

“ICE QUEENS” AND “SNOW STUDS”: GENDER STEREOTYPES
AND THE 2010 WINTER OLYMPIC GAMES

by

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A DISSERTATION

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ABSTRACT

In 2010, the United States of America experienced an unprecedented Winter Olympic Games, winning a total of 37 medals, including nine gold medals. American spectators included the 190 million who viewed the primetime Olympic televised coverage on NBC, and a portion of the 1.6 million in attendance (Vancouver, 2010). There were more than 5,500 athletes, both men and women, who participated in a variety of winter sports. Despite these impressive numbers, little is known about the media's representation, or audience perceptions of the Winter Olympic sports and its athletes.

This research utilized two methodologies (a content analysis and a survey) to analyze gender stereotypes in the 2010 Winter Olympic Games. A nationwide sample of 718 survey participants sex-typed the 12 Winter Olympic sports as either masculine, gender-neutral, or feminine. Then, the televised content was analyzed for prominence of coverage, visual gender cues, and verbal gender cues of male and female athletes and masculine and feminine sports. Finally, survey participant attitudes about a masculine sport (snowboarding) and a feminine sport (figure skating) were examined for gender stereotypes.

Data were analyzed with the guidance of gender schema theory and social role theory. The content analysis revealed multiple gender cues in amount of televised coverage, camera angles, camera shots, and commentary. Survey results mirror these gender cues; the Winter Olympic sports are sex-typed according to gender schemas, and audience attitudes about the Olympic athletes reflect gender roles in society. Specifically, male and female athletes

participating in gender-appropriate sports are perceived as favorable, while athletes participating in gender-inappropriate sports are perceived as unfavorable. Audience perceptions of sports and athletes arguably influence media spectatorship, sponsorship, and marketability.

Limitations of this research include the convenience nature of the survey distribution, and the focus on specific Olympic sports. Additional research will expand these findings and broaden the understanding of gender stereotypes in sports.

DEDICATION

This dissertation is dedicated to four beloved individuals: my understanding and patient husband, who endured countless servings of Spaghetios while I completed the requirements of this doctoral degree; my parents, for teaching me about work ethic and instilling in me an undying love for sport; my son Rock, for providing moments of laughter and joy at all the right times.

LIST OF ABBREVIATIONS AND SYMBOLS

<i>B</i>	Estimated values of standardized regression coefficients in regression and multiple regression analyses
<i>F</i>	Fisher's <i>F</i> ratio: A ration of two variances
<i>M</i>	Mean: the sum of a set of measurements divided by the number of measurements in the set
<i>N</i>	Size of a population or sample
<i>n</i>	Size of a cell or group
<i>p</i>	Probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value; significance level
<i>r</i>	Estimate of the Pearson product-moment correlation coefficient
ξ^2	Measure of strength of relationship in analysis of variance
<i>SD</i>	Standard Deviation
<i>t</i>	Computed value of <i>t</i> test
<i>DF</i>	Degrees of freedom
<	Less than
=	Equal to
%	Percentage

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CHAPTER 1

INTRODUCTION

Research on gender and sport has grown in amount and importance since the onset of Title IX in 1972. This date marked a turning point in gender equity of athletics, including athletic funding, facilities, and opportunities (U.S. Department of Labor, 1972). However, research suggests that media portrayals of male and female sport are far from equal (Billings & Angelini, 2007; Billings, Halone, & Denham, 2002; Christopherson, Janning, & McConnell, 2002; Daddario, 1997; Greer, Hardin, & Homan, 2009; Vincent, 2004). Clearly, in the minds of many journalists, athletes, and society, sport is still played in a masculine arena. Additional research suggests that this attitude results in the continued stereotypical portrayals of athletes and sports (Harrison & Lynch, 2005; Koivula, 2001; Krane, Choi, Baird, Aimar, & Kauer, 2004).

Spectators of sport are exposed to numerous gender cues, especially in sport media coverage. The present research explores gender cues and stereotypes in relation to the 2010 Winter Olympic games. The Games were broadcast on NBC during primetime for 17 consecutive days. During the primetime broadcasts alone, the Olympics received 85 hours of broadcast coverage. More than 190 million viewers tuned to NBC to watch at least a portion of these broadcasts (Vancouver, 2010). Therefore, research on gender cues and stereotypes in the 2010 Olympics has importance to the body of literature on gender and sport.

Methodologically, the present study combined a content analysis and a survey to explore the televised coverage of the 2010 Winter Olympic Games and audience perceptions of the

sports and the athletes who participated in them. The content analysis portion closely examined gender cues in both commentary and visuals, to fulfill the need for a more holistic approach to examining the elements of televised coverage. The survey portion assessed audience attitudes about gender and sport in relation to the Winter Games. Furthermore, personal characteristics (perception of self, demographic data, sport media use, and sport participation data) of the media audience were collected to examine the possible relationship between these characteristics and identified audience attitudes. Similar concepts have been researched previously. However, the existing body of literature is fairly narrow in scope.

The analysis of media portrayals of women in sports has been vastly researched. It is clear that female athletes receive less media coverage than male athletes in televised coverage, magazines, online, etc (Billings & Angelini, 2007; Christopherson, Janning, & McConnell, 2002; Kian, Mondello, & Vincent, 2009). Literature also suggests that the amount of coverage differs across all levels of media, including local, national and collegiate publications and broadcasts (Billings, Halone, & Denham, 2002; Huffman, Tuggle, & Rosengard, 2004).

The analysis of media content in existing gender and sport research is limited to certain sports. The majority of research on the amount of media coverage given to male and female athletes compares a single male sport to a single female sport, such as golf or basketball (Greer, Hardin, & Homan, 2009; Kim, Walkosz, & Iverson, 2006). The research designs frequently have focused on a single athletic event, such as the NCAA Final Four basketball championships, or the World Cup (Billings, Halone, & Denham, 2002; Christopherson, Janning, & McConnell, 2002; Kian, Mondello, & Vincent, 2009). While these studies were necessary to increase understanding in this area of research, additional research is needed to reduce the gap in the literature. It is not clear whether type of sport influences the media coverage awarded to male

and female athletes in that sport. The few studies that do focus on multiple sports often look at coverage of the Olympic Games. Again, however, a gap in the literature exists since the majority of these analyses have focused on the coverage of the Summer Games.

Much of the existing research also focuses solely on verbal or visual cues in the media (Billings & Angelini, 2007; Billings, Halone & Denham, 2002; Christopherson, Janning, & McConnell, 2002; Daddario, 1997). Research on verbal cues has found significant gender cues in televised commentary of sport, including the adjectives used to describe athletes, the amount of lines of commentary, the sex of commentators, and commentary themes (Billings & Angelini; Billings, Halone, & Denham; Schell & Duncan, 1999). Significant gender cues also have been identified through an analysis of visuals, including camera angles, camera shots, editing techniques, and athlete appearance to name a few examples (Greer, Hardin, & Homan, 2009; Peterson, Xu, & Limbu, 2009; Vincent, 2004). However, only a small number of published studies look together at the gender cues present in visual and verbal cues of sport media coverage. It is important to research both together because media consumers are presented with both visual and verbal cues when viewing televised coverage of sport.

The majority of the research either analyzes media content or examines effects of media portrayals through surveys and experimental research. Only a few researchers have explored the audience attitudes of sport and gender. Therefore, very little is known about how the media portrayals relate to audience attitudes. Are they similar? Do they differ? Furthermore, little is known about the relationship of audience characteristics (perception of self, demographics, amount of media use, sport participation, etc.) on attitudes about gender and sport. These concepts are vital to this body of research.

The present study seeks to fill the previously-mentioned gaps in the literature. The content analysis portion provides insight into the media portrayals of gender in a number of Winter Olympic sports. It also advances the knowledge of gender cues in sport media, by collectively examining both the commentary and visuals of the primetime, televised coverage. The survey portion of this research not only provides groundbreaking information about audience attitudes of winter sports, it advances our understanding of sport-typing, by labeling the winter sports as either masculine, feminine, or gender-neutral. Furthermore, this research advances our understanding of how personal characteristics of the audience relate to audience attitudes, perceptions, and interest in the Winter Olympic sports and athletes. This research also aims to provide the first attempt to tie two bodies of literature together. How similar are audience attitudes to media content? Do these attitudes differ based on audience demographics or sport media use?

This study is not only important to the body of literature, it also advances our understanding of how and why media audiences form perceptions about different sports. Collectively, this approach provides winter athletes, sport managers, media producers, and media consumers with a more complete understanding of gender roles and stereotypes in winter sports. This includes media portrayals of gender cues in winter sports, and audience attitudes of gender stereotypes, winter sports, media consumption, and overall interest in sport.

This research is presented in the four chapters that follow the introduction. Chapter two explores the existing literature in relation to verbal and visual cues in media content, and what is known about audience attitudes about gender and sport. Also in this chapter, the hypotheses and research questions for the research are stated throughout. Chapter three details the methodology for both the content analysis and survey portions of this research. Specifically, this chapter

explains how the data for both methods was collected. Chapter four restates the hypotheses and research questions, and presents results from both the content analysis and survey to either accept or reject the hypotheses and to answer the research questions. Chapter five, the final chapter, includes the discussion. Here, the findings from the data analysis are explored in depth as they relate to the importance of the findings to the body of existing literature.

CHAPTER 2

LITERATURE REVIEW

Historically, men in U.S. society have dominated the sport industry as competitors, attendees, spectators, owners, and media gatekeepers. As a result, sport gives emphasis to gender expectations in society. The unwritten value system in sport, which defines athletic events and athlete traits as either gender-appropriate or gender-inappropriate, has led to the formation and maintenance of gender stereotypes¹ (Angelini, 2008b; Hardin & Greer, 2009; Knight & Giuliano, 2001). These stereotypes suggest that sport is segregated by athlete sex; men are encouraged to participate in sports more than women, and male participants dominate masculine sports (e.g., football and baseball).

The categorization of sports in terms of masculinity/femininity and athlete sex is known as sex-typing (Hardin & Greer, 2009; Koivula, 2001; Solmon, Lee, Belcher, Harrison, & Wells, 2003). Sports are labeled as either gender-appropriate or gender-inappropriate based on the perceived masculinity or femininity of the sport, and the sex of the athlete. Specifically, society prefers for male athletes to compete in masculine sports and female athletes to participate in feminine sports (Harrison & Lynch, 2005). These stereotypes not only dictate the sports athletes want to play, they also dictate media coverage of athletic events and societal attitudes about male

¹ For the purposes of this research, the term “gender” will be used to represent a social construct, and the term “sex” will be used to represent the biological construct of male or female. However, in reviewing existing literature, these terms will be used as the cited researchers themselves used them. For example, gender-appropriate/gender-inappropriate and sex-typing are used interchangeably in this research.

and female athletes. Therefore, researchers must strive to understand how stereotypes and audience attitudes are formed. It is also important to look at how the history of gender and sport relates to present stereotypes, attitudes, and media coverage.

In sport, masculinity is defined by muscularity, speed, and athleticism. Therefore, team sports and sports that involve physical contact, are deemed masculine. The same is true for femininity, which is defined by society's preference for feminine body-types and social roles among females. Feminine athletes wear glamorous clothing and show emotion (e.g. smiling and crying) and grace; judged sports, or individual sports that involve aesthetic ability are traditionally viewed as feminine (Hardin & Greer, 2009; Koivula, 2001; Pedersen, 2002). However, masculinity and femininity are not solely dependent upon athlete sex. Male athletes can be perceived as feminine, and female athletes are capable of being perceived as masculine.

The following review of the literature provides the context necessary to understand the constructs of interest in the proposed research. First, the review of the literature begins with the exploration of stereotype formation and the history of sport and athlete sex. This sets the stage for the portion of this study, aimed at analyzing the sex-typing of winter sports. Here, the literature is explored in terms of how sex-typing relates to the masculine/feminine perception of self, how sports are sex-typed, and how audience characteristics relate to sex-typing of sport. For the portion of the study aimed at analyzing media content, three areas of literature are examined: prominence of coverage by athlete sex and type of sport, and then visual and verbal cues in media content. The final portion of this literature review explores audience attitudes about sport and athletes from a social role perspective. Here, sport media consumption is explored by type of sport and athlete sex in relation to social roles. Each section concludes with research questions and hypotheses that emerge from the examination of the literature.

Attitude and Stereotype Formation

Attitudes are the tendency to evaluate an individual or situation as favorable or unfavorable. As a result, individuals and situations are “typed” (Eagly & Chaiken, 1993; Perloff, 2003). Furthermore, attitudes materialize when stimuli lead to evaluative responses. Gender-appropriate behavior is often classified by attitudes in society. For example, girls are accepted if they play with dolls, while boys are rejected for the same behavior (Golombok, Rust, Zervoulis, Croudace, Golding, & Hines, 2008). Here, the stimulus of watching a child play with dolls initiates an evaluative response within the viewer. “Is it gender-appropriate for boys to play with dolls?” Research indicates that such attitudes about gender are learned socially from our relatives, mentors, peers, self-experience, and the media (Perloff). Therefore, not all individuals have the same attitudes about gender, but individuals with similar experiences and exposure to stimuli may form similar attitudes.

Marketing and media coverage of women reflect gender attitudes and stereotypes² in society. Much of this coverage focuses on beauty, and research supports the argument that good-looking females receive more favorable reactions from the public (Ham & De Gregorio, 2006). These reactions are based on attitudes and beliefs of what constitutes femininity: makeup, stylish clothing, a thin figure, and more. Furthermore, imagery in the media is a powerful tool, since imagery assists attitude formation and persuasion by drawing attention to the communication (Mazzocco & Brock, 2006). In many situations, a woman’s beauty is defined by femininity, just as a man’s beauty is defined by masculinity. Such beauty is often depicted and proves most

² The term “stereotype” is used loosely in this research as it relates to preferences and prejudices. These terms may be used interchangeably throughout the literature review, as the researchers quoted in this material prefer different terms.

influential via imagery. Therefore, as gender attitudes develop and expand in society, the formation of gender stereotypes³ is likely (Perloff, 2003).

Through still images, video, audio, and text, gender often is defined in media messages in terms of social roles. Furthermore, visual images that cross over multiple media platforms are capable of leaving lasting impressions. Low camera angles can make an individual appear more masculine and significant in stature, while high camera angles reduce the perception of significance (Fields, 1988; Roof, 1999). Visually, women often are depicted as iron maidens, sex kittens, or mothers. Men often are depicted as athletes, hard-workers, and bachelors (Carilli & Campbell, 2005). These gender roles are defined via occupation or personality traits. Content analysis research indicates that women in the media display more emotion, physical weakness, a concern for beauty, and a desire for raising a family. Likewise, men in the media often are void of emotion, unless depicted as angry, and select physically demanding occupational roles (Gross, 2003). The media are more likely to place women in nurturing occupations, while men are more likely to represent more dominant occupational roles (Carilli & Campbell). Women often are depicted in media messages as caretakers, stay-at-home mothers, and domesticated women, focused on family values (Brancato, 2007).

