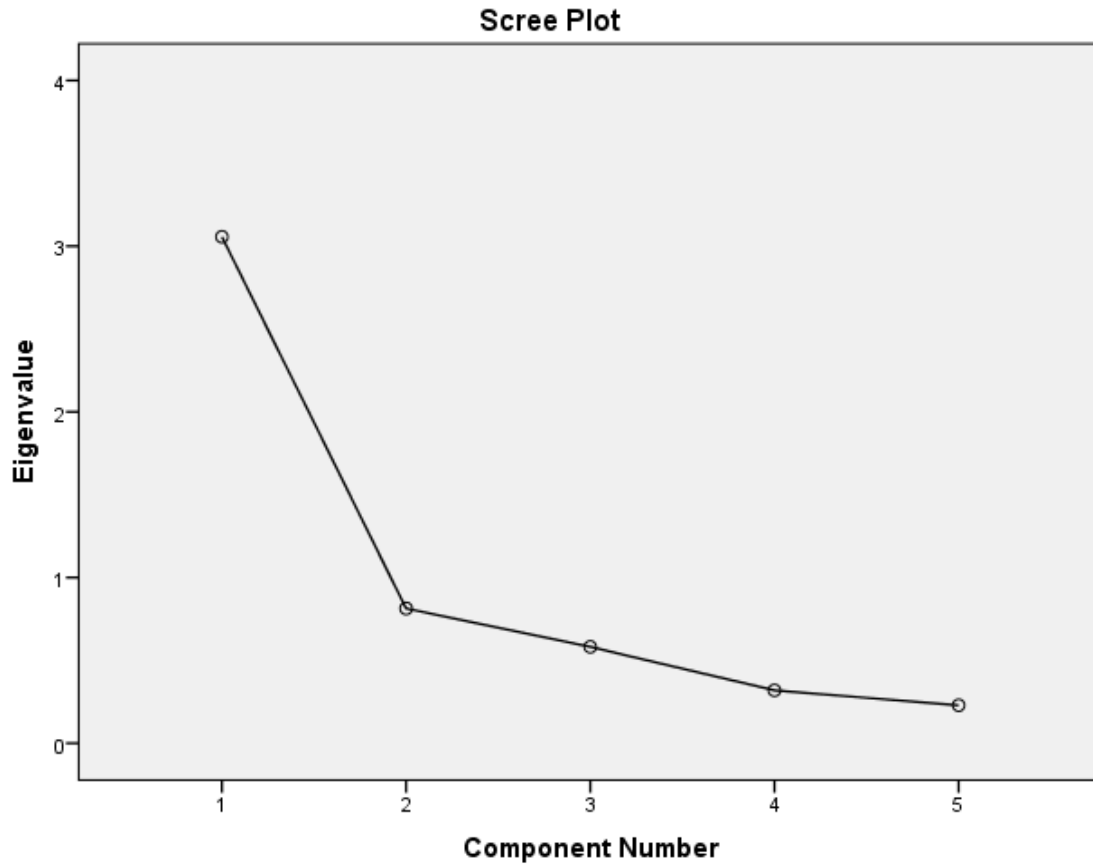
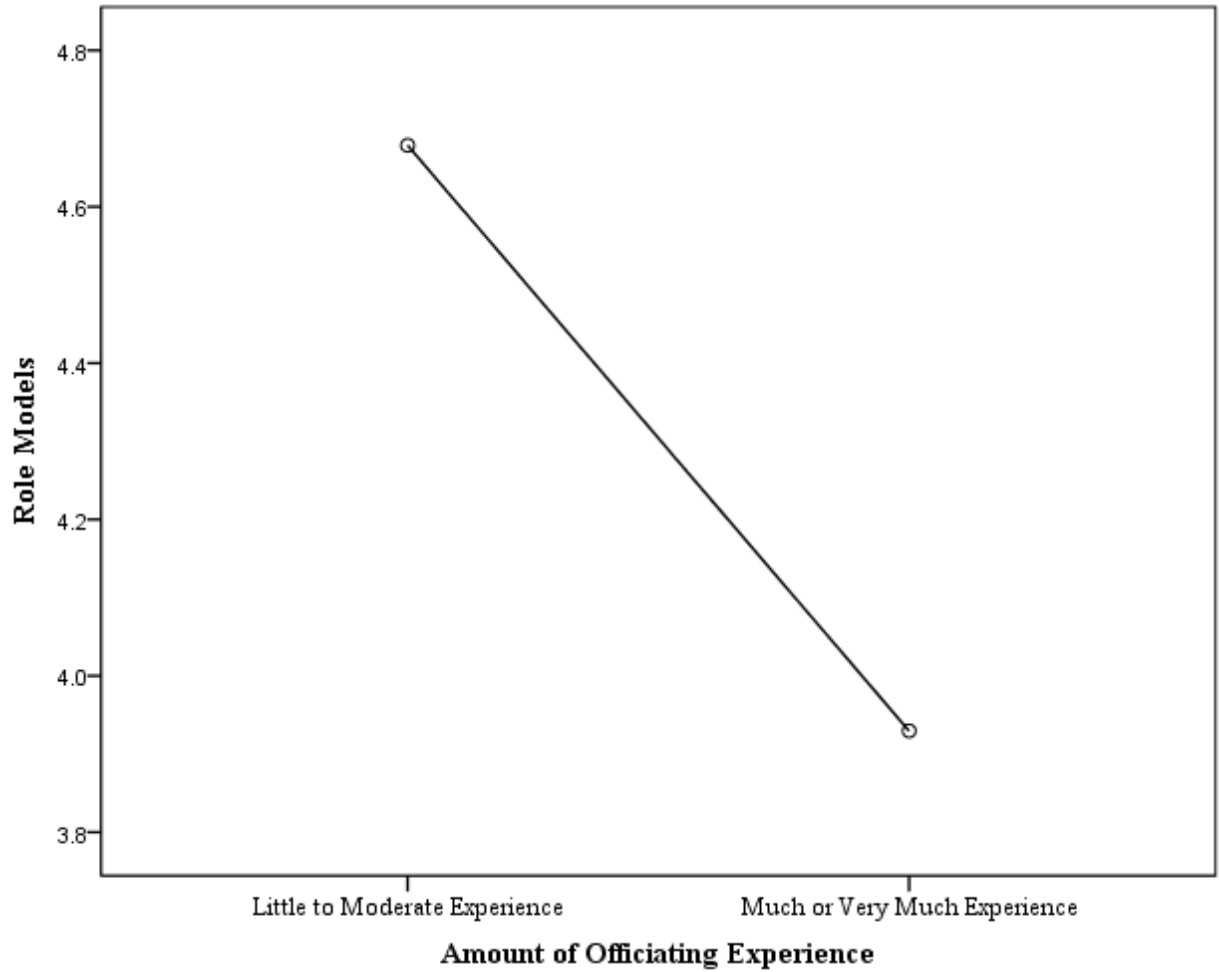