Media also portray gender stereotypes through the representation of personality traits. Women are visually shown to be more nurturing, maternal, and vain, while males are shown to be more aggressive, and selfish (Hurtz & Durkin, 2004; Lester & Ross, 2002). Even the media's depiction of teenagers reveals stereotypes. Teen movies depict female teenagers as socially aggressive, mean, and competitive toward other female teenagers (Behm-Morawitz & Mastro,

³ The term "stereotype" is used loosely in this research as it relates to preferences and prejudices. These terms may be used interchangeably throughout the literature review, as the researchers quoted in this material prefer different terms.

2008). Further, male teens are portrayed via a level of popularity associated with their athleticism. When the media audiences are subjected to repeated exposure to gender stereotypes in the media, the accessibility of the cognition of gender stereotypes increases (Hurtz & Durkin). Therefore, gender-marked depictions of personality traits and occupations of both men and women can lead to the formation of stereotypes about gender in our society (Carilli & Campbell, 2005; Lester & Ross).

Finally, previous research indicates that photographs in the media fail to depict the true diversity that exists in U.S. society. Photographic images of males and females in advertising and news articles are limited to models depicting a similar body type, race, generation, and physical ability level (Lester & Ross, 2002). Additional analyses of network primetime programming have revealed that women serve as sex objects in a male dominated society (Glascock, 2003). The anatomical, hormonal, and genetic differences of the female body, lead to women's bodies being objectified and evaluated more frequently than men's (Fredrickson & Harrison, 2005). Therefore, sexual clothing on women and aggressive behavior from men serves as the mediated norm (Glascock).

Gender stereotypes in sport are also dictated by media coverage. The media allows ordinary individuals to view extraordinary events, by providing a window into society (Kian, Mondello, & Vincent, 2009). For example, the media's coverage of the Olympic Games will become reality for many viewers, because very few individuals have the opportunity to experience them first-hand. Therefore, the understanding of stereotypes, prejudices, and preferences portrayed in the mass media is very important. The media representations can have negative effects on society, such as the formation of racism, sexism, ageism, fear of the unknown, and the discrimination of disabled persons (Gross, 2003; Hurtz & Durkin, 2004;

Kunda & Thagard, 1996). These concepts are prevalent in the media across every communication platform. In the formation and processing of such preferences, the cognition level of the media consumers and their attitudes are vital (Macrae & Bodenhausen, 2000). These concepts assist with the formation of categorical placement of individuals. Traits and behaviors become stimuli, which assist the individual in forming lasting impressions and eventually stereotypes (Kunda & Thagard). It is clear that stereotypes are formed from categorizing individuals based on previous experience, acquired knowledge, and prior exposure. Furthermore, the media plays an integral role in stereotype formation, by providing such exposure.

The History of Gender and Sport

The sports industry is a breeding ground for gender stereotypes, because sport is thought to be a masculine domain (Melby, 2010; Nagel, 2010). Furthermore, the majority of traditional sports are perceived as being masculine (Hardin & Greer, 2009). Historically, men were significantly more interested in participating in sport, viewing sport media, attending athletic events, and learning about sport (Gantz & Wenner, 1995). Furthermore, fewer than four decades ago, many women interested in participating in sport were turned away by a lack of opportunities, funding, and facilities. Title IX of the Education Amendments of 1972 changed this by requiring any educational entity receiving federal funding to provide equal opportunities and benefits to both males and females (U.S. Department of Labor, 1972).

Title IX encouraged the National Collegiate Athletic Association's (NCAA) sponsorship of women's athletic championships and has led to the addition of more than 18 women's collegiate sports (Kennedy, 2007). Since the introduction of Title IX, women have become increasingly involved in sport participation, spectatorship, and media use (Gantz & Wenner, 1995; Kerstetter & Koovich, 1997; Wann & Wilson, 1989). Specifically, women made up only

15% of collegiate athletes in 1972, as compared to 42% 30 years later (U.S. Department of Education, 2003). Furthermore, women are reportedly more interested in sport than in years past. Male and female sport fans have been found to react to athletic events in nearly identical ways (Gantz & Wenner). Therefore, the sport participation and sport interest gaps between males and females have lessened over time.

Despite these advances, much criticism about Title IX exists. Some argue that Title IX has generated a financial hardship for collegiate athletic departments, which receive significant revenue only from the masculine-typed men's sporting events (Kennedy, 2007). Therefore, the funding for each sport should be determined by the amount of revenue each sport brings to the school. Others argue that female enrollment in college has increased 16% since the onset of Title IX. Therefore, the funding for female activities (including athletics) should be representative of the student population. Despite the addition of numerous female athletic programs, a large percentage of female sport participants want more. More than 60% of females who are interested in sport participation say their school does not offer a good variety of sports for women (Miller, Heinrich, & Baker, 2000). The above findings suggest that while Title IX has advanced equality between male and female athletes in sport, the success of the act is difficult to measure.

The Title IX debate only provides further support that media and society resist changes of gender roles in sport. (Hardin, Simpson, Whiteside, & Garris, 2007; Huffman, Tuggle, & Rosengard, 2004; Kane, 1988). Media coverage of sport lacks gender balance. Research indicates that the three sports most televised on ESPN are football, baseball, and basketball (Gantz & Wenner, 1995). These sports are predominantly played by men and are typed as masculine. Adams and Tuggle (2004) argue that sports television programs grossly under-represent women's sport in comparison to the percentage of female sport participants in society.

The same is true for collegiate media, where female athletes debatably compete as frequently as male athletes (Huffman, Tuggle, & Rosengard). Furthermore, when female athletes receive media coverage, they are depicted participating in gender-appropriate sports (Kane). For example, female athletes who play tennis (which is historically typed as feminine) receive more media coverage than female athletes who play softball (which is historically typed as masculine). However, the lack of media coverage is not limited to women. Male athletes who participate in sports deemed gender-inappropriate are also awarded little to no coverage.

Research indicates that such media content is partially guided by societal expectations of gender, which is also influenced by media content in a vicious circle (Hardin & Greer, 2009). Male and female athletes alike feel pressure from the media and society to maintain a gender-appropriate image. Female athletes struggle to balance athletic power with an image of femininity and heterosexuality, while male athletes strive to maintain an image of strength and speed (Mean & Kassing, 2008).

Perception of Self and Audience Attitudes about Sport: Gender Schema Theory

The source of gender attitudes is not limited to media consumption. Gender schema theory suggests that attitudes about gender also are influenced by an individual's perception of self. Gender schema theory posits that individuals and society form expectations (or schemas) about what it means to be male or female (Bem, 1981). Literature using this theory supports that individuals attempt to categorize themselves and others into society's expectations of gender-appropriateness. Specifically, gender schemas suggest that males should be masculine and females should be feminine (Campbell, Shirley, & Candy, 2004; Grabill, Lasane, Povitsky, Munro, & Phelps, 2005; Krane et al., 2004; Martin & Ruble, 2004). These expectations apply to an individual's appearance, behavior, way of life, actions, and perception of others.

Bem (1981) defines schemas as a roadmap used to guide an individual's expectations, and eventually expectations in society. Nassaji (2007) further clarifies that gender schemas, a pre-existing map, are used to interpret new information in a predictive manner. When interpreting schemas, individuals process incoming information in terms of related, pre-existing schemas. Therefore, gender schemas can eventually influence social norms (Grabill et. al., 2005). Gender attitudes and stereotypes often result, as individuals process information in terms of gender-appropriateness or gender-inappropriateness.

Research supports that the processing of gender schemas is not limited to adults. Campbell, Shirley, & Candy (2004) found that children are capable of mastering the art of gender knowledge by the age of three. Specifically, children are able to identify gender-appropriate toys for both males and females. Research also indicates that children strive to mimic the gender activities of their peers (Martin & Ruble, 2004). Such knowledge about gender stereotypes has been linked to resulting behavior in children, who regularly search for gender cues about appropriate behaviors and even friendships. Therefore, gender schema theory presumes that children are effective in determining their own gender development.

Gender schemas also influence social norms regarding the perceptions of an individual's behavior, including study behavior among adolescents. Academic success has been identified as a feminine trait. Grabill and colleagues (2005) suggested that as a result, females study more than males and are more likely to rate studying as important in comparison to males. Females who choose to participate in sports suffer from an identity crisis. Elite female athletes develop "athletic" bodies, with an abnormal amount of muscularity, due to participation in a gender-inappropriate activity. Krane and colleagues (2004) conducted interviews with focus groups of elite female athletes who indicated that being feminine contrasts with being athletic.

Furthermore, while female athletes admit they are schematically abnormal, they also take pride in their athletic bodies.

In contrast to some previously-mentioned research, more recent literature suggests that not all sports are “typed” as masculine. Koivula (2001) identified that some sports are perceived as masculine, while others are perceived as feminine. Audience perceptions of 19 athlete traits resulted in 19 sports being categorized as gender-neutral, 7 sports as feminine, and 15 sports as masculine. Specifically, characteristics of each sport assist in the formation of gender schemas. Masculine sports require risk, team spirit, speed, commercialism and strength, while feminine sports involve aesthetics, advanced skills, and cognition.

Hardin & Greer (2009) more recently found that the majority of sports are perceived as masculine (e.g., football, basketball, weightlifting, and rugby). However, they also identified action sports (e.g. motocross, skateboarding, and surfing) as a fourth category. Still, some sports were typed as feminine (gymnastics and volleyball), while others were typed as gender-neutral (swimming, tennis, and soccer; see Table 2.1). These results suggest that individuals sex-type sports based on perception of congruency between athlete sex and the gender-appropriateness of the type of sport played.

This research sought to expand the understanding of sex-typing of sport. The previous body of literature looks only at mainstream sports and does not include audience perceptions of masculinity or femininity of the majority of Winter Olympic sports. In fact, of the numerous Winter Olympic sports, only hockey, snowboarding, cross-country skiing, and figure skating have been researched. Furthermore, the proposed research seeks to fill the gap in the literature by using gender schema theory as Bem (1981) intended. According to this theory, individuals who strongly perceive themselves to be hyper-masculine or hyper-feminine are more likely to type

others based on sex-typing stereotypes. Therefore, it is important to measure how perception of self relates to perceptions of gender stereotypes.

H1: Research participants will sex-type the twelve Winter Olympic sports into groups of masculine, gender-neutral, and feminine, as defined by previous literature.

H2: Survey participants with a hyper-masculine or a hyper-feminine self-reported perception of self will be more likely to sex-type the twelve Winter Olympic sports into groups of masculine or feminine.

RQ1: What participant demographics (age, race, and sex) and personal characteristics (sport media use and sport participation) are related to the sex-typing of the Winter Olympic sports?

Table 2.1

Sex-Typing of Sport in Previous Research

Masculine	Action	Gender-Neutral	Feminine
Bandy ^a	Motocross ^b	Archery ^a	Aerobics ^a
Baseball ^a	Skateboarding ^b	Badminton ^a	Ballet ^a
Basketball ^b	Snowboarding ^b	Basketball ^a	Dance ^a
Boxing ^a	Wakeboarding ^b	Bowling ^a	Figure Skating ^a
Crew ^a	Surfing ^b	Canoeing ^a	Gymnastics ^{ab}
Combat Sports ^a		Cross-Country Ski ^a	Riding ^a
Football ^{ab}		Cycling ^a	Synchronized Swim ^a
Handball ^a		Golf ^a	Volleyball ^b
Ice-hockey ^a		Marathon ^a	
Motor Sports ^a		Riflery ^a	
Nautilus ^a		Sailing ^a	
Pole Vaulting ^a		Skating ^a	
Rugby ^{ab}		Soccer ^b	
Soccer ^a		Swimming ^{ab}	
Weight Lifting ^{ab}		Tennis ^{ab}	
Wrestling ^a		Volleyball ^a	

Note: ^a = Finding from Koivula (2001); ^b = Finding from Hardin & Greer (2009)

Media Portrayals of Gender Stereotypes

Previous research indicates that gender stereotypes are present across a variety of mass communications, including advertising, public relations campaigns, and primetime programs (Behm-Morawitz & Mastro, 2008; Gross, 2003; Hurtz & Durkin, 2004; Lester & Ross, 2002). A combination of the cognition levels and attitudes of media consumers leads to the general categorical placement of individuals (Macrae & Bodenhausen, 2000). Media portrayals of gender stereotypes are present via prominence of coverage, verbal cues, and visual cues, and possibly cause gender categorization. Research indicates not only that male and female athletes receive differing amounts of sport media coverage, but gender themes in the sport coverage also are dependent upon athlete sex and the type of sport (Bissell & Duke, 2007; Christopherson, Janning, & McConnell, 2002; Vincent, 2004). Verbal gender cues in the media are present in spoken dialogue and in writing; visual gender cues are present in still photography and moving images, and prominence of coverage relates to the amount of media coverage given to different types of sports and athletes.

Prominence of Media Coverage. For the purposes of this research, “prominence” will represent the amount of coverage, as varied by sport, by athlete sex, and by type of sport. A vast amount of research in gender and sport focuses on the concept of prominence. For athlete sex, the prominence of media coverage includes the amount of coverage given to each sex (such as media underrepresentation of female athletes) and type of sport. Research suggests that female athletes, and feminine sports are underrepresented in sport media (Christopherson, Janning & McConnell, 2002; Fink & Kinsicki, 2002; Kim, Walkosz, & Iverson, 2006; Knight & Giuliano, 2003; Vincent, 2004). Female athletes receive significantly less media coverage than male athletes at all levels of sport media, including high school, college, local, and national news

organizations (Kian, 2008; Kim, Walkosz, & Iverson, 2006; Pedersen, 2002; Whisenant & Pedersen, 2004). This underrepresentation suggests that the sport media find men's sports to be more important than women's sports (Huffman, Tuggle, & Rosengard, 2004; Pedersen).

Furthermore, researchers argue that the unbalanced media coverage will influence media consumer opinions about female athletes and female sport (Fink & Kinsicki, 2002; Kim, Walkosz, & Iverson, 2006). An analysis of college basketball coverage in national newspapers found that female basketball players received only 27% of the coverage (Kian, 2008). Also, collegiate newspapers award three-fourths of the sport coverage to male athletes, and collegiate television programs cover male sports 82% of the time (Huffman, Tuggle, & Rosengard, 2004). Even when female athletes achieve athletic success, as in the 1996 Summer Olympic Games, they still receive less coverage than less successful male athletes competing in the same events (Fink & Kinsicki). Lastly, in Final Four basketball coverage, women's and men's sports were granted equal amounts of coverage, but the men's teams received significantly more lines of commentary than the women's (Billings, Halone, & Denham, 2002).

Male athletes also face gender stereotypes in the media. Prominence influences both male and female athletes in relation to the type of sport the athlete plays. Male athletes participating in feminine or gender-neutral sports face stereotypical sport media coverage (Kian, 2008). Men mostly receive media coverage in masculine sports (e.g., baseball, basketball, and football), and are rarely shown participating in feminine or gender-neutral sports. Recent research has explored the type of sports athletes play in relation to stereotypes in the media and society (Fink & Kinsicki, 2002; Hardin & Shain, 2005). Athletes who compete in gender-inappropriate sports arguably receive differing levels of support from those who compete in gender-appropriate sports. Specifically, male athletes who choose to participate in feminine sports, and female

athletes who choose to participate in masculine sports fight for acceptance in the media and society (Fink & Kensicki). Specifically, 65% of the articles in *Sports Illustrated* and *Sports Illustrated for Women* cover athletes competing in gender-appropriate sports, while 19% cover athletes competing in gender-inappropriate sports, and 16% cover athletes competing in gender-neutral sports.

In a content analysis of Olympic print media coverage, female athletes participating in masculine sports were far less likely to receive media coverage than females participating in feminine sports (Jones, Murrell, & Jackson, 1999). Additionally, women participating in feminine sports received more media coverage than those participating in male-appropriate sports (Cho, 1993). Furthermore, because male athletes are represented more frequently in the media than female athletes, feminine sports receive only 13% of sport media coverage overall (Hardin, Dodd, Chance, & Walsdorf, 2004). Even when media do portray female athletes competing in masculine sports, they are more likely to stereotype the athlete with an emphasis on femininity, appearance, and/or sexuality (Fink & Kensicki, 2002).

These findings suggest that the media mirror gender stereotypes previously measured in society in the prominence of media coverage and differing coverage by athlete sex and type of sport. The presence of these stereotypes leads media consumers to perceive female athletes and male athletes competing in feminine sports as weak, emotional, and submissive, even though these descriptions do not fit the majority of athletes. Media consumers, in contrast, perceive male athletes participating in masculine sports to be strong, muscular, and aggressive (Cho, 1993). Therefore, stereotypical portrayals of athletes in the mass media have a significant relationship to the stereotypes and attitudes in society.

RQ2a: How prominent (amount of coverage) is the primetime network coverage of all 12 Winter Olympic sports?

RQ2b: How will prominence of coverage differ by athlete sex overall, and within the same sport?

RQ2c: How will prominence of coverage differ by the type of sport?

Visual Cues. Gender cues also are present in televised coverage, video, and still images of male and female athletes in the media. These cues are related to common gender stereotypes focusing on athlete appearance, and the perceived excitement of sport. The portrayal of female athletes lacks a focus on athleticism (Bissell & Duke, 2007; Fink & Kensicki, 2002; Knight & Giuliano, 2003; Vincent, 2004). More commonly, visual portrayals in the media focus on a female athlete's beauty and sexuality. To compete at the elite level in sport, many female athletes are big-boned, develop muscles, and wear athletic clothing; society identifies these characteristics as masculine; therefore, female athletes are often feminized and/or sexualized by the mass media (Knight & Giuliano, 2001). As a result, the image of the "female athlete" has become a universal one; female athletes are depicted with limited diversity in the categories of race, age, physical ability, and body type (Schell, 2001).

Anna Kournikova is a prime example; her marketability stems from her sexy, feminine appearance, rather than her athletic ability (Stamler, 2000). It appears female athletes who do not fit this universal image are overlooked in media coverage of their sport. In response, female athletes turn to a combined image of sexuality and athleticism. They are increasingly baring skin in non-sport magazines such as *Playboy* to show off their athletic bodies in a sexy way (Drape, 2004). Likewise, in the majority of media coverage of female athletes, the "thin ideal" and

feminine stereotypes are noticeable through the prominence of sexy poses, sexual facial expressions, exposed body parts, and other feminine traits (Schell, 2001).

An analysis of Olympic coverage in *Sports Illustrated* and *Sports Illustrated for Women* found that coverage of female athletes focuses on feminine appearance rather than athleticism (Fink & Kensicki, 2002). Specifically, female athletes were mostly either posed in non-athletic clothing, shown in a non-sport setting, or depicted as sexually suggestive. Furthermore, Knight and Giuliano (2003) argue that media coverage of male and female athletes differs because of a push to portray athletes as gender-appropriate. Therefore, portraying female athletes in a non-athletic setting or wardrobe helps them to appear more feminine.

To further portray female athletes as feminine, the sport media focus on their sexuality and sexual preference (Bissell & Duke, 2007; Christopherson, Janning, & McConnell, 2002; Kim, Walkosz, & Iverson, 2006; Perloff, 2003; Vincent, 2004). An analysis of video coverage of women's beach volleyball in the Olympic Games found that 20% of the camera shots focused on the athletes' chests, and an additional 17% of the shots focused on the athletes' buttocks (Bissell & Duke).

Bissell and Duke (2007) argue that sexuality in sport media is used to sell female sport and to advance the popularity of the athletes. They posit that the frequency of body shots of female athletes indicates that the sexualized portrayal is intentional. Specifically, this coverage is not only present in sport media, but also in men's magazines (e.g., *Maxim*, and *Playboy*). Additionally, women's professional tennis, racing, and golf have used attractive and feminine female athletes to market each sport (Greenburg, 2005). Examples of such athletes include tennis' Anna Kournikova, auto racing's Danika Patrick, and the Ladies Professional Golf

Association's (LPGA) "Beautiful Seven." These female athletes are thought to bring fans to the sport based on their beauty, rather than athletic ability (Stamler, 2000).

Athlete appearance is also related to the perception of excitement in sport, and the viability of the athletes portrayed. Athletic uniforms are a key indicator of which sport an athlete plays and his or her level of athleticism. In an analysis of intercollegiate media guides, male athletes were shown in their athletic uniform more frequently than female athletes at the same university (Buysse, 1992). In addition, male athletes are more likely to be portrayed in an athletic setting to help them appear more masculine. These findings support that media coverage of male athletes significantly differs from coverage of female athletes in the portrayal of activity level. Male athletes are mostly photographed in athletic action shots, and are significantly less likely to be portrayed in a non-sport setting (Fink & Kensicki, 2002). Likewise, male athletes are placed on the media guide cover as "tokens" more frequently than female athletes (Lavoie, Buysse, Maxwell, & Kane, 2007). These "tokens" are choices made by those in sport management, and often depict the athletic department's most valuable athlete(s). Finally, male athletes receive more camera angles and more close-ups than female athletes, indicating more excitement (Greer, Hardin, & Homan, 2009; Roof, 1999).

The literature identifies type of commentary and production techniques as clear distinctions between the two groups as well. In similar sports, the production techniques used for men's sports far outweighs those for women's sports in several key areas, including editing, camera use and type of shot. Specifically, men's sports were edited more quickly, with pans, zooms, and frequent close-ups to increase the excitement of the production (Greer, Hardin, & Homan, 2009). The same is true for NCAA basketball coverage. The visual presentation of the men's games made the events seem "historic," while the women's games were produced to look

like “just another game” (Messner, Duncan, & Wachs, 1996). Therefore, the production techniques of men’s and women’s sport differ to the degree that stereotypes about the excitement of the sport and viability of the athletes are likely.

Visual gender cues in sport media are present and have been previously measured by athlete wardrobe, the amount of interaction with (and/or dependence on) others, camera angle, and body shots. These same variables were used to measure visual gender cues in this research.

RQ3a: What visual gender cues will be present in the televised primetime network coverage of the masculine and feminine Winter Olympic Sport?

RQ3b: How will visual gender cues vary by athlete sex?

RQ3c: How will visual gender cues vary for the masculine-typed sport and feminine-typed sport, regardless of athlete sex?

Verbal Cues. Gender stereotypes are present via gender cues in commentary and written dialogue. The specific gender stereotypes include a verbal focus on gender roles, athlete heterosexuality, athlete appearance, and athlete personality. Expectations of occupational and household roles are common. Female athletes in the media often are marginalized as unrealistic athletes. They are described as “team players” and as “a part of a group” rather than true competitors (Daddario, 1997). Research about magazine coverage of the Olympic Games found that female Olympians often are regarded as entertainers and performers, rather than skilled athletes (Jollimore, 2002). Both male and female athletes who do not participate in gender-appropriate sports, or do not portray a gender-appropriate image, are arguably more likely to face such stereotypical media coverage. As a result, female athletes are often described as mothers

and wives and male athletes are more likely to be described using masculine descriptors (e.g., aggressive, dominant, etc.) (Christopherson, Janning, & McConnell, 2002).

Kian (2008) found that nearly 13% of media coverage of men's and women's basketball focused on family roles and personal relationships. Specifically, female athletes were portrayed as good mothers and wives, while male athletes were portrayed as promiscuous "players." These portrayals are consistent with gender role preferences in society. However, research indicates that sport news with a personal focus is twice as likely for female athletes than male athletes (Fink & Kinsicki, 2002).

The media are also more likely to focus on an athlete's love interests when the athlete participates in a gender-inappropriate sport. These portrayals assure the audience that the athletes are heterosexual. Therefore, their relationships with the opposite sex are often a topic of conversation (Jollimore, 2002; Knight & Giuliano, 2003). This is mostly true for athletes participating in judged sports than in non-judged sports (Ginsberg, 2005). There is a common fear that judges and society will negatively assess athletes if they are perceived homosexual, and rightfully so. In an experimental study, Knight & Giuliano (2003) found that the media audience significantly preferred a female athlete who was a known heterosexual to a female athlete with ambiguous sexual preference. Furthermore, they found that an assumption of heterosexuality is not automatically awarded to female athletes who participate in masculine sports. Generally, female athletes break more gender role preferences in society than male athletes (Koivula, 2001).

In addition, media dialogue often focuses on an athlete's appearance. Research on commentary during LPGA events indicates that media coverage focuses on a female golfer's appearance and personality (Kim, Walkosz, & Iverson, 2006). Televised commentary on female golfers has been found to include rhetoric about a player's "pretty smile," physical attractiveness,

or good looks. Christopherson, Janning, & McConnell (2002) contend that the sport media's focus on appearance is an attempt by the media to promote gender ideologies. In an analysis of the newspaper coverage of the 1999 Women's World Cup, they found frequent themes of femininity and sex appeal. Specifically, journalists focused on the athletes crying, hugging, and showing emotion. The female athletes were referred to as "smoldering" and "telegenic."

Finally, stereotypical roles are present in the verbal description of an athlete's personality. Comments about male basketball players in the 2000 NCAA Final Four basketball tournament depicted athleticism and physical strength, while comments about female players centered on four themes: positive attitude, personality, looks/appearance, and personal background. Therefore, the commentary marginalized female basketball players through a focus on looks and personality. As a result, they were not as likely to be identified for their athleticism (Billings, Halone, & Denham, 2002).

Some speculation exists that the unbalanced verbal coverage may be due in part to the sex of the sports journalists who produce the news. Pedersen, Whisenant, and Schneider (2003) found that 91% of newspaper reporters, 79% of photographers, and 100% of sports editors are male. Vincent (2004) compared the sex of sport journalists to present stereotypes in news articles. He found that male journalists are significantly more likely to portray female athletes using cultural stereotypes and sexual innuendo. Because the sport media consist of a large percentage of male journalists, gender stereotypes should be expected (Pedersen, Whisenant, & Schneider). Therefore, female sport journalists also face stereotypes based on whether they can appropriately report on a particular sport (Hardin & Shain, 2005). They are given more opportunity to analyze and report on gender-appropriate sports than masculine sports or sports with only male competitors.

The analysis of media commentary is common when examining verbal gender cues in televised sport media content. According to the literature, verbal gender cues are commonly measured by the sex of the commentator, and the themes/adjectives used to describe athletes and the sports they play. These same variables were used to measure verbal gender cues in this research.

RQ4a: What verbal gender cues will be present in the televised primetime network coverage of a masculine and feminine Winter Olympic sport?

RQ4b: How will verbal gender cues vary by athlete sex?

RQ4c: How will verbal gender cues vary by type of sport?

RQ4d: How will verbal gender cues vary by commentator sex?

The abundance of previous content analyses on gender and sport provide a clear picture of media portrayals of prominence, verbal cues, and visual cues. Results in these areas support the idea that sport media coverage is not equal for both males and females, or for all types of sports (Huffman, Tuggle & Rosengard, 2004; Nitz, Richert, Aune, & Velde, 2007). Furthermore, results also suggest the media promote gender stereotypes in sport (Carilli & Campbell, 2005; Covert, 2003). Clearly, in order to understand audience attitudes about resulting stereotypes, researchers need to have a clear understanding of the media's portrayal of sport. Despite the large number of existing content analyses on sport and on the Olympic Games in particular, no research exists on the media's portrayal of the Winter Olympic Games, sports, or the participating athletes. Furthermore, few studies explore both verbal and visual cues in media portrayals of gender stereotypes in sport. Therefore, this research seeks to fill this gap in the literature.

Gender Attitudes and Expectations on individuals in Society: Social Role Theory

As previously discussed, gender attitudes stem from gender role expectations in society, which are often mirrored in the media (Cuneen & Claussen, 1999; Gurung & Chrouser, 2007; Harrison & Lynch, 2005). These gender roles have been identified in males and females of all ages. Research indicates that by the age of 3, children have developed gender stereotypes. Specifically, young children associate common feminine names with pictures of girls, and common masculine names with pictures of boys (Bauer & Coyne, 1997). Also among adults, perceived sex differences have been found to stem from gender social roles (Harrison & Lynch, 2005). Furthermore, media consumers reportedly compare themselves to other individuals depicted in the media. Research supports that males and females strive to be similar in appearance to individuals portrayed in the media (Engeln-Maddox, 2005).

Appearance can also influence gender attitudes among the media audience. Specifically, female athletes in the media who are sexually objectified are perceived by the media audience to be more attractive, sexual, desirable and feminine (Harrison & Lynch, 2005). A female's overall appearance can lead to the formation of similar attitudes. Professors who dress casually are perceived to be more approachable than those who dress professionally. Also, women who dress provocatively are perceived to be more flirtatious, seductive, and promiscuous (Carilli & Campbell, 2005).

Finally, expected gender roles are related to attitudes about male and female interests. Sport, for example, is thought to be an area of interest reserved for males. However, survey research indicates that females increasingly participate in male dominated activities, including sport (Hanson & Kraus, 1999). However, many females experience a glass-ceiling effect once the barrier is crossed. An analysis of transcripts from interviews at sport organizations revealed

that positions of high rank within the organizations are reserved for men, or individuals with masculine ideals (Shaw & Hoerber, 2003). Arguably, because sport organizations are a masculine dominated field, feminine ideals are not valued or deemed appropriate for high-level positions. Even young girls participating in tee ball, experienced gender role barriers. Survey research indicates that young girls were placed in less prominent field positions (e.g. the outfield); furthermore, the coaches focused more on developing the athleticism of male athletes than female athletes (Landers & Fine, 1996). Despite the common assumption that men are more invested in sports than women, Gantz & Wenner (1995) found no significant differences between the sexes. Angelini (2008a) argued that because the media portray sports in a stereotypical way, gender stereotypes are reinforced within the media audience and eventually in society.