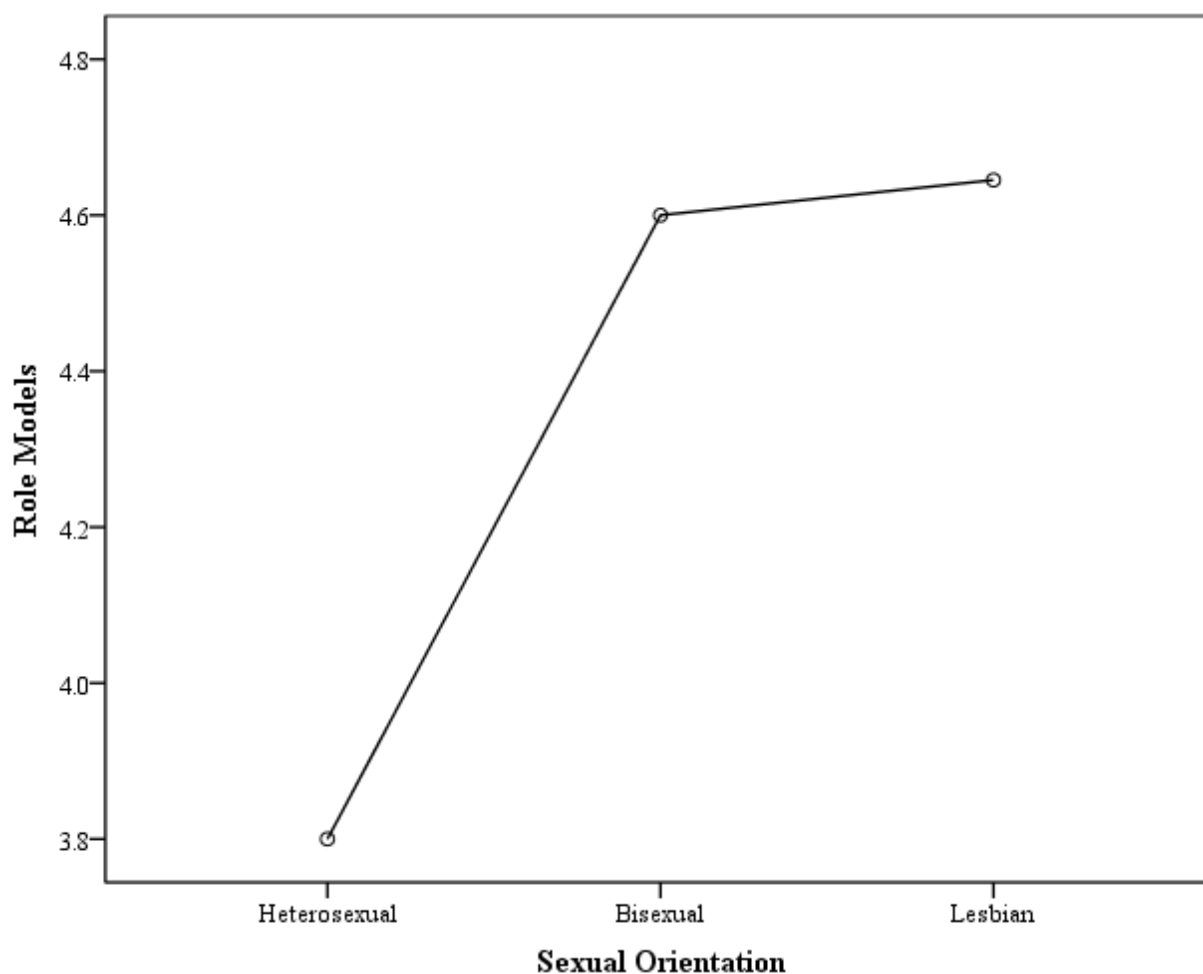
Figure 4.8. Scree plot for Coping variables.

A composite score was computed for the Role Models factor based on the sum of the items that loaded onto it. Participants' total scores on this factor were then saved for future analyses. One-way Analyses of Variance (ANOVAs) were conducted to determine if demographic groups differed on the Role Models variable. The results of the ANOVA omnibus test indicated that significant differences exist on the Role Models factor based on the extent to which participants perceived themselves as experienced ( $F(1, 97) = 5.50$   $p = .021$   $\eta^2 = .054$ ). The results showed that officials in the "Less Experienced" group ( $M(N=28) = 4.68$ ) reported much higher scores on the Role Models variable than the "More Experienced" group ( $M(N=71) = 3.93$ ) (see Figure 4.9).



*Figure 4.9.* Means plots of Role Models factor based on amount of self-reported officiating experience.

ANOVA results also demonstrated significant differences on the Role Models factor based on sexual orientation ( $F(2, 93) = 3.84$   $p = .025$   $\eta^2 = .076$ ), with lesbian officials ( $M(N=31) = 4.65$ ) reporting significantly more reliance on role models for coping than heterosexual officials ( $M(N=60) = 3.8$ , Tukey  $p = .025$ ) (see Figure 4.10).



*Figure 4.10.* Means plots of Role Models factor based on sexual orientation

No significant differences on the Role Models variable were found among participants based on age, race/ethnicity, years officiating, officiating level or U.S. region.

### **Correlations between Role Models and Discriminatory Experiences**

Spearman correlation analyses were conducted to assess the relationship between participants scores on five factors related to experiences of discrimination and their Role Models scores.

These variables and their correlation coefficients are reported in Table 4.15.



Table 4.15

*Correlations of Discriminatory Experiences Factors with Role Models Factor*

<b>Discrimination Factor</b>	<b>Spearman Correlation (<math>\rho</math>)</b>
Game Personnel (i.e. coach, fan) Attitudes	.376**
Partner Attitudes	.377**
Evocation of Stereotypical Gender Roles	.277**
Denial of Opportunities/ Devaluation	.246*
Physical Features	.160

**Note:** \* significant at  $p < .05$ , \*\* significant at  $p < .01$

There were moderate positive correlations between Role Models and Partner Attitudes ( $\rho = .377$ ,  $p < .01$ ), Game Personnel Attitudes ( $\rho = .376$ ,  $p < .01$ ), and Evocation of Stereotypical Gender Roles ( $\rho = .277$ ,  $p < .01$ ). There was a weak, positive correlation between Role Models and Denial of Opportunities/ Devaluation ( $\rho = .246$ ,  $p < .05$ ). The relationship between the Role Models and Physical Features variables was not significant. These results indicate that the more that female officials experience the attitudes of game personnel and partners as discriminatory, the more they report relying on role models for support and coping.

### **Summary of Results and Responses to Research Questions**

Research question one pertained to the nature, extent and source of female officials' experiences of discrimination in their work environment. A majority of participants in this study reported that they had faced some form of gender discrimination in the officiating field. When asked qualitatively to describe perceived differences between the experiences of male and female officials, 70.5 percent of participants gave a response that pertained to discriminatory attitudes, beliefs and employment and remuneration practices that they have encountered. On quantitative

items, between 48 and 70 percent of participants reported that they had been denied officiating opportunities, 35 percent reported that they had been subjected to sexually inappropriate comments and remarks and 55 percent reported that a gender role expectation persists to some extent in their work environment. Results indicated that participants attribute discriminatory actions, beliefs and attitudes to both their partners and to game personnel. Between 20 and 25 percent of participants reported that they had experienced discriminatory attitudes and behaviors from partners, up to 44 percent reported having experienced discriminatory attitudes from coaches and 48 percent reported that they were targeted more by fans because of their gender.

Research question two aimed to explore the emotional impact of negative gender-based discriminatory experiences, particularly as they relate to female officials' self-confidence and anxiety about confirming stereotypes. Twenty-seven percent of officials in this study said that their confidence could be impacted by discriminatory comments made by coaches and 33.3 percent said that their confidence could be negatively impacted by partners comments. Up to 31 percent of participants in this study reported that they worry that making mistakes during the game may cause others to make negative gender attributions. Similarly, up to 43 percent reported that there are times when they feel pressured to avoid missing calls when they perceive that others have negative attitudes toward female officials.