Social role theory proposes that an individual's actions, thoughts, and behaviors are guided by expectations of social roles (Eagly & Johannesen-Schmidt, 2001; Fuegen, Blemat, Haines, & Deaux, 2004; Kite, Stockdale, Whitley, & Johnson, 2005). Research has identified that social roles include gender differences, authoritative roles, occupational roles, and roles regarding individual interests (Cuneen & Claussen, 1999; Eagly, & Johannesen-Schmidt, 2001; Harrison & Lynch, 2005). Furthermore, roles for women are specified as representing communality and roles for men are specified as representing agency. Research on social role theory defines communality as a concern for others, along with traits of affection, helpfulness, kindness, sensitivity, nurture, and gentleness. On the other hand, agency is defined aggression, dominance, force, independence, confidence, and a competitive spirit (Eagley & Chaiken, 1993).

Clearly, agency and communality are related to expected occupational roles. Traditional occupational gender roles include a distinction between the homemaker and the provider (Eastwick, Eagly, Glick, Johannesen, Fiske, Blum, Eckes, Freiburger, Huang, Fernandez,

Manganelli, Pek, Castre, Sakalli-Ugurlu, Materna, & Volpato, 2006). The social role of parenting and homemaking is traditionally reserved for females. Here, the social role of motherhood significantly influences judgments of females in the workplace. Specifically, mothers are perceived as being more communal than employees who do not have children (Fuegen et. al., 2004). Finally, males are awarded more freedom in using aggression in the workplace and are therefore perceived to be better leaders than females (Eastwick et al.).

The appearance of men and women also is dictated by social roles. Carilli & Campbell (2005) argue that society expects women to be more concerned about their own external appearance than men. Specifically, women are expected to be concerned about weight, wardrobe, sexuality, and age. Research indicates a double standard in reference to an individual's sex and age. Older women are evaluated by society more negatively than older men (Kite, 1996). Furthermore, older individuals of both sexes are perceived to be more communal than younger individuals (Kite et al., 2005). Finally, research indicates that women are more likely to self-evaluate their own appearance in relation to mediated messages of models than men (Gurari, Hetts, & Strube, 2006).

Arguably, the media play a part in guiding and reinforcing these expectations. Because men are thought to be more interested in sport than women, sport product advertising focuses on masculine social roles. However, Cuneen & Claussen (1999) argue that women control up to 80% of sporting goods sales. In sports advertising, women are often portrayed as individual, leisure athletes, while men are portrayed as team players in competitive sports. Experimental research found that women were perceived as being more agentic when playing masculine sports, while men were perceived as being more communal when playing feminine sports (Harrison & Lynch, 2005).

Clearly, social role theory is useful in gender research. In summary, it explores the projection of gender expectations upon individuals in society. However, the present body of literature using social role theory is limited methodologically since it consists of mainly experimental research and content analyses. These limitations have led to a gap in the literature. While research supports the contention that male and female athletes are represented differently in media coverage and that such coverage affects the media audience, little is known about audience attitudes and perceptions of male and female athletes in the media.

For the purposes of the proposed research, aggression and physical strength will be used to measure audience perceptions of agency among athletes competing in a men's and women's, masculine and feminine, Winter Olympic sport. Communality will be measured using perceptions of a show of emotion and gracefulness. Each of these characteristics was selected based on their common use in social role theory and sport research.

H3: Audience perceptions of agency (aggression and muscularity) and communality (gracefulness and level of emotion) will vary by the type of sport the Winter Olympic athlete plays.

RQ5: How will audience perceptions (agency and communality) of Winter Olympic athletes differ by the sex of the athlete?

RQ6: How will research participant attitudes (interest in sport, and perceptions of agentic and communal characteristics) relate to reported overall media consumption of each Winter Olympic sport?

CHAPTER 3

METHODOLOGY

This study employed a survey and a content analysis to explore the relationship between audience perceptions and media portrayals of athletes and sports in the 2010 Winter Olympic Games. First, the survey used gender schema theory to investigate how audience self-perceptions of masculinity or femininity relate to gender stereotype formation about Winter Olympic sports. Social role theory was also used to guide the exploration of audience perceptions of the expected social roles fulfilled by male and female athletes. Therefore, the survey measured audience perceptions about Winter Olympic sports and athletes, and assessed personal characteristics of the participants. Based on survey results, which ranked audience perceptions of masculinity for the twelve Winter Olympic sports, a masculine (snowboarding) and feminine (figure skating) sport were selected for coding during the content analysis portion. The content analysis measured the presence of visual cues, verbal cues, and prominence regarding gender stereotypes in televised sport media. The combination of the two methods allowed for the exploration of congruency between television viewers' perceptions of the Winter Olympic Games and the media portrayals of the Games. The primary objective of this research was to better understand the media's role in the formation of gender stereotypes about winter athletes and sports.

Survey-Sample and Procedure

The survey (Appendix A) assessed personal characteristics of the media audience, and audience perceptions and attitudes of the 2010 Winter Olympic sports. After receiving

permission from the University of Alabama Research Compliance Office, the survey was uploaded to SurveyMonkey and was available online. A snowball sample was used to collect data. This type of sample relies upon available subjects, and provides access to research participants who would otherwise be difficult to survey in person (Babbie, 1990; Singer & Presser, 1989). Since the proposed research sought to survey participants living in various regions of the United States, a snowball sample was preferred. The link to the survey was distributed to approximately 350 self-selected potential research participants via email. Self-selected subject pools are common in Internet surveys to increase response rates (Dillman, Smyth, & Christian, 2009). Each participant was asked to distribute the survey to three additional potential research participants via email. Those who agreed to participate completed a questionnaire to evaluate the independent variables of sport media use, sport participation, gender schemas of winter sports, and personal characteristics of the research participants. Dependent variables relating to research participant attitudes about winter sports and athletes were also measured.

Predictor Variables

Sport Media Use. Research participants were asked questions about general sport media use, and sport media use of the 2010 Winter Olympic Games. First, research participants were asked about their sport media use of the 2010 Winter Olympic Games. They were first asked to identify how closely they followed the televised action of the Games on a five-point scale, ranging from *0=never* to *4=multiple hours every day*. Then they were asked to indicate how many hours each day they spent watching the televised broadcast of the Olympics with options, in 30-minute intervals, ranging from *none* to *5+ hours*. This question was repeated to measure the reported consumption of Olympic news reports (newspapers, television, magazines and

online). Again, 12 options were available for selection ranging from *none* to *5+ hours* in 30-minute intervals.

Later in the survey, 12 items assessed how frequently research participants reported watching the televised coverage of the following specific Olympic sporting events: men's and women's alpine skiing, figure skating, freestyle skiing, luge, snowboarding and speed skating. These six sports were specifically selected because they were coactive athletic events with male and female athletes representing the United States of America. The men's and women's events for these six sports were measured as 12 separate items on a 7-point scale, ranging from 1 = *never watched* to 7 = *watched frequently*.

Finally, research participants were asked about their sport media use in general. Four items assessed hours per day spent watching news and/or entertainment television, sports television, entertainment programming, and print media (newspapers, magazines, and online). All four questions offered potential selections for the research participant, ranging from *none* to *5+ hours* in 30-minute intervals. The importance of this independent variable is supported by present research that suggests that sport media use influences audience attitudes about sport (Angelini, 2008b; Duncan & Brummett, 1989; Eastman & Riggs, 1994; Garcia, 2008; McDaniel, 2003; Oates, 2009).

Self-perceptions of gender schemas. The Bem Sex Role Inventory Scale (BSRI) has been widely used in gender research since its development in 1974 to measure self-perception of gender-role orientation (Koffman & Lips, 1980; Maznah & Choo, 1986; O'Grady, Freda, & Mikulka, 1979). A few years later, a short form of the scale was created, which reduced the scale from 60 to 30 items in response to data from factor analyses (Bem, 1981; Liberman & Gaa, 1980). According to Bem (1979), the purpose of these scales is to "assess the extent to which the

culture's definitions of desirable female and male attributes are reflected in an individual's self-description" (p. 1048). Including the BSRI scale, the survey instrument for this research includes more than 110 items. Due to a concern for participant fatigue, portions of the BSRI were not included (Babbie, 1990; Singer & Presser, 1989). Therefore, a modified version of the short BSRI scale was used to measure this independent variable (reduced to a 10-item scale). To reduce this scale, factor analyses of both the BSRI scale and the short form of the BSRI from previous research were analyzed. Five traits were identified as masculine, and five traits were identified as feminine in relation to athletics. In the present research, participants were asked to rate their perception of themselves on these five masculine traits (aggressive, athletic, competitive, dominant, and forceful) and these five feminine traits (affectionate, compassionate, feminine, gentle, and sympathetic). All items were measured on a 7-point Likert-type scale ranging from *Strongly Disagree* to *Strongly Agree*.

The ten selected dimensions were identified as accurate dimensions of sex-typing from recent research using the BSRI (Hoffman & Borders, 2001; Spence, 1991). From these dimensions, eight items were retained that loaded into two dominant factors. The feminine factor consisted of four retained items (affectionate, compassionate, gentle, and sympathetic) that explained 13.2% of the variance and produced a reliable scale (Chronbach alpha = .892). The masculine factor also consisted of four retained items (aggressive, competitive, dominant, and forceful) that explained 31.5% of the variance and produced a reliable scale (Chronbach alpha = .816). For scoring purposes, research participants were categorized into four groups based on responses using a median-split: individuals who scored higher than the median on the masculinity dimension, and lower than the median on the femininity dimension were classified as "sex-typed masculine"; individuals who scored higher than the median on the femininity

dimension and lower than the median on the masculinity dimension were classified as “sex-typed feminine”; individuals who scored higher than the median on both dimensions were classified as “androgynous”; and individuals who scored lower than the median on both dimensions were classified as “undifferentiated” (Bem, 1981; Hoffman & Borders).

Sport/Fitness Participation. Research participants were asked about their participation in sports and fitness activities. First, research participants were asked how many hours each day they currently participate in competitive sports (e.g., baseball, basketball, tennis), and then they were asked how many hours each day they currently participate in recreational activities or exercise (running, weightlifting, non-competitive sports). Both of these items were measured using a 12-option response format ranging from *none* to *5+ hours* with options in 30-minute intervals. Finally, research participants were asked to identify their highest level achieved in competitive sports. This item was measured on a 5-point scale ranging from *0=never played*, *1=played before high school*, *2=played in high school*, *3=played in college*, and *4=played professionally*. Previous research on sport involvement supports the conclusions that sport participation is an indicator for sport media consumption and interest in sports (Armstrong, 2002; Gayles & Hu, 2009; Hardin & Greer, 2009; Lines, 2007).

Demographics. Research participants were asked to classify themselves into numerous demographic categories as well. These include sex, age, race, geographic location, and relationship status. The sex of the research participant is critical to the correct use of gender schema theory (Bem, 1981). Furthermore, previous literature indicates that males and females differ in variables of sport interest, sport media use, sport participation, and attitudes about sport (Angelini, 2008a; Angelini, 2008b; Clark, Apostolopoulou, & Gladden, 2009; Gantz & Wenner, 1995; Hardin & Shain, 2005; Mason, 1992; McDaniel, 2003). Race has also been identified as a

key variable in previous research on interest in sport and type of sport (Armstrong, 2002; Carrington, 2004; Cepulenas, 2004; Hartmann, 2000; Hylton, 2005). For geographic location, research participants were asked to identify the state they live in. On face value, it is possible that participants who live in colder climates within the United States are more likely to be interested in winter sports. Previous research suggests that sport consumption patterns and attitudes about sport also vary by geographic location (Crawford, 2004; Dietz-Uhler, Harrick, End, & Jacquemotte, 2000; James & Ridinger, 2002; Price, 1991). Finally, research participants were asked to classify themselves as either single, married, divorced, or widowed. Previous research using the BSRI suggests that marital status can influence the formation of gender stereotypes (Koffman & Lips, 1980).

Outcome Variables

Masculine or Feminine Sport. A total of 12 items measured audience perceptions of all 12 sports in the 2010 Winter Olympic Games with both male and female competitors from the United States of America. These 12 sports are alpine skiing, biathlon, bobsleigh, cross-country skiing, curling, figure skating, freestyle skiing, ice hockey, luge, skeleton, snowboarding and speed skating. Research participants were asked to indicate their perceptions of all 12 sports on a seven-point scale, ranging from 1 = *Masculine* to 7 = *Feminine*. Previous research measuring audience perceptions of masculinity or femininity of sport were measured using this method (Hardin & Greer, 2009; Koivula, 2001).

The twelve sports were then narrowed down to six coactive (individual athlete) sports with competitors from the United States of America. The rest of the survey measured audience perceptions of these six male and female sports, as two of these sports (one masculine and one feminine) were later selected for coding in the content analysis portion of this research. The

following dependent variables were measured for 12 categories (as men's and women's were measured separately): men's and women's alpine skiing, figure skating, freestyle skiing, luge, snowboarding, and speed skating.

Audience Interest. This dependent variable was measured for the 12 categories mentioned above. For each of the twelve categories, participants were asked to indicate their opinions about how interesting the sports were to watch during the 2010 Winter Olympic Games. Each item was measured on a 7-point scale ranging from 1=*not at all interesting* to 7=*very interesting*.

Perception of Agency or Communality. Social role theory suggests that individuals will stereotype others by expectations of agency or communality (Eagly & Johannesen-Schmidt, 2001; Fuegen et al., 2004; Kite, 1996). Research in sport suggests that agentic roles require more physical strength and aggression, while communal roles require more grace and emotion (Cuneen & Claussen, 1999; Harrison & Lynch, 2005). These four attributes were measured for the same 12 categories listed above to assess the research participants' perception about the physical strength, aggression, level of emotion, and gracefulness of the athletes in the six sports. Each item (a total of 48 items, 12 per social-role trait) was measured on a 7-point scale, ranging from 1=*not at all _____ (physically strong, aggressive, graceful, or emotional)* to 7=*very _____ (physically strong, aggressive, graceful, or emotional)*. The measurement of this variable determined whether research participants stereotype athletes based on these social roles.

Content Analysis

Analysis sample. The Games were recorded on a digital video recorder (DVR) from opening ceremonies to closing ceremonies, consisting of 17 days from Friday, February 12 to Sunday, February 28, 2010. Only coverage aired on the official network of the Olympic Games (NBC) during primetime (6:00-11:00 p.m. CST) was analyzed. All types of televised coverage

were analyzed, including live (any televised coverage of the 2010 Winter Olympic Games shown to the media audience for the first time), taped replay (any Olympic coverage presented to the media audience as a replay, such as revisiting footage of an athlete from a previously-televised Olympic event), or studio coverage. Therefore, the total population of primetime network coverage was 85 hours.

Prominence of Coverage. Prominence of coverage for all twelve Winter Olympic sports was analyzed by evaluating the time, placement, and type of coverage awarded to the men's and women's events. Survey results were then used to select a masculine sport and a feminine sport based on audience perceptions of the 12 Winter Olympic sports. A more complete analysis was then conducted of all snowboarding (masculine sport) and figure skating (feminine sport) coverage (details about the selection of these two sports are explained on page 41). This analysis offered a more detailed look at visual and verbal cues of masculinity and femininity. Neuendorf (2002), defines content analysis as the "systematic, objective, quantitative analysis of message characteristics" (p. 1) and calls it the fastest-growing research technique in mass communication research since the 1980's. The purpose of this content analysis was to identify the quantity of coverage awarded to each winter sport (as measured by prominence variables) and to more closely examine the media's portrayal of masculinity and femininity in snowboarding and figure skating coverage.

Prominence was coded for all 12 sports in the 2010 Winter Olympic Games. These sports were selected because they had both male and female teams representing the United States of America. However, coverage of teams representing all nations within the selected sample was analyzed. Prominence was measured and calculated using the following criteria:

- Length of segment: the number of seconds the segment lasted.

- Type of segment: whether the recorded segment was live athletic coverage, taped replay coverage, a feature package, interview, studio commentary/highlights, medal ceremony, an athlete awaiting competition scores, or other.
- Sport: The 12 sports of Alpine skiing, biathlon, bobsleigh, cross-country skiing, curling, figure skating, freestyle skiing, ice hockey, luge, skeleton, snowboarding, and speed skating were coded.
- Athlete nationality: whether the athlete in the segment represented the United States of America, or another country.

This research used amount of coverage to measure prominence. From the above criteria, amount of coverage was measured using the overall number of broadcast seconds awarded to each sport (a total of 24: 12 men's and 12 women's). These seconds were compiled from adding together the length of each segment by sport. Finally, type of coverage was measured using the type of segment criteria. Athlete nationality was coded for future research purposes, but was not used in the measurement of any variables for the present research. The above variables were the only ones measured from all 12 sports in the Winter Olympic Games.

In the analysis of visual and verbal cues, only the coactive (individual) Winter Olympic sports were included for selection because the unit of analysis was difficult to define for the visual cues of interactive (team) sports. There were six individual sports with both male and female participants from the United States of America (men's and women's alpine skiing, figure skating, freestyle skiing, luge, snowboarding, and speed skating). Based on results from the survey portion of this research (see Table 4.2) and prominence data for each sport (see Table 4.5) one masculine sport and one feminine sport were selected. All primetime coverage was coded for

both male and female athletes, from all nations, competing in these two sports (thus a total of four sporting events). The media audience perceived figure skating as the most feminine sport; thus it was selected. Snowboarding was not perceived as the most masculine sport by the media audience (for example hockey, luge, and bobsleigh were perceived as slightly more masculine); however, snowboarding had the highest masculinity mean among coactive sports, with a minimum of 20 minutes of coverage for both male and female athletes (bobsleigh was deemed an interactive sport; thus it was removed from consideration, while hockey and luge were removed from consideration because of lack of televised coverage for both male and female athletes). Therefore, the sample analyzed for visual and verbal cues included exactly 8 hours, 8 minutes and 39 seconds of commercial-free primetime coverage (see Table 3.1 for the prominence of coverage for all four events included in the sample). It should be noted that mixed competition (pairs skating and ice dancing) were not considered for the sample because both men and women are featured simultaneously, and these sports are not classified as coactive sports.

Table 3.1

Prominence of Sports Sampled for Visual and Verbal Cues

Sport	Time
Men's Snowboarding	01:11:56
Women's Snowboarding	01:13:03
Men's Figure Skating	02:57:05
Women's Figure Skating	02:46:35

To test for intercoder reliability, an additional coder analyzed 12% (17 segments) of the televised coverage of snowboarding and figure skating. To ensure reliability among figure skating and snowboarding segments with both male and female athletes, the 17 randomly selected segments consisted of the following: 5 men's figure skating, 4 women's figure skating, 4 men's snowboarding, and 4 women's snowboarding segments. Since all segments for the sports listed above were included in the content analysis portion of this research, intercoder reliability was determined using segments from the sample. These segments were analyzed and coded by two coders, using the coding manual (Appendix B) for the content analysis. Many of the coding categories required the coders to tally the frequency of a verbal or visual cue within the segment (interaction with others, camera angle, body shots, commentary theme, and social role adjectives). For these categories, "agreement" between the two coders was defined as any number within two tallies of the other coder. For example, if coder A recorded 15 high camera angles within a segment, and coder B recorded 13 high camera angles, agreement was reached. For variables measuring visual cues, intercoder reliability was .88, using Cohen's Kappa (Cohen, 1968). For variables measuring verbal cues, intercoder reliability was .80, and for all variables, intercoder reliability was .82, also using Cohen's Kappa (see Appendix C for reliability scores for all variables). Following the pretest, adjustments were made to the coding manual for the descriptions of seven variables (body shots, the commentary theme of athletic training/preparation, and the following social role adjectives: compassion, athleticism, competitive spirit, dominance, and physical strength/muscularity). These adjustments are reflected in the coding manual (Appendix B).

Unit of analysis. The unit of analysis for the content analysis portion of this research was the dominant Olympic athlete featured within any uninterrupted segment of Olympic coverage of

the 2010 Winter Olympic Games who is a competitor in the following sports: men's and women's alpine skiing, figure skating, freestyle skiing, luge, snowboarding, and speed skating. Since more than one athlete may be pictured within the same segment (such as three athletes together on a medal podium, or multiple athletes warming up together in figure skating), the dominant athlete was defined as the athlete with the most obvious focus visually (in number and length of shots), and verbally (in amount of commentary). Interruptions were defined as commercial breaks, a shift from the coverage of one sport to another sport, a shift from coverage of one athlete/group of athletes to another, a shift from one type of coverage to another (e.g., live athletic coverage, taped replay coverage, feature packages, interviews, studio commentary, studio highlights, medal ceremonies, and awaiting judges' scores), or a shift from Olympic coverage to any form of non-Olympic coverage (e.g., regular news, commercial breaks, or regular television programming). Segments have been defined similarly as the unit of analysis in previous communications research (Billings, Halone, & Denham, 2002; Greer, Hardin, & Homan, 2009).

Coding procedures/Variables. For the analysis of televised content, the coverage was broken down into segments of un-interrupted coverage as identified previously. If the television content during the selected recording hours did not focus on one or more Olympic sports or athletes (e.g., generic coverage of the athletic village, the city of Vancouver, or non-Olympic televised content), it was excluded. Any highlight Olympic coverage from previous Olympic Games (e.g., coverage from the 2006 Games) was excluded. Finally, any Olympic coverage not originally aired on NBC, or during the hours of 6:00 PM to 11:00 PM, was excluded. Also excluded was all advertising airing during the primetime 2010 network Winter Olympic coverage. Coverage of team sports (sports with more than one athlete from the same team

competing simultaneously) was excluded. Any athlete deemed not to be the dominant athlete was excluded from this sample. Finally, also excluded was all advertising aired during the Olympic games that utilized highlights of the 2010 Winter Olympics (such as the daily Visa commercials).

Coders analyzed two main constructs: visual cues of gender stereotypes and verbal cues of gender stereotypes. These were the key concepts needed to answer the research questions posed for this portion of the study. See the Codebook in Appendix B for full coding instructions and explanations for each variable.

Visual Cues. Information about the visual cues that may suggest gender stereotypes about the athletes and gender typing of the sports were recorded. Here, the majority of the coding categories were developed based on visual cues of athlete gender stereotypes and roles identified by previous literature (Cuneen & Claussen, 1999; Harrison Lynch, 2005; Krane, et al., 2004). Each category was compared for both coverage of the men's team and coverage of the women's team in each sport. To answer research questions, differences between the coverage for both men's and women's sports and types of sports were examined. The coding categories were the following:

- Athlete wardrobe: This category specified whether the athlete was wearing full competition gear, modified gear (the removal or addition of some of the athletic clothing such as a helmet, jacket, skis, skates, etc.), street clothes, or other. Athletes wearing full athletic gear arguably appear more masculine than athletes portrayed wearing modified gear, or street clothes (Carlin & Winfrey, 2009; Fredrickson & Harrison, 1997; Nitz et. al., 2007). Even though athletic gear for some sports (i.e., figure skating) is arguably feminine, the comparison of male and female athletes

within the same sport was telling. Only one type of athlete wardrobe was coded for each segment.

- **Interaction with others:** Whether the athlete is shown interacting with a family member, friend, significant other, coach, teammate, etc. Athletes who are shown interacting with others are perceived as more dependent, which indicates a focus on the athlete's personal life. The number of times the dominant athlete within the segment interacted with each type of individual was tallied. A "0" was recorded for each type if there was no interaction, a "1" was recorded if that type of interaction occurred once within the segment, a "2" was recorded if that type of interaction occurred twice within the segment, and so on. The coder coded for all types of interactions shown within the segment.
- **Camera angle:** The presence of high or low camera angles was coded for shots lasting a minimum of two seconds. Previous research indicates that camera angle is often used in the media to emphasize specific body parts and masculinity or femininity (Bissell & Duke, 2007; Greer, Hardin, & Homan, 2009; Peterson, Xu, & Limbu, 2009). Typically, high camera angles make the subject appear smaller and less significant, eye-level angles are used to emphasize neutrality, and low camera angles make the subject appear larger and more significant. The number of times each camera angle was used to show the dominant athlete in the segment was tallied. A "0" was recorded if the camera angle was not used at all within the segment, a "1" was recorded if the camera angle was used once within the segment, a "2" was recorded if the camera angle was used twice within the segment and so on. Since the camera angle may simply be a product of the production techniques required for a particular

sport, camera angles were compared between male and female athletes in the same sport to determine if differences existed. High and low camera angles used within the segment were recorded.

- **Body shots:** This category recorded whether video coverage of the athletes focused on specific parts of the body, such as the face, chest, buttocks, or backside. Previous literature indicates that a focus on specific parts of the body is more common with coverage of feminine, female athletes (Bissell & Duke, 2007). The number of times each type of body shot was used to show the dominant athlete within the segment was tallied. A “0” was recorded when the particular body shot was not used within the segment, a “1” was recorded when the body shot was used once, a “2” was recorded when the body shot was used twice, and so on. All types of body shots within the segment were recorded.

Verbal Cues. Finally, information about the verbal cues used to describe and depict the athletes and the sports were recorded. As for visual cues, the coding categories for commentary were developed to identify gender stereotypes and social roles present in the media. The coding categories were the following:

- **Sex of commentators:** The coders identified the number of male and/or female commentators used within the segment. Therefore, this category also recorded the overall number of commentators in the televised coverage. This information was used to compare the commentator sex and number of commentators for both male and female athletes and masculine and feminine sports (Billings, Halone, & Denham, 2002; Hardin et al., 2007). Commentators were identified as any non-competitor in

the 2010 Winter Olympic Games speaking about the performance of an athlete or a team currently competing in the Games.

- **Commentary theme:** This category recorded the overall theme of the comment. These themes were identified from previous gender research in sport (Billings, Halone, & Denham, 2002; Kim, Walkosz, & Iverson, 2006). They include feminine stereotypes (such as physical appearance, aesthetic athletic ability, and personal life/relationships) and masculine stereotypes (such as athletic training, athletic ability, and athletic injury). A segment could consist of multiple themes, and a theme was based on a single comment or a consecutive series of comments that focused on one of the themes. (To determine how comments were categorized by theme, see the Codebook in Appendix B). Each theme was coded based on the number of times each theme was used, and the sex of the commentator who used each theme. The coder would tally a “0” if a commentator did not use the theme to describe the dominant athlete within the segment, a “1” if the theme was used once, a “2” if the theme was used twice, and so on. All themes, for both sexes, were recorded.
- **Social role adjectives:** This category explored the portrayal of social roles and stereotypes within descriptions of the athletes themselves or descriptions of the athletic performances. This category recorded only adjectives used to describe the athlete/performance, and categorized the adjectives into the following social roles: feminine roles (including aesthetic beauty, affection/compassion, emotion, gentleness, and physical beauty) and masculine roles (including aggression, athleticism, competitive spirit, dominance and physical strength). These categories have been used to analyze the use of adjectives in previous research (Cuneen &

Claussen, 1999; Harrison & Lynch, 2005; Krane, et al., 2004). While social role adjectives and commentary themes may overlap, the purpose of this variable was to categorize the words used to directly describe the athletes and or performances. These adjectives are arguably more direct than themes, which may not be as obvious to media consumers. For this category, the coder recorded the type of theme used to describe the dominant athlete within the segment and the sex of the commentator who made the comment. As with commentary themes, the coder recorded a “0” if the theme was not used by a commentator, a “1” if the theme was used once, a “2” if the theme was used twice, and so on.

The above coding categories were used to examine the presence of gender cues in media coverage of the 2010 Winter Olympic Games, to explore whether a relationship exists between sport media coverage and whether audiences perceive male and female athletes and type of sport similarly or differently. Sex-typing of winter sports was examined by comparing visual and verbal cues of athletes participating in gender-inappropriate sports (e.g., male athletes participating in feminine sports or female athletes participating in masculine sports) to those of athletes participating in gender-appropriate sports. These coding categories were used to explore how the media portrays male athletes differently from female athletes competing in the same sports. Finally, the media’s portrayal of masculine sports and feminine sports was explored.

CHAPTER 4

RESULTS

This chapter presents the analysis of statistical data gathered during the survey collection and content analysis portions of this research. First, demographics of the survey sample are discussed. Then, demographics of the content analysis data are presented for all 12 Winter Olympic sports. Finally, demographics of the content analysis sample are presented for men's and women's coverage of a single masculine sport and a single feminine sport. This demographic data provides context in which to view the results discussed in this chapter.

Next, findings for the research questions and hypotheses are presented. The first two hypotheses and two research questions explore findings from the survey and content analysis for all 12 winter Olympic sports. These findings helped to identify the most masculine and most feminine sport used for the next level of content analysis research and look at issues related to the sex-typing of these sports. The next two research questions (RQ3 and RQ4) examine the visual and verbal cues identified in the televised content of the masculine and feminine sports chosen after the first analyses were completed. Finally, the third hypothesis and two additional research questions (RQ5 and RQ6) analyze audience attitudes about the masculine and feminine sport from the survey results. All together, the statistical findings presented here provide a cumulative look into gender issues reflected in the televised content of the Winter Olympic Games and audience attitudes about the masculinity of Olympic sports and the athletes who participate in them.

Demographics

Demographics of the survey sample. The survey portion of this project utilized an online survey instrument to collect information related to audience perceptions about masculinity and femininity of the 2010 Winter Olympic sports and athletes. As detailed in Chapter 3, research participants were reached through a snowball sampling technique, in which approximately 350 adult participants were invited by e-mail to participate in this study and were asked to forward the e-mail to a minimum of three other adults. A total of 812 individuals chose to participate. A response rate could not be calculated because of the nature of the survey distribution. Of the participants, 718 survey responses were retained (88.4%). Survey responses were deleted if the participant indicated that he or she was under the age of 19 or if the participant did not complete a minimum of 22 items on the 110-item survey (at least 20% of the questions).

The majority of retained research participants were women, comprising 58.8% of the sample ($n = 422$). Male participants comprised 40.7% of the sample ($n = 292$), while 0.6% of the sample did not indicate a sex ($n = 4$). The age of the participants ranged from 19 to 84, with 59.1% under the age of 50 ($n = 411$) and only 2.2% over the age of 70 ($n = 15$). The median and mean age of the sample was 45.0 ($SD = 15.11$). A vast majority of the participants (86.4%, $n = 620$) identified themselves as White, 6.8% ($n = 49$) identified as Black, 2.9% ($n = 21$) identified as Hispanic, 1.7% ($n = 12$) identified as Asian and 1.5% ($n = 11$) identified as American Indian or Other. The majority of the sample reported being married or widowed (67.4%, $n = 484$), while 31.6% ($n = 227$) reported being single or divorced.