Research question three framed an inquiry surrounding the perceived impact of discriminatory experiences on the performance and compensatory self-monitoring behaviors employed by female officials. Results indicated that one in four female officials (23.5%) in this sample feel that negative and/or degrading comments about women can adversely impact their performance as a game official and one in three (33.3%) feel that their performance can be impacted when they are in an environment in which they feel that people think they do not

belong because they are female. A significant number of participants also reported that they engaged in self-monitoring behaviors such as perseverating more about mistakes, thinking more intentionally about their skill sets and being more hypervigilant their performance. For example, Forty-nine percent of participants reported that they think more about their own performance when they are in the spotlight because they are female and 32 percent reported that they are more aware of making mistakes when they sense that others hold negative stereotypes about female officials.

Finally, research question four addressed the methods that female officials use to cope with and safeguard against the emotional and behavioral effects of being negatively stereotyped and discriminated against based on their gender. More than 75 percent of female officials in this sample described using role models and mentors to help offset the stresses of being female in a male-dominated and often discriminatory environment of basketball officiating. A majority of participants reported that exposure to role models, whether directly via mentoring relationships or indirectly through exposure to female officials through television or other media, was helpful in developing their confidence and identity as a female official and/or learning techniques for confronting prejudicial comments, attitudes and behaviors by sports personnel. Results also showed positive correlations between discriminatory experiences (i.e. Game personnel and partner attitudes, evocation of stereotypical gender roles and denial of opportunities) and the degree to which participants found that having role models was helpful.

## CHAPTER 5

### DISCUSSION

The purpose of this study was to investigate the experiences of female basketball officials in their work environments, to analyze discriminatory experiences that they may face, to assess how discriminatory experiences impact their emotions, cognitions and behaviors and to identify ways in which female officials cope with the extraordinary stresses of their work environment. Through this research, the investigators hoped to ascertain valuable information about the experiences of female basketball officials to inform policy and prevention efforts, raise awareness amongst female officiating groups and within the NCAA, and to identify ways of helping female basketball officials cope with the stresses associated with discrimination. Further, the investigators hoped to make a genuine contribution to the broader literature surrounding women in the workplace and in athletics, where masculine values may continue to dominate and define the zeitgeist.

Pursuant to these research goals, the investigators designed a survey containing qualitative and quantitative questions targeting female officials perspectives on their experiences of discrimination and the extent to which they perceive that discriminatory experiences impact their ability to complete work tasks. Survey questions were informed by the personal experiences of the secondary researcher, stereotype threat theory and comments offered by several officials who participated in a pilot study. It was hypothesized that the more that female officials perceived their environments as discriminatory, the more they would experience symptoms that are typical of stereotype threat such as an increase in anxiety, stress and self-monitoring behavior and a decline in confidence and performance. It was further hypothesized that coping mechanisms such as access to role models and mentors would reduce the impact of

discriminatory experiences on female officials cognition, emotions and performance. Female officials were recruited for the study primarily through informational databases held by high school associations and collegiate conference officiating coordinators. In the following sections, the most salient findings and their implications for prevention efforts, practice and research along with the limitations of the study will be discussed.

### **Gender Discrimination in Basketball Officiating**

The qualitative results of this study indicate that approximately 70 percent of female basketball officials in the present sample have encountered some level of discrimination in the officiating environment. Within the majority of officials in this sample that reported experiencing discrimination in some form, around one in four described feeling stereotyped and/or targeted for criticism more often than their male counterparts. Approximately one in six feel more pressure to "prove themselves" within the officiating field and one in seven feel that they do not receive the same amount of respect as male officials. Participants also mentioned limited opportunities, pay inadequacies, the need to combat male entitlement, stereotypes about a body image ideal and tokenism as contributing to the discriminatory stress that they face in basketball officiating.

Quantitative items from the survey pertaining to female officials' experiences of discrimination were reduced to five factors based on the Principle Components Analysis that was conducted. These factors include: Game Personnel (i.e. coach, fan) Attitudes, Partner Attitudes, Physical Features, Denial of Opportunities/ Devaluation and Evocation of Gender Role Stereotypes. On average, approximately one in four female officials in this sample perceived some of their partners' attitudes and behaviors as discriminatory. Similarly, between one third and one half of participants felt that coaches and fans target them more, trust them less and single

them out for criticism more often than their male counterparts. Between one third and one half of female officials reported that they had had comments directed toward them by coaches and other officials related to their physical appearance and sexuality with less than one in ten reporting that coaches or other officials had commented about their physical ability. About one half of the participants in this sample reported that they had been denied opportunities and had felt that women's basketball was devalued by their officiating partners with up to 70 percent of female officials stating that their gender prevented them from officiating men's basketball games. Finally, approximately one in two participants reported that they had been socialized into a female gender role while officiating. These results imply that discriminatory attitudes and actions engendered by coaches, game personnel, other officials and officiating administrators are a salient part of the officiating experience for many women and in many cases involve the denial of career opportunities.

Significant demographic differences in experiences of discrimination were found among sample participants. Namely, high school officials and those officials that report having only little to moderate amounts of officiating experience report significantly higher levels of coach/fan discrimination than more experienced officials and those who officiate women's college basketball. Results indicated that differences in officiating level (i.e. high school vs. women's college) had a large effect size, indicating 16 percent of the variance on the Coach/Fan discrimination factor was attributable to the level that participants officiate. A small effect size was found for officiating experience with five percent of the variance on the Coach/ Fan discrimination factor being attributable to participants' experience level.

Disparities in Coach/ Fan Discrimination based on officiating level and experience likely exist for several reasons. First, developmentally inexperienced officials may be more sensitive to

the criticism of coaches and fans because they lack training and practice and consequently they possess underdeveloped professional skill sets. The interpersonal and professional skills cultivated by seasoned officials such as mentalization (i.e. understanding the motives of coach criticism), management of emotions and cognitions related to receiving criticism and selective listening abilities, may help them to ignore or disregard gender-related criticism in a way that newer officials cannot. Second, officials who are developmentally "younger" are more likely to lack confidence in their abilities which may result in excessive attunement to criticism. Based on their limited abilities, they are also likely to in fact make more mistakes than more seasoned referees, which may in turn, invite criticism from coaches and fans. The results of this study therefore indicate that the combination of inexperience with female gender may heighten officials' awareness of discriminatory experiences and make them more vulnerable to be targeted for criticism. Third, high school officials are more likely to officiate boys' and men's basketball than women's college only officials. Their token presence and visibility as an authority in a men's game, coupled with their relative lack of experience and training, may evoke more gendered criticism from game personnel.

In addition to demographic differences in Coach/ Fan Discrimination, sample participants also differed significantly on the Devaluation/ Denial of Opportunities factor based on the geographic region in which they live, with participants from the Southwest reporting significantly higher levels of discrimination than those from the Southeast. This difference was shown to have a large effect size with 15 percent of the variance on the Devaluation/Denial of Opportunity Variable being attributable to the geographic region in which participants lived. This may indicate that the customs and values of U.S. regional cultures may impact upon experiences of female officials.

### **Impact of Discrimination on Cognition, Emotion and Performance**

Quantitative items from the survey pertaining to the cognitive, emotional and behavioral impact of female officials' experiences of discrimination were reduced to five factors based on the Principle Components Analysis that was conducted. These factors include: Stress, Anxiety, Self-monitoring and Confidence. On average, approximately one in three participants endorsed items that related to experiencing stress as a result of discriminatory attitudes and comments. Between one in three and one in two officials reported feeling pressure to avoid missing calls if they are aware that coaches or their partners have negative attitudes about female officials.

Similarly, many participants reported some level of anxiety that their officiating mistakes would lead to confirming a negative stereotype about female officials. Close to one third of participants in this sample described worrying that their missed calls would lead game personnel to make negative attributions to their female gender whereas approximately one in five participants reported having worries that game personnel will automatically assume that they are incompetent based on their gender. These results may speak to the influence of stereotype threat in that some female officials may attempt to avoid being stereotyped by excessively monitoring and controlling their officiating mistakes.