The nationwide sample included participants from 44 states, with noteworthy representation from Kentucky (18.0%, $n = 129$), Alabama (16.9%, $n = 121$), New Mexico (9.1%, $n = 65$), Wyoming (6.5%, $n = 47$), California (5.3%, $n = 38$), and Florida (5.3%, $n = 38$). These

states were most likely well represented because of personal connections with the researcher and her family, and the nature of the survey distribution. States not represented in the sample were Delaware, Idaho, Massachusetts, Rhode Island, Vermont, and Wisconsin. The nationwide distribution was further analyzed using a regional map of the United States from the U.S. Census Bureau (1984). Of the seven regions, the East South Central was most represented with 27.9% ($n = 200$) of the sample. Additionally, 20.1% ($n = 144$) resided in the West, 10.2% ($n = 73$) resided in the Pacific, 9.9% ($n = 71$) resided in the South Atlantic, 7.8% ($n = 56$) resided in the East North Central, 3.9% ($n = 28$) resided in the West South Central, 3.3% ($n = 24$) resided in the Midwest, and 1% ($n = 7$) resided in New England. Because Winter Olympic sports are arguably more popular in colder climates, a small number of research participants residing in the northeast could be a limitation to this research.

Research participants also were asked about their participation in sports. First, they were asked to identify the highest level of sport in which they have ever competed. Here, 19.8% ($n = 142$) identified as having never played competitive sport, 16.6% ($n = 119$) identified as having played before high school, 43.6% ($n = 313$) identified as having played in high school, 16.7% ($n = 120$) identified as having played in college, and 1.4% ($n = 10$) identified as having played professionally. Next, they were asked to select how many hours each day they currently participate in competitive sports from a response set ranging from *none* to *more than 5 hours*. The majority of research participants (74.3%, $n = 514$) reported no current participation in competitive sports, while 10.7% ($n = 77$) reported 30 minutes of daily sport participation, 7% ($n = 50$) reported one hour of daily sport participation, and the remaining 7.4% ($n = 51$) of participants reported more than one hour of daily sport participation. Research participants also were asked to report the number of hours each day they currently participate in recreational

sports (running, weightlifting, etc.), also on a response set ranging from *none* to *more than 5 hours*. A much smaller percentage of participants (18.2%, $n = 131$) reported no participation in recreational sports, while the largest group (35.3%, $n = 248$) reported 30 minutes of daily recreational sport participation, another 26.9% ($n = 189$) reported one hour of participation, and 19.1% ($n = 134$) reported 1.5 or more hours of participation each day.

Demographics of the content analysis data. The purpose of the content analysis portion of this study was to examine gender cues present in televised media coverage of the 2010 Winter Olympic Games. Specifically, visual cues, verbal cues, and prominence were examined. All primetime (6:00 p.m. -11:00 p.m. CST) coverage of the Olympic Games that aired on NBC (the official network of the Games) from opening ceremonies to closing ceremonies (February 12, 2010 to February 28, 2010) was recorded, a total population of 85 hours, including commercials. After excluding content not related to a specific sport or athlete (commercials, footage/features about Canada, any coverage not focusing on a specific sport or athlete, etc.; see appendix B for a detailed list of exclusion criteria) 28 hours, 16 minutes, and 24 seconds were retained for analysis. These 28+ hours were analyzed to examine prominence of coverage for all 12 Winter Olympic sports. Here, 141 total segments (units of analyses) were identified, and total time awarded to each sport (for both male and female competitors) was calculated. The mean length of each segment was 202.24 seconds (or just longer than 3 minutes and 22 seconds), and the median length of each segment was 164.00 seconds (or 2 minutes and 44 seconds).

Then, based on survey results (of masculine and feminine-typed sports) and prominence data from the content analysis (to select sports with enough representation for both male and female competitors), a masculine sport (snowboarding) and feminine sport (figure skating) were selected for in-depth analysis of visual and verbal cues. Therefore, the total sample for visual and

verbal cues was 8 hours, 8 minutes, and 39 seconds (141 segments), or 37.80% of the total running time devoted to the athlete-specific coverage for all 12 sports. This sample included all coverage of men’s and women’s snowboarding and singles figure skating, as reflected in Table 4.1.

Table 4.1

Prominence of Snowboarding and Figure Skating

Sport	Sex	Total Time	Segments	% of Total	Mean Segment Time
Snowboarding	M	1:11:56	29	14.72	0:02:29
	F	1:13:03	25	14.95	0:02:55
Figure Skating	M	2:57:05	47	36.24	0:03:46
	F	2:46:35	40	34.09	0:04:10
Total		8:08:39	141		

Results for all 12 Sports

This section analyzes the survey and content analysis data collected to explore content cues and attitudes toward all 12 Winter Olympic sports. The first two hypotheses and the first research question looked at the sex-typing of the Winter Olympic sports from survey data. The second research question looked at the prominence of televised coverage for all 12 Winter Olympic sports from content analysis data.

H1: Sex-typing of Winter Olympic Sports. This hypothesis predicted that media consumers would sex-type Winter Olympic sports into categories of masculine, gender-neutral, or feminine. The online, nationwide survey asked participants to indicate their perception of all 12 Winter Olympic sports on a seven-point response set, ranging from 1 = *Masculine* to 7 =

Feminine. Therefore, lower means indicated that participants perceived a sport to be more masculine, and higher means indicated participants perceived a sport to be more feminine.

Descriptive statistics for all 12 sports were run to show the mean and standard deviation for each (see Table 4.2). Hockey was perceived as the most masculine sport, and figure skating was perceived as the most feminine sport. Generally, the descriptive statistics indicate that research participants were more likely to identify a Winter Olympic sport as masculine, since nine of the Winter Olympic sports had means of less than the mid point of 3.5 on a 7-point index. Only three Winter Olympic sports (curling, freestyle skiing, and figure skating) had means over a 3.5, indicating a perception of femininity. Therefore, research participants perceived the majority of the 2010 Winter Olympic sports as more masculine than feminine.

Next attitudes about the masculinity/femininity of each sport were further examined with a principal component factor analysis, using a Varimax rotation. Although most winter sports have not been formally categorized, previous research indicates that sports often merge into groups based on perceptions of masculinity or femininity (Hardin & Greer, 2009; Koivula, 2001). As indicated in Table 4.2, three factors emerged: masculine sports (hockey, bobsleigh, luge, skeleton, snowboarding, and speed skating); gender-neutral sports (biathlon, cross country skiing, and alpine skiing); and feminine sports (curling, freestyle skiing, and figure skating). Given the means, biathlon was expected to load as a masculine sport. But, a confirmatory factor analysis with 3 forced factors suggested speed skating and snowboarding loaded with hockey (as masculine sports), while biathlon loaded with cross country skiing and alpine skiing (as gender-neutral sports). This type of factor analysis has been used to analyze audience perceptions of masculinity and femininity of other sports in previous research (Hardin & Greer, 2009).

Therefore, these findings indicate, at least among this nationwide convenience sample, that winter sports are grouped based on perceptions of masculinity or femininity into categories of masculine, gender-neutral, or feminine, similar to the way in which audiences categorize other sports.

Table 4.2

Attitudes toward Sex-Typing of Winter Olympic Sports

Sex-Typing of Sport	Sport	<i>M</i>	<i>SD</i>	Component Matrix		
				1	2	3
Masculine Factor	Hockey	1.72	0.95	.664	.140	-.240
	Bobsleigh	2.39	1.12	.601	.374	.040
	Luge	2.44	1.15	.811	.159	.197
	Skeleton	2.66	1.16	.762	.082	.234
	Snowboarding	2.90	1.08	.621	.167	.045
	Speed Skating	2.91	1.17	.527	.324	.072
Gender-neutral Factor	Biathlon	2.69	1.10	.275	.720	.004
	Cross Country Skiing	3.24	1.10	.124	.793	.132
	Alpine Skiing	3.25	1.09	.201	.778	.075
Feminine Factor	Curling	3.54	1.43	.192	.073	.573
	Freestyle Skiing	3.70	1.23	.148	.102	.480
	Figure Skating	5.45	1.25	-.285	-.034	.810

H2: Sex-typing of Sport and Masculine/Feminine Perception of Self. Gender schema theory guided this hypothesis, which explored the relationship between the sex-typing of sport and a participant's masculine/feminine perception of self. This theory suggests that individuals who are sex-typed (hyper-masculine or hyper-feminine) will be more likely to sex-type others (Bem, 1981). Survey participants indicated their perception of the masculinity/femininity of all 12 Winter Olympic sports on a 7-point scale ranging from 1 = *Masculine* to 7 = *Feminine*. Then,

using a shortened version of the Bem Sex Role Inventory (BSRI) scale, research participants were asked to rate their perceptions of themselves for four masculine items (aggressive, competitive, dominant, and forceful) and four feminine items (affectionate, compassionate, gentle, and sympathetic) on a 7-point Likert-type scale ranging from 1 = *Strongly Disagree* to 7 = *Strongly Agree* (Bem, 1981). A mean was calculated for the masculine items to generate a subscale for masculine perception of self, and also for the feminine items to generate a subscale for feminine perception of self. As guided by previous research, participants were placed into three categories (hyper-feminine, androgynous/undifferentiated, and hyper-masculine), based on means from these two subscales (Bem; Hoffman & Borders, 2001). For example, hyper-feminine participants were those who scored above the median for the sample on feminine items and below the median on the masculine items. Of the 718 survey participants, 184 (25.9%) were categorized as hyper-feminine, 338 (47.5%) were categorized as androgynous/undifferentiated, and 189 (26.3%) were categorized as hyper-masculine. Then one-way analyses of variance were conducted to compare means between each type of research participant for all 12 of the Winter Olympic sports. Twelve different ANOVAs were run, one for each sport. However, only two of the twelve ANOVA's yielded significant mean differences.

Statistically significant mean differences were found for two sports, figure skating and curling. Hyper-masculine participants sex-typed the sport of figure skating as more feminine than did androgynous/undifferentiated participants and hyper-feminine participants. Also, hyper-masculine participants sex-typed curling as more feminine than did androgynous/undifferentiated participants and hyper-feminine participants. No significant mean differences were found for the other ten sports (see Table 4.3 for statistical data for all sports). Findings suggest that hyper-masculine sex-typed individuals were only more likely to sex-type the sport that would

categorize as a gender-inappropriate sport for them. Here, they were more likely to sex-type the most feminine sports.

Table 4.3

Perception of Self and Sex-Typing of Sport

<i>Sport</i>	Hyper-Feminine		Androgynous/Undifferentiated		Hyper-Masculine		<i>F</i>	<i>DF</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Hockey	1.66	0.92	1.79	1.00	1.64	0.85	1.91	3,622
Bobsleigh	2.43	1.12	2.38	1.15	2.38	1.07	0.11	3,622
Luge	2.42	1.14	2.39	1.15	2.57	1.17	1.56	3,621
Skeleton	2.65	1.16	2.64	1.15	2.70	1.17	0.15	3,622
Snowboard	2.89	1.03	2.92	1.13	2.85	1.06	0.24	3,622
Speed Skate	2.94	1.09	2.96	1.22	2.77	1.11	1.68	3,624
Biathlon	2.68	1.07	2.70	1.10	2.66	1.13	0.08	3,620
CC Ski	3.25	1.14	3.28	1.05	3.14	1.16	0.98	3,622
Alpine Ski	3.32	0.92	3.26	1.11	3.17	1.19	0.99	3,622
Curling	3.31	1.37	3.46	1.36	3.92	1.55	9.16***	3,620
Freestyle Ski	3.72	1.03	3.69	1.24	3.70	1.38	0.03	3,620
Figure Skate	5.41	1.16	5.24	1.28	5.86	1.18	15.78***	3,625

* = $p < .05$; ** = $p < .01$; *** = $p < .001$

RQ1: Personal Demographics and Characteristics of Viewers Related to Sex-Typing.

This research question explored the personal characteristics of research participants to identify which characteristics are related to the propensity to sex-type Winter Olympic sports. The purpose of this research question was to try to identify the type of person that is most likely to sex-type athletes. Previous research on sex-typing and sport has not researched this sex-typing in relation to other personal characteristics. Therefore, a separate simple linear regression was conducted for all 12 sports, with the sport as the dependent variable, and a model that included

eight predictor variables about the research participant (participant sex, feminine perception of self, masculine perception of self, age, race, highest level of past competitive sports competition, and reported media consumption of the Winter Olympic Games). After running co-linearity diagnostics, all Eigenvalues and condition indexes were found to be within acceptable range, and none of the predictor variables were found to be highly correlated with each other ($p > 0.05$). Significant models emerged, identifying predictor variables among personal characteristics examined related to sex-typing for the following seven sports: hockey, luge, skeleton, speed skating, cross country skiing, curling, and figure skating. To control for the increased error rate caused by the number of predictor variables, the 95% significance level was divided by eight (the number of predictor variables). Only models with significance of $p < .006$ were reported.

Significant models only resulted for the two most feminine sports (curling and figure skating) and only for two predictor variables within each model (participant sex and participant age). For curling and figure skating, participant sex was found to be significantly related to differences in attitudes about the sex-typing of these sports. In each case, men were more likely than women to perceive figure skating, and curling as feminine (see Table 4.4). Age also emerged as significantly related to sex-typing for these two sports. Older research participants were more likely than younger participants to perceive curling and figure skating as masculine (see Table 4.4). There were no significant models for the gender-neutral-typed sports or the masculine-typed sports. Furthermore, only two of the eight predictor variables were indicated significance within these models. Finally, each model only explained a small amount of variance (10% for curling, and 19% for figure skating). Further research should consider education level, geographic location, participation in these particular sports, and other predictor variables that could explain more of the variance.

To further analyze these findings, the mean was calculated for the masculinity/femininity scores for the six masculine-typed sports, three gender-neutral-typed sports, and three feminine-typed sports. Additional linear regressions were conducted with these means as the outcome variables, and the same predictor variables used above. For the three feminine-typed sports, a significant linear model emerged ($F(8, 580) = 11.37; p < .001$). Survey participants with a lower feminine perception of self were more likely than those with a higher feminine perception of self to perceive the feminine sports as feminine ($B = -0.11; p < .005$). Also, as research participant age increased, so did the perception of femininity for the feminine-typed sports ($B = -0.24; p < .001$). This finding suggests that survey participant personal characteristics influence sex-typing of some sports, and a pattern exists for the feminine-typed sports in the Winter Olympics. The models for masculine sports or gender-neutral sports were not significant and did not warrant further analysis.

Table 4.4

Participant Personal Characteristics Related to Sex-Typing

	Curling	Figure Skate
Sex (1 = male; 2 = female)	-0.14**	-0.12**
Feminine Self	-0.11	-0.09
Masculine Self	-0.05	0.00
Age	-0.15***	-0.33***
Race (1 = white; 2 = non-white)	-0.04	-0.04
Sport Participation	0.07	0.09
Sport Media Use	0.11	-0.02
Model Summary	$F(8,580) = 7.69***$ $\epsilon^2 = 0.10$	$F(8,580) = 16.5***$ $\epsilon^2 = 0.19$

Note. Numbers reported for each predictor variable are standardized Beta weights
 * = $p < .05$; ** = $p < .01$; *** = $p < .001$

RQ2: Prominence of Coverage for all 12 Winter Olympic Sports. This research question explored the prominence of primetime coverage for all 12 Winter Olympic sports (see Table 4.5). First, descriptive statistics for each sport were run to calculate the total primetime broadcast time awarded to each sport. Alpine skiing received the most televised coverage with 5 hours and 57 minutes of coverage, and figure skating was a close second with 5 hours, 43 minutes and 40 seconds of coverage. No primetime coverage was given to biathlon, and less than 30 minutes of coverage was awarded to hockey, skeleton, cross country skiing, or curling. These results indicate that the majority of primetime, televised coverage (90.48%) was awarded to only half of the sports (bobsleigh, snowboarding, speed skating, alpine skiing, freestyle skiing, and figure skating). The other six sports each received less than one hour of primetime televised coverage.

Next, the primetime coverage for type of sport (masculine, gender-neutral, and feminine) was calculated. The masculine sports (40.77%) and feminine sports (37.17%) received the most total primetime coverage, and the gender-neutral sports (22.06%) received the least amount of coverage. The masculine sports received a total of 11 hours 31 minutes and 42 seconds of televised primetime coverage, feminine sports received 10 hours 30 minutes and 32 seconds, and gender-neutral sports received 6 hours 14 minutes and 10 seconds.

This descriptive data was further analyzed by athlete sex. Consistent with past studies, male athletes received more televised coverage than female athletes in the majority of sports. Only in snowboarding and alpine skiing was more televised coverage awarded to female athletes than to male athletes (see Table 4.5). Next, the sum of primetime coverage for all men's sports was calculated and compared to the sum for all women's sports. Overall, male athletes received 16 hours, 10 minutes, and 44 seconds of televised coverage (57.22% of the coverage for all 12 sports). In the three feminine sports (as identified by survey data, see Table 4.5), male athletes

received more coverage than female athletes. This indicates that, at least in this sample, the type of sport is not related to the amount of televised coverage given to male and female athletes.

Table 4.5

Amount of Televised Coverage by Sport and Athlete Sex

Sport	Total Time (n)	Men's Time (n)	Women's Time (n)
Hockey	0:12:51 (3)	0:08:48 (1)	0:04:03 (2)
Bobsleigh	2:59:14 (30)	1:58:58 (19)	1:00:16 (11)
Luge	0:51:53 (10)	0:39:01 (8)	0:12:52 (2)
Skeleton	0:18:00 (3)	0:00:00 (0)	0:18:00 (3)
Snowboarding	2:24:59 (24)	1:11:56 (12)	1:13:03 (12)
Speed Skating	4:44:45 (48)	3:37:47 (35)	1:06:58 (13)
Biathlon	0:00:00 (0)	0:00:00 (0)	0:00:00 (0)
Cross-Country Ski	0:17:10 (3)	0:17:10 (3)	0:00:00 (0)
Alpine Ski	5:57:00 (54)	1:57:09 (21)	3:59:51 (33)
Curling	0:23:10 (5)	0:23:10 (5)	0:00:00 (0)
Free-Style Ski	4:23:42 (44)	2:41:40 (29)	1:42:02 (15)
Figure Skating	5:43:40 (41)	2:57:05 (23)	2:46:05 (18)
Total	29:16:24 (265)	16:10:44 (156)	12:05:40 (109)

Note. *n* = number of segments (units of analyses)

Content Analysis Results for Snowboarding and Figure Skating

The next two research questions (RQ3 and RQ4) explored in detail the televised coverage for one masculine and one feminine sport to identify visual and verbal cues that may differ by athlete sex and type of sport (gender-appropriate versus gender-inappropriate). All aspects of the content were analyzed, including commentary, camera angles and other visual cues.

RQ3: Visual Gender Cues in Televised Primetime Coverage. This research question explored how visual gender cues varied by the sex of the athlete and the sport the athlete plays.

The visual variables analyzed were wardrobe, interaction with others (family members, significant others, friends, coaches, and other athletes), camera angle (high and low), body shots (focus on the face, buttocks, chest, or backside), and segment type.

Among these variables, only wardrobe and segment type were categorical. For these two variables, a Chi Square was conducted to look for differences between these two variables and athlete sex and/or type of sport. No significant differences emerged for wardrobe and segment type by type of sport or athlete sex. The majority of segments included in the analysis depicted athletes competing in full competition gear (92%). Only in figure skating coverage were athletes shown wearing other types of wardrobes, which was still not common. Here, athletes were frequently shown awaiting scores, and sometimes modified their athletic gear by adding a jacket. Also, no differences emerged for type of segment. The majority of the segments depicted athletes competing live (78.3%). Only in figure skating was another type of segment common, as athletes were sometimes shown awaiting scores (12.6%). No significant differences were found for type of segment based on athlete sex. The other dependent variables were not categorical, as the researcher tallied the number of times each (interaction, camera angle, or body shot) was shown within a single unit of analysis.

For these continuous variables, a series of independent samples t-tests were conducted to compare the means of visual cues per minute of coverage⁴ for male and female athletes, regardless of sport. Only for two visual variables was the average number of depictions per minute statistically different. Televised coverage was significantly more likely to focus on a

⁴ The unit of analysis was originally calculated as the “segment.” Because segment lengths were significantly different for the figure skating and snowboarding coverage, each variable was recalculated to standardize the length for analysis. Results for tally variables (interaction with others, camera angles, body shots, theme comments and adjective comments), now represent the number of instances per minute of coverage, instead of the number per segment. This standardizes the unit of analysis to minute of coverage.

female athlete's face than a male athlete's face. Within a single minute of coverage, the female athlete's face was shown nearly three times, while a male athlete's face was only shown two times on average. Furthermore, televised coverage was significantly more likely to focus on the buttocks of a female athlete than on a male athlete. A body shot focusing on the female athlete's buttocks was shown in nearly one-third of the minutes of coverage involving female athletes while there were no shots analyzed that included a body shot focusing on a male athlete's buttocks. These findings suggest that female athletes are visually sexualized more frequently than male athletes. For the other visual variables (camera angles, and interaction with others), there were no significant differences between number of instances per minute for male and female athletes (see Table 4.6).

Table 4.6

Mean Number of Visual Cues for Male and Female Athletes

Visual Cues	Male Athlete		Female Athlete		<i>t</i>	<i>DF</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Interact Family	0.22	0.72	0.42	0.85	1.45	140
Interact Friend	0.03	0.16	0.06	0.30	0.88	140
Interact Significant other	0.00	0.00	0.06	0.30	1.66	140
Interact Coach	0.91	1.15	0.91	0.91	0.00	140
Interact Athlete	0.32	0.77	0.28	1.23	0.23	140
Camera Angle High	2.18	1.70	2.35	2.01	0.54	140
Camera Angle Low	1.57	1.61	1.63	1.32	0.26	140
Body Shot Face	2.07	1.96	2.94	1.90	2.03*	140
Body Shot Buttocks	0.00	0.00	0.29	0.55	4.28***	140
Body Shot Chest	0.00	0.00	0.00	0.00	0.00	140
Body Shot Back	0.34	0.53	0.37	0.65	0.27	140

Note. Means indicate number of instances per minute of coverage.

* = $p < .05$; ** = $p < .01$; *** = $p < .001$

Additionally, a series of independent samples t-tests was conducted with type of sport (masculine or feminine) as the grouping variable, and interaction with others, camera angles, and body shots as the test variables. The means for each test variable was calculated per minute of coverage. Significant differences by sport type emerged for three of the cues. Athletes participating in figure skating were shown significantly more often per minute interacting with their coach and featured in facial shots than athletes participating in snowboarding, regardless of athlete sex. Furthermore, coverage of snowboarders featured more low angles per minute than did coverage of figure skaters. Differences on the other test variables were not statistically significant (see Table 4.7). However, it should be noted that these differences are potentially necessary to produce televised coverage of these two sports. Research using the same visual cues for the televised coverage of multiple sports is necessary to confirm these findings.

Table 4.7

Mean Number of Visual Cues for Snowboarding and Figure Skating

Visual Cues	Masculine Sport		Feminine Sport		<i>t</i>	<i>DF</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Interact Family	0.37	0.83	0.28	0.76	0.69	140
Interact Friend	0.09	0.35	0.01	0.11	1.65	140
Interact Significant other	0.07	0.33	0.00	0.00	1.66	140
Interact Coach	0.28	0.60	1.30	1.07	7.27***	140
Interact Athlete	0.54	0.97	0.15	1.00	1.58	140
Camera Angle High	2.57	1.66	2.07	1.93	1.59	140
Camera Angle Low	2.46	1.42	1.06	1.24	6.17***	140
Body Shot Face	1.89	1.90	3.01	1.87	3.45***	140
Body Shot Buttocks	0.09	0.40	0.16	0.40	0.99	140
Body Shot Chest	0.00	0.00	0.00	0.00	0.00	140
Body Shot Back	0.37	0.59	0.34	0.59	0.25	140

Note. Means indicate number of instances per minute of coverage.

* = $p < .05$; ** = $p < .01$; *** = $p < .001$

To further analyze the significant test variables discussed in this section, mean differences for interaction with coach, body shots of the face, body shots of the buttocks, and low camera angles were explored to identify interactions by type of sport (masculine or feminine) and athlete sex. Therefore, a two-way analysis of variance (ANOVA) with athlete sex and type of sport (masculine or feminine) as fixed factors were conducted for the four variables in which differences were found in the independent samples t-tests above (see Table 4.8 for ANOVA results).

Table 4.8

Visual Cue Means Analyzed by Athlete Sex and Type of Sport

Comment Type			<i>M</i>	<i>F</i>
Interact with Coach	Male	Snowboard	0.14	2.32
		Figure Skate	1.38	
	Female	Snowboard	0.44	1.20
		Figure Skate	1.20	
Body Shots of the Face	Male	Snowboard	1.21	4.22*
		Figure Skate	2.94	
	Female	Snowboard	2.68	3.10
		Figure Skate	3.10	
Body Shots of the Buttocks	Male	Snowboard	0.00	1.34
		Figure Skate	0.00	
	Female	Snowboard	0.20	0.35
		Figure Skate	0.35	
Low Camera Angle	Male	Snowboard	2.83	9.57**
		Figure Skate	0.79	
	Female	Snowboard	2.04	1.38
		Figure Skate	1.38	

Note. *F* scores indicate values for the interaction between athlete sex and sport type; means indicate number of instances per minute of coverage.

* = $p < .05$; ** = $p < .01$; *** = $p < .001$

For interaction with the coach, a significant model emerged ($F[2,139] = 14.55, \epsilon^2 = 0.23, p < .001$), but no significant interaction was found between the two variables. Only the type of sport was linked to significant differences ($F[2,139] = 39.62, p < .001$), consistent with the results above. For body shots of the face, a significant model emerged ($F [2,139]= 7.11, \epsilon^2 = 0.12, p < .001$). Here, a significant interaction was found between the sex of the athlete and the type of sport, indicating that more body shots of the face resulted for a female athlete, and athletes participating in the feminine sport, meaning the face shots were used most per minute in coverage of female figure skaters (see Figure 4.1).

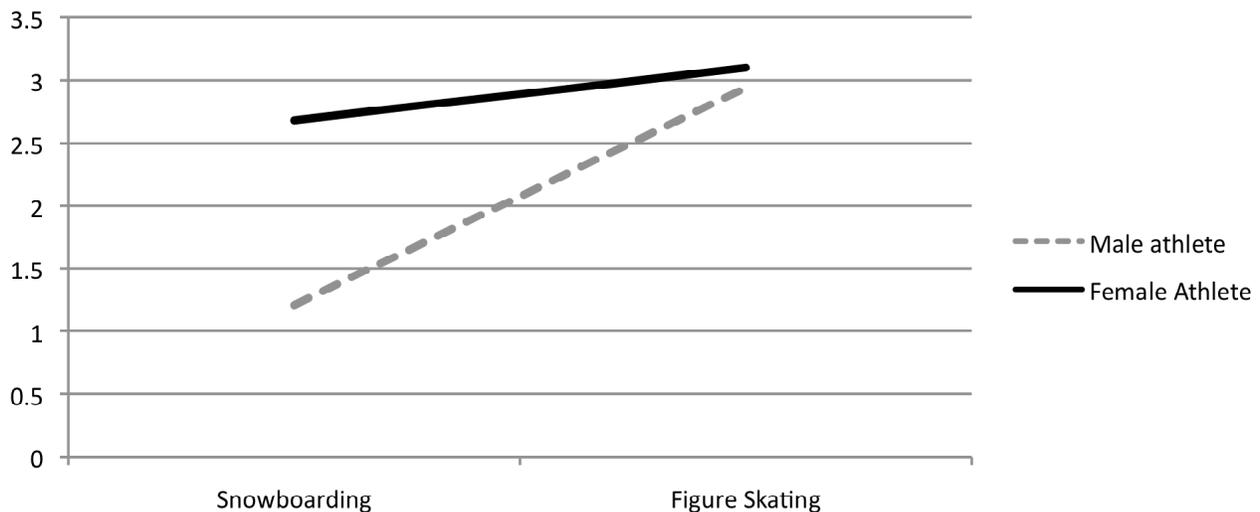


Figure 4.1. Interaction for body shots of the face (by type of sport and athlete sex). Body shots were most common for depictions of athletes competing in figure skating, and then for female snowboarders.

A significant model also emerged for the test variable body shots of the buttocks ($F [2,139] = 7.99, \epsilon^2 = 0.13, p < .001$). However, there was no significant interaction between the two test variables, as there were no shots of the buttocks for male athletes in either sport.

Finally, a significant model also emerged for the low camera angle test variable

($F[2,139] = 16.61, \varepsilon^2 = 0.25, p < .001$). Here, a significant interaction was found between the sex of the athlete and the type of sport, indicating that low camera angles were used significantly more often per minute of coverage for all athletes participating in the masculine sport, followed by female athletes participating in the feminine sport. Low camera angles were least likely for male athletes who participated in the feminine sport (see Figure 4.2).