One half of participants in the present sample endorsed at least one variable that loaded onto the self-monitoring factor. One in two participants reported that they think more about their performance when they have a token status and one in three reported that they are more vigilant of their mistakes when they are aware that coaches and their officiating partners hold negative gender stereotypes. The tendency of some female officials to perseverate about their mistakes, think deliberately about their performance and excessively analyze their calls in effort to avoid negative stereotypes may lead to working memory loss and subsequent decline in performance



similar to that which has been found in minority athletes (Beilock and McConnell, 2004). In fact, one third of participants believed that their performance was negatively impacted when they sense that others felt that they did not belong because they are female and one in four officials in this study reported that they have experienced officiating performance decline when they were subjected to discriminatory comments.

Finally, a significant percentage of participants reported that they felt their confidence had been impacted by the discriminatory experiences that they have encountered. One fourth said that their confidence was impaired by discriminatory comments made by their partners where as one third said that they experienced a decline in confidence when subjected to discriminatory comments made by coaches.

Some noteworthy demographic differences emerged in the impact of discriminatory experiences on female officials' cognition, emotion and performance. Similar to findings related to discriminatory experiences, high school only officials reported significantly higher levels of self-monitoring and anxiety due to discriminatory experiences than women's college only officials in this sample. Effect sizes measuring the magnitude of the difference in self-monitoring and anxiety based on the level(s) that participants officiated were moderate to large in the present sample. Eta-squared statistics indicated that 11 percent of the variance in anxiety and 13 percent of the variance in self-monitoring behaviors were attributable to the level that participants officiated. As mentioned above, it is likely that this disparity is related to the fact that high school only officials tend to be less experienced and more likely to officiate men's and boy's games than women's college only officials.

### **Role Models as Safeguards against the Impact of Discrimination**

The results of this study indicate that more than three out of four female officials in this sample use role models and mentors to help them safeguard against and cope with the negative impact of being typecast. Approximately nine out of ten participants reported that hearing from other female officials about the techniques they use to confront others about insensitive comments was helpful in building their confidence and utilizing assertiveness skills when dealing with coaches and other officials. Similarly, approximately nine out of ten participants reported that they relied on other officials to learn coping skills to manage the stresses of working in a male-dominated field. Approximately eight out of ten participants reported that hearing both about female officials successes and about their negative experiences helps them to cope with their own frustrations encountered in the officiating field.

In the present sample, officials with little to moderate levels of officiating experience reported significantly higher reliance on role models for support than did officials who described themselves as highly experienced. This result had a moderate effect size with 5.4 percent of the variance on the Role Models factor attributable to variations in officiating experience. This finding may relate to the fact that less experienced officials also report experiencing a greater amount of discrimination and greater emotional and cognitive impact of discrimination. Further, officials with less experience may naturally look toward experienced female officials for support when they encounter discrimination. Less experienced officials may have more access to role models as they are also more likely to attend training events and to be mentored by other officials with more advanced training. In contrast, role models may be less accessible to experienced officials with high levels of achievement in officiating. These officials may serve as role models to others and may have actually surpassed former mentors through their own

professional development. Additionally, consistent with social progression in the larger societal context, the field of basketball officiating is also progressing and becoming more inclusive to women. This means that young women who are pursuing officiating today may have greater access to role models compared to those officials with more experience, but who may have been trained during a time when female role models were less available.

Significant differences on the role models factor also were found to exist between lesbian and heterosexual officials, with lesbian officials reporting greater reliance on role models for support. This finding had a moderate effect size, with 7.6 percent of variance on the Role Model factor attributable to differences in sexual orientation. This finding is interesting especially given that no significant differences were found between heterosexual and lesbian officials on measures of experiences and impact of gender discrimination. There are several unique aspects of having a lesbian identity that may explain lesbian officials' greater reliance on role models. First, the present study did not account for the potential of additional discriminatory stress related to same-sex sexual orientation. However, research indicates that social homonegativism can be compounded for lesbian athletes in that heterosexist attitudes are particularly prevalent and pervasive in sport. Indeed, the sport environment has been shown to be particularly hostile toward lesbians which can lead to lower confidence, self-esteem and performance. In the especially adverse and intolerant climate of sport, social support networks and positive, successful lesbian role models have been shown to be essential in contributing to a positive lesbian identity development for sport participants (Krane, 1996).

Similarly, studies show that role models and peer support often serve an important function in the coming out process for many gay and lesbian individuals and contribute to the development of a positive personal lesbian identity (Gomillion & Giuliano, 2011). In the place of

natural familial supports, gay and lesbian individuals often develop "families of choice", comprised of peers and role models who mirror a positive lesbian identity and provide lesbians with a sense of belonging and connection to others (Mitchell, 2008). Lesbian officials may therefore be more accustomed to reaching out to their peers and communities for support, especially when they encounter discrimination. This may be particularly true given the large representation of lesbian and bisexual individuals in the officiating field. Approximately 36% of participants in this sample identified as lesbian or bisexual compared to an estimated 3.9% in the United States population as a whole (Gates, 2011). Within the officiating community, lesbian officials may feel empowered and accepted amongst their peers and more comfortable reaching out to role models for help and encouragement.

### **Interpretation of Relationships Observed**

#### **Impact of Discrimination**

Significant positive correlations were found between female officials' experiences of discrimination and the cognitive and emotional impact of discriminatory experiences. That is, the more that female officials reported experiencing discrimination, the more they also reported a negative impact of this discrimination on their confidence, anxiety levels, self-monitoring and stress. Game Personnel Attitudes and Partner Attitudes were the two discrimination factors that were most strongly correlated with negative cognitive and emotional outcomes for female officials. This implies that the gender-disparaging actions and attitudes of coaches or other officials impacts female officials by increasing their stress and anxiety and leading to an increase in self-monitoring behavior. Interestingly, female officials' confidence did not appear to be greatly impacted by discrimination, producing only a weak positive correlation with Game Personnel Attitudes and no relationship with any other discrimination variable. It is possible that

confidence may have been viewed by participants as a more enduring trait whereas stress, anxiety and self-monitoring behaviors may have been interpreted as a state of mind or an acute, transitory reaction to a specific experience.

Anxiety and self-monitoring behaviors were the two impact factors that were most highly correlated with discriminatory experiences across the board. This finding implies that female officials respond to discriminatory experiences by worrying more about confirming stereotypes and attempting to control their mistakes. The literature is somewhat divided with respect to self-monitoring behaviors and whether these detract from or enhance performance. There is a growing body of literature demonstrating that the explicit monitoring of step by step skill execution depletes working memory resources for athletes and causes a decline in their performance (Beilock & McConnell, 2004; Reeves, Tenenbaum & Lidor, 2007). On the other hand, at least one study has shown that high self-monitoring behaviors can in fact enhance intellectual performance in that individuals are better able to regulate their self-presentation to project a desired self-image (Inzlicht, Aronson, Good & McKay, 2006). More research is necessary to determine the specific ways in which self-monitoring affects the performance of female officials.

In the current study, stress was positively correlated with discrimination experiences when the experiences involved coach, fan or partner attitudes or behaviors. In contrast, Denial of Opportunities/ Devaluation, Evocation of Gender Stereotypes and Physical Appearance/ Ability were found to be unrelated to female officials' stress levels. These factors seemed to measure more discrete, isolated incidents of discrimination, rather than the overall relational climate captured by variables loading onto the Game Personnel and Partner Attitudes scales. It is possible therefore that female officials are able to tolerate certain discrete discrimination

experiences without experiencing a notable increase in stress. Increased stress levels appear to be related to female officials overall experience of being undervalued, treated differently and not taken seriously as game participants.

### **Discrimination and Coping**

Small to moderate positive correlations were found between the Role Models factor and Game Personnel Attitudes, Partner Attitudes, Denial of Opportunities/ Devaluation and the Evocation of Stereotypical Gender Roles factors. These results suggested that the more discriminatory experiences that female officials face, the more they rely on role models and mentors for support.

### **Implications for Practice**

Results of the current study suggest that many female officials experience stereotype threat resulting from a plethora of work-related discriminatory experiences that they face throughout their careers. Discriminatory experiences were shown to be associated with an increase in anxiety, stress, and self-monitoring and declines in confidence and performance for female officials. Research has shown that stereotyped people often attempt to reduce distress associated with stereotype threat by devaluing the importance of their work and minimizing the impact of poor performance on their self-esteem, ultimately leading to dis-identification from their work environment (Roberson & Kulik, 2007). More specifically, studies that focused on female referees have found that experiences of social inequality and discrimination detract from their identification with the officiating community and significantly contribute to their decision to quit (Warner, Kellett & Tingle, 2011).

If left unaddressed, gender discrimination threatens grave impact both on the individuals directly afflicted by it and on the officiating community at large. On an individual level, the

increase in anxiety, stress and self-monitoring behaviors that often results from discriminatory experiences may detract from the cognitive resources that are necessary for female officials to perform optimally. In this way, stereotype threat has the real potential to create a self-fulfilling prophecy whereby an official's performance actually suffers as a result of their inability to allocate their full concentration and mental assets to the task at hand. This may result in important mistakes during contests, negative evaluations by peers and supervisors and a decline in a female official's sense of her professional self-efficacy. Negative feedback and failure, resulting from stereotype threat, could further play a role in female officials' decisions to discontinue officiating and discourage women from pursuing higher professional achievements. In turn, female officials attrition and underperformance contributes to maintenance of male hegemony within basketball officiating and makes female officials less likely to advance into leadership positions.

In the present study, female officials who refereed high school basketball were found to be most vulnerable to the experience and impact of discrimination whereas those officials who referee women's college only appeared to be less affected. These results imply that the more gender diverse, female friendly environment of women's college basketball serves as a protective factor against discrimination and stereotype threat. While it is heartening that the climate of women's basketball is more inclusive and less discriminatory toward female referees, it is also discouraging to take note of the continued lack of female representation and acceptance of women in boy's and men's sports. Without a doubt, the rapid increase in female referees in women's college basketball since the 1970s has been immensely important in demonstrating women's reclamation of authority over their own game. One participant's response cogently reflected this sentiment: "The bottom line is it's WOMENS basketball, so give us the first crack

at reffing our own game. We are not allowed to work college men, so men should not leapfrog women in officiating women's games". However, the fact that opportunities for female officials exist practically solely on the women's side may serve to further demarcate the women's game from the men's, emphasize the differences between men's and women's basketball and reinforce notions that female officials' competence cannot extend beyond women's sports. The lack of female role models in men's basketball combined with the increased likelihood of experiencing discrimination on the men's side and the greater tendency of women to be denied opportunities to officiate men's basketball, make it difficult for female officials to penetrate the men's side of the game. Strategies for reducing these disparities and helping women who seek careers in men's basketball to be successful are necessary and will be discussed in future paragraphs.

Another important finding of this research is that less experienced officials are more prone to be impacted by discriminatory experiences than those who are more experienced. This finding has significant implications for recruiting, training and developing officials who are new to the officiating field. Early success and progress is of utmost important for young officials so that they may master basic competencies and develop confidence in their ability to complete officiating duties. Early experiences of discrimination may hamper their ability to progress and discourage them from pursuing higher levels of training and experience.

### **Strategies for Reducing the Impact of Discrimination and Stereotype Threat**

Given the significant negative impact that discriminatory experiences can have on female officials, it is important to discuss strategies that may interrupt the stereotype threat process and help female officials cope with discrimination. One of the conditions of being a female official that contributes significantly to experiences of discrimination and stereotype threat is the lack of representation of women in the officiating field at large. This important characteristic of the



context in which female officials work was poignantly summarized by one participant's description of her experience of being a female minority in the male-dominated officiating field.

I think the most relevant disadvantage [of being a female official] is that there are obvious differences in the philosophies of men and women, in general. This is not just in officiating. The lack of female representation in women's officiating means that this philosophy is still a minority ideology that has to be weaved in and out of a sort of male collection of mental doctrine that has dominated athletics, as well as the last 5,000 years of societal structure. Increasing women's representation in any area is necessary to achieve gender parity and the notion of women's empowerment is essential in allowing a WHOLE to be empowered to choose the functioning that they deem valuable.

While a minority identity is still reality for female officials at all levels, results of the current study suggest that the experience and impact of discrimination attenuates in NCAA women's college basketball, especially compared to high school, which likely relates to the increased representation of female referees in that context. This finding implies that changing the context in which female officials work could be an important step toward diminishing the relevance of stereotypes.

One way to change the context of basketball officiating is by introducing positive female role models who contradict common stereotypes about female officials. Results of the present study have shown that female officials find that exposure to female mentors and role models helps them to cope with negative discriminatory experiences that they face. Similarly, past research has revealed that female officials identify the lack of female role models and mentoring as germane to their experience of social inequality and consequential dis-identification from the field (Warner, Kellett & Tingle, 2011). Whether positive female role models actually diminish

the effects of stereotype threat for officials is a question to be answered by future research. However, several studies have shown that introducing a competent female role model serves to successfully reduce the impact of stereotype threat on women's performance on mathematics achievement tests (Marx & Roman, 2002; Taylor, Lord, McIntyre & Paulson, 2011) and to increase women's assertiveness, engagement and self-evaluations in leadership tasks (Latu, Mast, Lammers and Bombari, 2013).

Consistent with previous research, competent female role models were identified as helpful in coping with discrimination by the majority of female officials in this study. To illustrate, one participant wrote:

[Talking with other female officials about the challenges they face in officiating] removes some of the severity and victim feelings that try to present themselves. By speaking with other female officials, I am actually able to laugh at most of the encounters that I've had. You realize that you are not the only person to deal with this and it gets smaller in magnitude. It just becomes another aspect of the business.

This finding suggests that officiating coordinators and supervisors may be able to lessen the impact of stereotype threat by increasing the salience and visibility of female official role models in their conferences and associations. This could be accomplished by creating mentoring and networking organizations, increasing efforts to recognize and promote female officials' accomplishments and encouraging early outreach by more experienced female officials to young women aspiring to move up the officiating ranks. Several participants spoke to the importance of coordinator/ supervisor support for young female officials. "The support of supervisors plays a huge role in the success of female referees. Their attitude as to the equality of the male/female referees and how they relay that to the coaches and other referees is very important to the success

of up and coming female referees". Other participants discussed the importance of organizational outreach. "[It is helpful when] the women officials in the organizations reach out to newer female officials to help them navigate and get acclimated to the officiating culture". Indeed, role model interventions may be especially important for officials with less experience and those who officiate high school basketball, as these groups have been shown to be particularly vulnerable to the impact of discrimination.

In addition to the benefits of having a role model, some of the open-ended responses in this study suggested that many participants benefited from being a role model themselves and identified the opportunity to be a role model to other officials, athletes and young women in general as one of the biggest advantages to being a female official.

[There is an advantage in being a role model] to younger girls and women in general.

Growing up in the game, there are still parts of the world that have never seen a female ref one of their games. [I enjoy providing] women a sense of empowerment, belonging, etc. in roles of authority and strength.

This suggests that officials who serve as role models to others may also experience a sense of pride and accomplishment by standing as a symbol of women's ability to succeed in positions of authority and leadership.

While the introduction of female role models may be a useful strategy in helping female officials cope with some of the impact of discrimination, it may not be sufficient in reducing all of the complex, pernicious effects of stereotype threat. Research shows that role model interventions are successful at reducing stereotype threat when an individual is concerned about poorly representing the demographic group to which the stereotype pertains ("group-as-target stereotype threats). In contrast, role model interventions have been shown to be ineffective when

the individual is concerned that she will be personally reduced to a stereotype ("self-as-target stereotype threats"). In the latter case, some studies have shown that self-affirmation is a useful intervention to diminish the impact of discrimination. Self-affirmation would involve broadening a female official's awareness of valuable aspects of her life and identity that are separate from her role as an official. These could include vocational accomplishments, familial or parenting roles, hobbies, talents or athletic achievements that affirm salient aspects of identity. This self-affirmation may increase the likelihood of female officials maintaining a positive, balanced and full self-image and psychologically resisting being unilaterally reduced to a stereotype. (Shapiro, Williams, Hambarchyan, 2012). Other studies indicate that emphasizing shared characteristics between male and female officials, and downplaying differences, could effectively serve to reduce the stereotype relevance of the task, making women less vulnerable to the impact of discrimination and stereotype threat (Roberson & Kulik, 2008).

In addition to providing positive role-models, increasing self-affirmation, and emphasizing shared characteristics between male and female officials, the provision of psychoeducation about stereotype threat in officiating is important in order to raise awareness about the unique challenges that afflict female officials and how these challenges can potentially impact them. In fact, research has demonstrated that explaining the potential negative impact of stereotypes on emotions, cognitions and performance, is often effective in minimizing differences between demographic groups superficially imposed by stereotype threat (Roberson & Kulik, 2007). Roberson and Kulik (2007) point out that "stereotype threat is real, and its effects on performance are well-documented". This statement is further corroborated by results of this study which indicate that as many as one in three officials feel that their performance can be impacted by discriminatory attitudes and environments. Informing female officials about the

effects of discrimination may allow them to make an external attribution for performance decline that they may experience in environments that are discriminatory and to subvert the negative impact of stereotype threat.

Education about the impact of discrimination/ stereotype threat has relevance not only for female officials, but also for supervisors, evaluators, administrators, clinicians and male officials. Stereotype threat is a social phenomenon perpetuated both in society at large and within the context of sport. Stereotypes about women in sport are unlikely to change rapidly and require multilevel intervention in order to offset negative effects. Certainly, male officials would benefit from understanding how to support their female partners under discriminatory game conditions. Supervisors would benefit from the knowledge that stereotype threat can contribute to performance deficits and decline and may take this into account when completing evaluations. Clinicians and mentors invested in the development of young officials may incorporate the teaching of skills to address discrimination and its cognitive and emotional impact into their training repertoire.

### **Limitations and Future Directions**

The most prominent limitations of this study and recommendations for future directions for research will be discussed in the following paragraphs. One of the primary limitations of this study is that it relied largely on participants' self-reports of their experiences and their perceptions of how their experiences impinge upon their mental resources and ability to perform officiating duties during contests. The present research substantiates aspects of stereotype threat theory by demonstrating the salience of many cognitive and emotional outcomes of gender discrimination for female officials. However, while participants' perspectives are valuable in helping to understand how female officials personally experience discrimination, they do not

speak to the actual impact of discriminatory experiences on performance. Similarly, asking female officials whether they believe that discriminatory experiences impact their self-monitoring behaviors, confidence, stress and anxiety does not equate measuring these constructs directly.

Participants' ability to accurately report on their experiences may require an awareness of self and insight into discriminatory environmental conditions that they may or may not possess. Some officials may miscalculate the impact of discriminatory experiences, reporting a higher or lower effect than actually exists. For example, in keeping with the tolerant, immovable persona that officials are trained to cultivate to withstand criticism, many officials may expect that they are able to "tune-out" discriminatory comments through mental stamina and may therefore be prone to underestimate the insidiousness of these experiences. Conversely, officials frustrated by discriminatory experiences may overrate their actual impact on their ability to execute officiating responsibilities. For these reasons, among others, research that directly measures cognitive, emotional and performance variables is necessary.

Research focused on investigating the impact of discrimination/ stereotype threat on female officials may be complicated by a variety of factors. Recruitment of study participants is difficult because the population of female officials is small and spread out. Additional barriers include manipulating conditions of stereotype threat without impacting game outcomes and the challenges associated with grading officiating performance. In light of these challenges, off-season training events for officials, usually held during basketball team camps, may provide a nice venue to perform such studies given the low stakes for the athletes and coaches, availability of large numbers of female officials and presence of clinicians qualified to measure officiating performance.

Another limitation of the present study is the size of the sample used in principle components analysis. Many experts in statistics have rejected notions of absolute sample minimums for factor analysis in favor of communality analyses and subject-to-variable/ variable-to-subject ratios. Although the subject-to-variable ratios in this study met standards delineated by some research on small sample factor analysis (Costello & Osborne, 2005; MacCallum, Widaman, Zhang & Hong, 1999), variable-to-factor ratios in this study were not as high as some experts recommend. For example, Mundfrom, Shaw and Ke (2005) recommend that for a variable-to-factor ratio of three, with high communalities and a five factor solution the minimum necessary sample size for "Good-Level" criterion would be at least 300 compared to  $n=100$  in the present study. Future studies should therefore focus on replicating the present results with a larger sample.

Increasing the participation and inclusion of female officials in future research on officiating is an important task for many reasons. Historically, women have been excluded from research in officiating, which is problematic in that the information gathered, which may be used to inform decision-making and policy, is based almost solely on the values and preferences of men. Furthermore, research on gender discrimination is necessary in order to offset false notions that Title IX has leveled the playing field for women and to unveil the male hegemony that continues to define the culture of sport.

Another limitation of this study relates to sample demographics. Overall, this study did a good job of representing groups demographically, with percentages of African-American and lesbian participants greatly exceeding national estimates published by the U.S. Census (U.S. Department of Commerce, 2013). Nevertheless, Asian-American and Hispanic-American participants were underrepresented in this sample and there were some geographical regions

within the U.S. that were virtually unaccounted for. The majority of participants lived in the south, south-west and western regions of the United States, with the northwest, northeast and midwest being largely underrepresented. Regional differences in culture, values and officiating philosophies may greatly impact the types of experiences that female officials have. For example, in some states high school officials referee both women and men's basketball, where as in other states officials must choose whether they would like to referee on the men's or the women's side. As we have seen from the present research, those who referee women's only basketball are less impacted by discriminatory experiences than those who referee men's basketball. Further, regions of the country may have differing values related to attitudes toward traditional gender roles and women's rights which warrant being examined in future research.



## REFERENCES

- Allen, J., & Shaw, S. (2009). Women coaches' perceptions of their sport organizations' social environment: Supporting coaches' psychological needs?. *The Sport Psychologist*, 23(3), 346-366.
- Alter, A., Aronson, J., Darley, J., Rodriguez, C., & Ruble, D. (2010). Rising to the threat: Reducing stereotype threat by reframing the threat as a challenge. *Journal of Experimental Social Psychology*, 46(1), 166-171.
- American Association of University Women, Public Policy and Government Relations Department. (2010). *Title IX: Equity in school athletics*. Retrieved from: [www.aauw.org/act/issue\\_advocacy/actionpages/upload/TitleIX\\_111-2.pdf](http://www.aauw.org/act/issue_advocacy/actionpages/upload/TitleIX_111-2.pdf).
- Anderson, P. M. & Hauser, K. (1999). Female referee's award reduced in her gender discrimination suit vs. NBA. *You Make the Call...*, 2(1). Retrieved from: [http://sports.findlaw.com/sports\\_law/makethecall/summer99/ortiz/index.html](http://sports.findlaw.com/sports_law/makethecall/summer99/ortiz/index.html).
- Anshel, M., & Weinberg, R. (1995). Sources of acute stress in American and Australian basketball referees. *Journal of Applied Sport Psychology*, 7(1), 11-22.
- Anshel, M., & Weinberg, R. (1996). Coping with acute stress among American and Australian basketball referees. *Journal of Sport Behavior*, 19(3), 180-203.
- Anshel, M., & Weinberg, R. (1999). Re-examining coping among basketball referees following stressful events: Implications for coping interventions. *Journal of Sport Behavior*, 22(2), 141-161.
- Borzi, P. (2011). Where's the next Violet Palmer? *ESPNW*. Retrieved from: <http://espn.go.com/espnw/news-opinion/6845447/calling-shots-violet-palmer>.

- Borzi, P. (2011). Women umpires are striking out in MLB. *ESPNW*. Retrieved from:  
<http://espn.go.com/espnw/news-opinion/6837609/calling-shots-women-striking-mlb>.
- Borsilleri, M. (2011). Women have made forays into men's soccer. *ESPNW*. Retrieved from:  
<http://espn.go.com/espnw/news-opinion/6846762/calling-shots-women-made-forays-men-soccer>.
- Beilock, S., & McConnell, A. (2004). Stereotype Threat and Sport: Can Athletic Performance be Threatened?. *Journal of Sport & Exercise Psychology*, 26(4), 597-609.
- Bergeron, D., Block, C., & Echtenkamp, B. (2006). Disabling the able: Stereotype threat and women's work performance. *Human Performance*, 19(2), 133-158.
- Blazereid. (2010, March 13). TO THE TWO B----HES FROM ATLANTA THAT CALLED THE GAME [Msg 1]. Message posted to: <http://forums.scout.com/mb.aspx?s=37&f=2696&t=5725147>.
- Bracken, N. (2011). *1981-82 – 2005-06 NCAA Sports Sponsorship and Participation Rates Report*. Indianapolis: National Collegiate Athletic Association.
- Bracken, N. & Irick, E. (2012). *2004 – 2010 NCAA Gender-Equity Report*. Indianapolis: National Collegiate Athletic Association.
- Brand, R., Schmidt, G., & Schneeloch, Y. (2006). Sequential effects in elite basketball referees' foul decisions: An experimental study on the concept of game management. *Journal of Sport & Exercise Psychology*, 28(1), 93-99.
- Burke, K., Joyner, A., Pim, A., & Czech, D. (2000). An exploratory investigation of the perceptions of anxiety among basketball officials before, during, and after the contest. *Journal of Sport Behavior*, 23(1), 11-19.

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Collegiate Commissioners Association. (2009). *Women's basketball officiating manual 2009 – 2010*. Referee Enterprises Inc.
- Collins, D. C. (February 2009). Your rights and responsibilities: Gender based discrimination. *ONBoard*. Retrieved from: <http://www.donaldcollins.org/documents/Gender%20Discrimination%202009.pdf>.
- Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment Research & Evaluation, 10*(7).
- Csizma, K., Wittig, A., & Schurr, K. (1988). Sport stereotypes and gender. *Journal of Sport & Exercise Psychology, 10*(1), 62-74.
- DeHass, D. (2008). *2005 – 2006 NCAA Gender-Equity Report*. Indianapolis: National Collegiate Athletic Association.
- Dugdale, K. (2008). Female referees can't even get on the subs' bench for Euro 2008. *The Guardian*. Retrieved from <http://www.guardian.co.uk/football/2008/jun/09/euro2008.women>.
- Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. *Psychological Methods, 4*(3), 272-299.
- Fielding-Lloyd, B. & Meân, L. J. (2008). Standards and separatism: The discursive construction of gender in English soccer coach education. *Sex Roles, 58*, 24 – 39.

- Folkesson, P., Nyberg, C., Archer, T., & Norlander, T. (2002). Soccer referees' experience of threat and aggression: Effects of age, experience, and life orientation on outcome of coping strategy. *Aggressive Behavior*, 28(4), 317-327. doi:10.1002/ab.90028
- Gates, G. J. (2011). *How many people are gay, lesbian, bisexual and transgender?* Retrieved from the University of California Los Angeles, the Williams Institute website: <http://williamsinstitute.law.ucla.edu/wp-content/uploads/Gates-How-Many-People-LGBT-Apr-2011.pdf>
- Goffet, N. (July 6, 2009). Abuse yelled at female referee at Cessnock game. *The Herald*. Retrieved from: <http://www.theherald.com.au/news/local/news/general/abuse-yelled-at-female-referee-at-cessnock-game/1559750.aspx>
- Goldenhar, L., Swanson, N., Hurrell, J., Ruder, A., & Deddens, J. (1998). Stressors and adverse outcomes for female construction workers. *Journal of Occupational Health Psychology*, 3(1), 19-32.
- Gomillion, S. C., & Giuliano, T. A. (2011). The influence of media role models on gay, lesbian, and bisexual identity. *Journal Of Homosexuality*, 58(3), 330-354.
- Graf, R., & Konoske, P. (1999). Gender effects in the evaluation of high school basketball officials. *Journal of Sport Behavior*, 22(3), 341-349.
- Henig, S. (November 2, 2009). No strikes, but she's out. *Slate*. Retrived from: <http://www.doublex.com/section/life/no-strikes-shes-out>
- Inzlicht, M., Aronson, J., Good, C., & McKay, L. (2006). A particular resiliency to threatening environments. *Journal Of Experimental Social Psychology*, 42(3), 323-336

- Inzlicht, M., & Ben-Zeev, T. (2003). Do High-Achieving Female Students Underperform in Private? The Implications of Threatening Environments on Intellectual Processing. *Journal of Educational Psychology*, 95(4), 796-805.
- Kellett, P. & Shilbury, D. (2007). Umpire participation: Is abuse really the issue? *Sport Management Review*, 10, 209 – 229.
- Krane, V. (1996). Lesbians in sport: Toward acknowledgement, understanding and theory. *Journal of Sport and Exercise Psychology*, 18, 237 - 246.
- Lakowski, T. & Lerner, P. (2009). *Play fair: A Title IX playbook for victory*. East Meadow, New York: Women's Sports Foundation.
- Latu, I. M., Mast, M., Lammers, J., & Bombari, D. (2013). Successful female leaders empower women's behavior in leadership tasks. *Journal Of Experimental Social Psychology*, 49(3), 444-448.
- Linebarger, J. (2008). The best woman for the job: One Paly mom's journey to becoming the NFL's first female referee. The Paly Voice. Retrived from: [http://voice.paly.net/view\\_story.php?id=6919](http://voice.paly.net/view_story.php?id=6919).
- Logel, C., Walton, G., Spencer, S., Iserman, E., von Hippel, W., & Bell, A. (2009). "Interacting with sexist men triggers social identity threat among female engineers": Correction. *Journal of Personality and Social Psychology*, 97(4).
- MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological Methods*, 4(1), 84-99.
- Manor, M. (2011). Refereeing at highest level a long shot in NHL. *ESPNW*. Retrieved from: <http://espn.go.com/espnw/news-opinion/6849824/calling-shots-refereeing-highest-level-long-shot-nhl>.

- Marx, D., Ko, S., & Friedman, R. (2009). The “Obama effect”: How a salient role model reduces race-based performance differences. *Journal of Experimental Social Psychology, 45*(4), 953-956.
- Marx, D. M., & Roman, J. S. (2002). Female role models: Protecting women’s math test performance. *Personality and Social Psychology Bulletin, 28*, 1183 – 1193.
- Mascarenhas, D., Collins, D., & Mortimer, P. (2002). The art of reason versus the exactness of science in elite refereeing: Comments on Plesnner and Betsch (2001). *Journal of Sport & Exercise Psychology, 24*(3), 328-333.
- Mascarenhas, D., Collins, D., & Mortimer, P. (2005). The Accuracy, Agreement and Coherence of Decision-Making in Rugby Union Officials. *Journal of Sport Behavior, 28*(3), 253-271.
- McManus, J. (2011). Elite officiating tough for women to crack. *ESPNW*. Retrieved from: <http://espn.go.com/espnw/news-opinion/6843564/calling-shots-officially-unbalanced>.
- McManus, J. (2011). In NFL, women are in the pipeline. *ESPNW*. Retrieved from: <http://espn.go.com/espnw/news-opinion/6854588/calling-shots-nfl-women-pipeline>.
- Meân, L. J. & Halone, K. K. (2010). Sport, language, and culture: Issues and intersections. *Journal of Language and Social Psychology, 29*, 253 – 260.
- Meân, L. J. & Kassing, J. W. (2008). “I would just like to be known as an athlete”: Managing hegemony, femininity, and heterosexuality in female sport. *Western Journal of Communication, 72*, 126 – 144.
- Mischel, H. (1974). Sex bias in the evaluation of professional achievements. *Journal of Educational Psychology, 66*(2), 157-166.

- Mitchell, V. (2008). Choosing family: Meaning and membership in the lesbian family of choice. *Journal of Lesbian Studies*, 12(2-3), 301 - 313.
- NBA basketball referees roster. Retrived from: <http://phillyref.com/basketball/nbarefs/nbarefs.html>
- Ollis, S., Macpherson, A., & Collins, D. (2006). Expertise and talent development in rugby refereeing: An ethnographic enquiry. *Journal of Sports Sciences*, 24(3), 309-322.
- Orton, K. (March 7, 2008). Gender and religion on the basketball court. *The Washington Post*. Retrieved from: [http://newsweek.washingtonpost.com/onfaith/prayingfields/2008/03/gender\\_and\\_religion\\_on\\_the\\_bas.html](http://newsweek.washingtonpost.com/onfaith/prayingfields/2008/03/gender_and_religion_on_the_bas.html).
- Pelak, C. (2008). The relationship between sexist naming practices and athletic opportunities at colleges and universities in the southern United States. *Sociology of Education*, 81, 189 – 210
- Philippe, F., Vallerand, R., Andrianarisoa, J., & Brunel, P. (2009). Passion in referees: Examining their affective and cognitive experiences in sport situations. *Journal of Sport & Exercise Psychology*, 31(1), 77-96
- Rainey, D. (1999). Sources of stress, burnout, and intention to terminate among basketball referees. *Journal of Sport Behavior*, 22(4), 578-590
- Rainey, D., & Winterich, D. (1995). Magnitude of stress reported by basketball referees. *Perceptual and Motor Skills*, 81(3, Pt 2), 1241-1242
- Reeves, J. L., Tenenbaum, G., & Lidor, R. (2007). Choking in front of the goal: The effects of self-consciousness training. *International Journal Of Sport And Exercise Psychology*, 5(3), 240-254

- Roberson, L., & Kulik, C. (2007). Stereotype threat at work. *Academy of Management Perspectives*, 21(2), 24-40.
- Rydell, R., McConnell, A., & Beilock, S. (2009). Multiple social identities and stereotype threat: Imbalance, accessibility, and working memory. *Journal of Personality and Social Psychology*, 96(5), 949-966.
- Shaffer, M., Joplin, J., Bell, M., Lau, T., & Oguz, C. (2000). Gender discrimination and job-related outcomes: A cross-cultural comparison of working women in the United States and China. *Journal of Vocational Behavior*, 57(3), 395-427.
- Shapiro, J. R., Williams, A. M., & Hambarchyan, M. (2013). Are all interventions created equal? A multi-threat approach to tailoring stereotype threat interventions. *Journal Of Personality And Social Psychology*, 104(2), 277-288.
- Spain, S. (2011). Refereeing at highest level a long shot in NHL. ESPNW. Retrieved from: <http://espn.go.com/espnw/news-opinion/6849824/calling-shots-refereeing-highest-level-long-shot-nhl>.
- Steele, C. (1997). A threat in the air: How stereotypes shape intellectual identity and performance. *American Psychologist*, 52(6), 613-629.
- Steele, C., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality and Social Psychology*, 69(5), 797-811.
- Stone, J., Lynch, C., Sjomeling, M., & Darley, J. (1999). Stereotype threat effects on Black and White athletic performance. *Journal of Personality and Social Psychology*, 77(6), 1213-1227.



- Taylor, C. A., Lord, C. G., McIntyre, R. B., & Paulson, R. M. (2011). The Hillary Clinton effect: When the same role model inspires or fails to inspire improved performance under stereotype threat. *Group Processes & Intergroup Relations*, 14(4), 447-459.
- U.S. Department of Commerce, United States U.S. Census Bureau (2013). *State and County Quick Facts*. Retrieved from <http://quickfacts.census.gov/qfd/states/00000.html>.
- Viera, A. J. & Garrett, J. M. (2005). Understanding the interobserver agreement: The Kappa Statistic. *Family Medicine*, 37(5), 360-363.
- Voepel, M. (December 23, 2005). *Struckhoff hopes to take officiating to the next level*. Retrieved from: [http://sports.espn.go.com/nw/columns/story?columnist=voepel\\_mechelle&id=2270147](http://sports.espn.go.com/nw/columns/story?columnist=voepel_mechelle&id=2270147).
- Ward, R. (2004). Are Doors Being Opened for the 'Ladies' of College Sports? A Covariance Analysis. *Sex Roles*, 51(11-12), 697-708.
- Warner, S., Kellett, P. & Tingle, J. (2011) Why female umpires quit: a gendered examination of officiating.
- Weinburg, R. S. & Richardson, P. A. (1990). *Psychology of Officiating*. Champaign, Illinois: Leisure Press.
- Wheelock, H. (2007). Earning their stripes: Officials in training. *Womens Basketball Online*. Retrieved from: <http://www.womensbasketballonline.com/hw/wbca/earningtheirstripes.html>.
- Whisenant, W. (2003). How women have fared as interscholastic athletic administrators since the passage of Title IX. *Sex Roles*, 49(3), 179 – 184.
- Wolfson, S., & Neave, N. (2007). Coping under pressure: Cognitive strategies for maintaining confidence among soccer referees. *Journal of Sport Behavior*, 30(2), 232-247.

Wout, D., Danso, H., Jackson, J., & Spencer, S. (2008). The many faces of stereotype threat:

Group- and self-threat. *Journal of Experimental Social Psychology*, 44(3), 792-799.

Wout, D., Shih, M., Jackson, J., & Sellers, R. (2009). Targets as perceivers: How people

determine when they will be negatively stereotyped. *Journal of Personality and Social Psychology*, 96(2), 349-362.

## APPENDIX



Photograph of basketball officials' locker rooms at the 2011 Georgia High School Association Basketball Championship at the Macon Coliseum in Macon, Georgia.