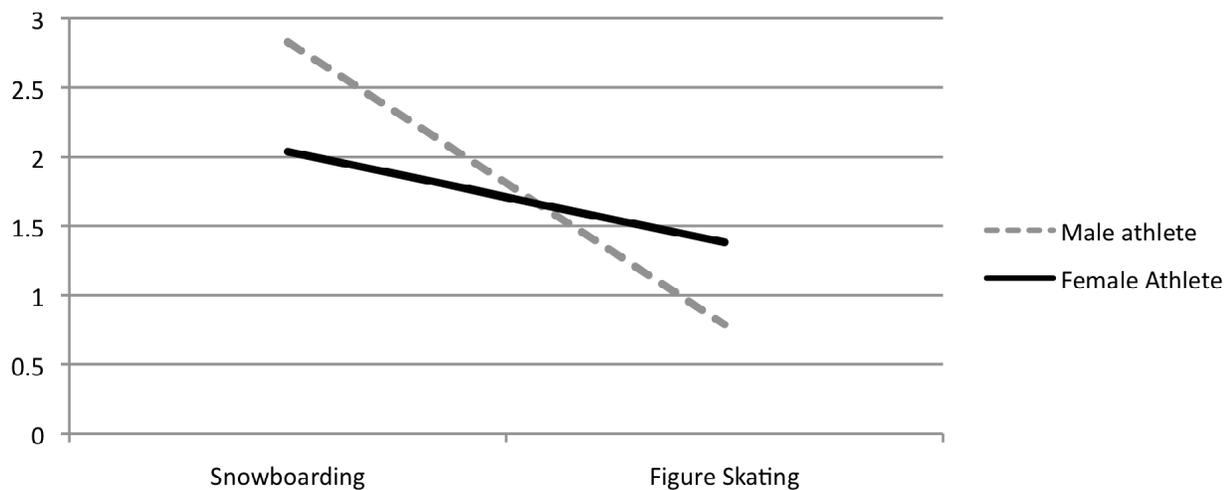


Figure 4.2. Interaction for low camera angle (by type of sport and athlete sex). Low camera angles were most common in televised coverage of snowboarding, and then for female figure skaters.

RQ4: Verbal Cues in Televised Primetime Coverage. This research question explored how verbal gender cues in commentary varied by the sex of the athlete and the sport the athlete plays. As stated, numerous dependent variables were analyzed to explore verbal gender cues in the 2010 Winter Olympic televised coverage including feminine commentary themes (physical appearance, aesthetic athletic ability, and personal life/relationships), masculine commentary themes (athletic training/preparation, performance/athletic ability, and athletic injury), feminine social role adjectives used to describe the athlete (aesthetic beauty, affection/compassion, emotion, gentleness, and physical beauty) and masculine social role adjectives used to describe

the athlete (aggression, athleticism, competitive spirit, dominance, and physical strength/muscularity). Researchers tallied the number of times each theme and social role adjective was used within a segment, and tallied the sex of the commentator making each statement.

First, this research question explored how masculine and feminine-typed comments differed by the sex of the athlete. As with visual cues, the total number for each verbal variable was calculated per minute of coverage to standardize the units of analysis by sport. Then the sum for all masculine-theme comments (athletic training/preparation, performance/athletic ability, and athletic injury) feminine-theme comments (physical appearance, aesthetic athletic ability, and personal life/relationships), masculine social role adjectives (aggression, athleticism, competitive spirit, dominance, and physical strength/muscularity) and feminine social role adjectives (aesthetic beauty, affection/compassion, emotion, gentleness, and physical beauty) were averaged to create per minute mean scores for all comments in each category.

Then, independent samples t-tests were conducted to examine how the number of masculine-theme comments, feminine-theme comments, masculine social role comments, feminine social role comments, and total number of gender-marked comments varied by athlete sex. Significant differences emerged for masculine-theme comments, masculine social role comments, and overall gender-marked comments. Not surprisingly, male athletes were the subject of significantly more masculine-theme comments and masculine social role comments per minute than were female athletes, regardless of sport. Furthermore, male athletes received significantly more gender-marked comments per minute overall than female athletes. No significant differences were found for the mean of feminine-theme comments per minute or feminine social role comments per minute when grouped by athlete sex (see Table 4.9). Findings

suggest that comments about male athletes are more likely to focus on the athletic performance and training, and describe the athlete with more masculine adjectives than comments about female athletes. Also, male athletes were more likely to be described using gender marked (masculine or feminine) comments than female athletes. However, male and female athletes receive an equal number of comments focusing on feminine-themes, using feminine adjectives.

Table 4.9

Mean Number of Comments for Male and Female Athletes

Type of Comment	Male Athlete		Female Athlete		<i>t</i>	<i>DF</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Masculine-theme	1.97	1.20	1.31	0.77	3.92***	140
Masculine Social Role	0.37	0.52	0.19	0.30	2.46*	140
Feminine-theme	0.68	0.71	0.92	0.75	1.97	140
Feminine Social Role	0.22	0.36	0.20	0.30	0.37	140
Total Comments	3.23	1.67	2.62	1.22	2.44*	140

Note. Means indicate number of instances per minute of coverage.

* = $p < .05$; ** = $p < .01$; *** = $p < .001$

The same variables were further tested by type of sport (masculine or feminine) as the grouping variable. Significant differences emerged for two variables. First, commentators uttered significantly more masculine social role comments per minute when covering the masculine sport than the feminine sport. Additionally, snowboarders (those in the masculine sport) received significantly more comments overall than figure skaters (those in the feminine sport). No significant mean differences were found for masculine-theme comments, feminine-theme comments, or feminine social role comments when analyzed by type of sport (see Table 4.10). Next, differences in numbers of comments per minute in the above categories were explored to identify interactions by type of sport (masculine or feminine) and athlete sex using a two-way

analysis of variance. A significant model emerged for masculine-theme comments ($F [2,138]=7.53, \epsilon^2 = 0.12, p < .001$), with more comments per minute for both male athletes and

Table 4.10

Mean Number of Comments for Snowboarding and Figure Skating

Type of Comment	Masculine Sport		Feminine Sport		<i>t</i>	<i>DF</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Masculine-theme	1.85	0.95	1.55	1.14	1.60	140
Masculine Social Role	0.47	0.55	0.18	0.31	3.62***	140
Feminine-theme	0.89	0.78	0.72	0.69	1.35	140
Feminine Social Role	0.21	0.33	0.21	0.34	0.06	140
Total Comments	3.42	1.30	2.66	1.56	2.99**	140

Note. Means indicate number of instances per minute of coverage.

* = $p < .05$; ** = $p < .01$; *** = $p < .001$

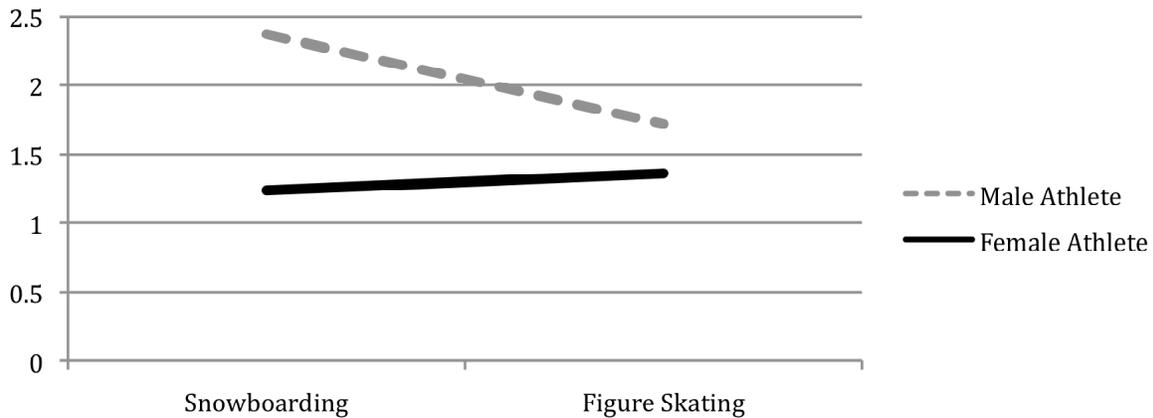


Figure 4.3. Interaction for masculine-theme comments (by type of sport and athlete sex). Male athletes were more likely to receive masculine-theme comments during commentary, regardless of type of sport. Female figure skaters received more masculine-theme comments than female snowboarders.

masculine sport. An interaction between athlete sex and sport type also was found (see Figure 4.3). As Table 4.11 indicates, the mean number of masculine-theme comments was highest for

men in the masculine sport, but lowest for women in the masculine sport. For feminine-theme comments, again, a significant model emerged ($F[2,138] = 9.67, \epsilon^2 = 0.16, p < .001$). In addition to the main effects noted above, an interaction was found (see Figure 4.4). Feminine-theme comments were most frequent per minute for female athletes participating in the masculine sport, and then male athletes participating in the feminine sport – in other words, these comments were most frequent for those athletes participating in “gender-inappropriate” sports.

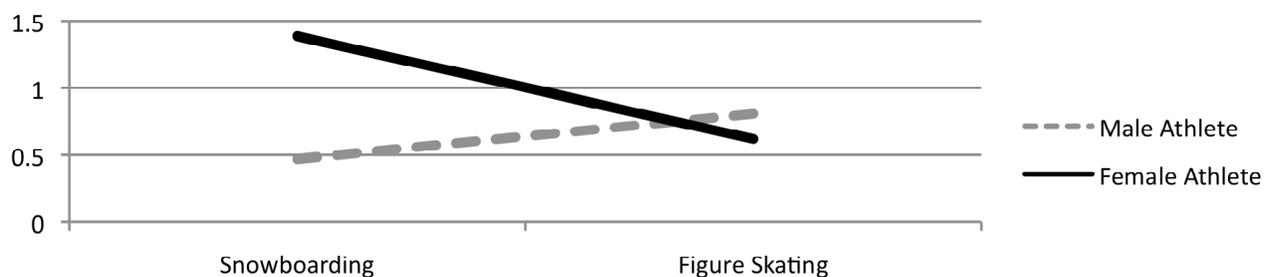


Figure 4.4. Interaction for feminine-theme comments (by type of sport and athlete sex). Feminine-theme comments were most common for athletes participating in gender-inappropriate sports, and least common for athletes participating in gender-appropriate sports.

For masculine social role comments a significant model emerged ($F[2,138] = 10.37, \epsilon^2 = 0.17, p < .001$) and another interaction was found between athlete sex and type of sport (see Figure 4.5). As noted above, masculine social role comments were most common per minute for male athletes than for female athletes, and for athletes participating in the masculine sport rather than in the feminine sport (see Table 4.11).

A significant model also resulted for feminine social role comments ($F [2,138]= 3.48, \epsilon^2 = 0.05, p < .05$). As with the feminine themes, a significant interaction emerged, with feminine social role comments most common for female athletes participating in a masculine sport.

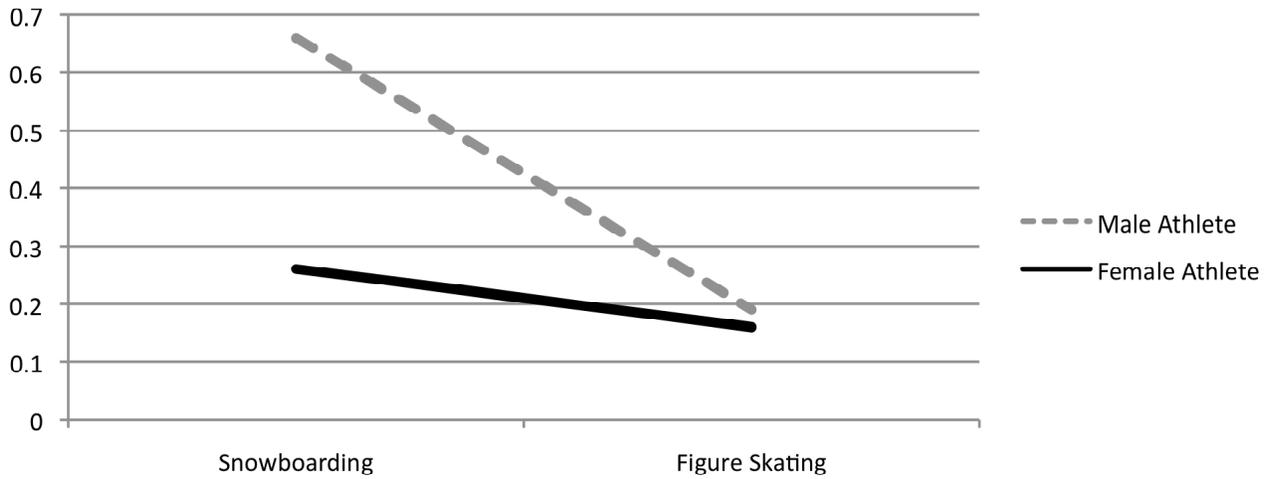


Figure 4.5. Interaction for masculine social-role comments (by type of sport and athlete sex). Masculine social-role comments were most common for athletes competing in snowboarding, and then for male figure skaters.

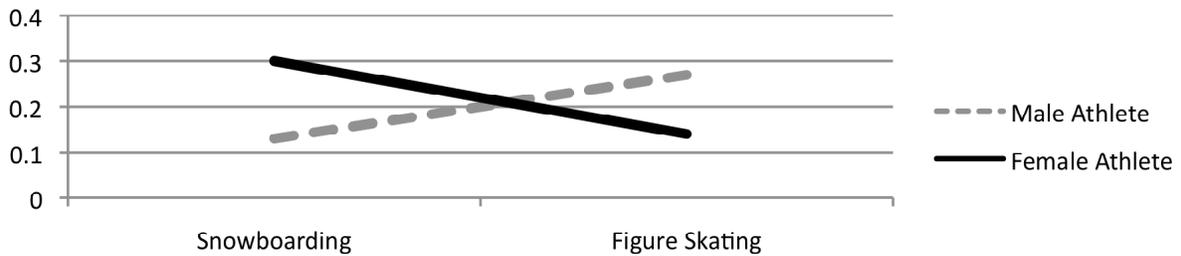


Figure 4.6. Interaction for feminine social-role comments (by type of sport and athlete sex). Feminine social-role comments were most common for athletes participating in gender-inappropriate sports, and least likely for athletes participating in gender-appropriate sports.

Lastly, a series of paired samples t-tests were conducted to determine if masculine-theme comments, feminine-theme comments, masculine social role comments, feminine social role comments, and overall number of gender-marked comments varied by commentator sex. As

Table 4.11

Verbal Cue Interactions Between Athlete Sex and Type of Sport

Comment Type			<i>M</i>	<i>SD</i>	<i>F</i>
Masculine-theme	Male	Snowboarding	2.37	0.88	4.74*
		Figure Skating	1.72	0.77	
	Female	Snowboarding	1.24	0.95	
		Figure Skating	1.36	1.14	
Feminine-theme	Male	Snowboarding	0.47	0.62	22.39***
		Figure Skating	0.81	0.74	
	Female	Snowboarding	1.39	0.78	
		Figure Skating	0.62	0.69	
Masculine Social Role	Male	Snowboarding	0.66	0.27	6.44*
		Figure Skating	0.19	0.30	
	Female	Snowboarding	0.26	0.55	
		Figure Skating	0.16	0.31	
Feminine Social Role	Male	Snowboarding	0.13	0.24	7.28**
		Figure Skating	0.27	0.30	
	Female	Snowboarding	0.30	0.33	
		Figure Skating	0.14	0.34	
Total Gender-marked Comments	Male	Snowboarding	3.62	1.01	0.34
		Figure Skating	3.00	0.88	
	Female	Snowboarding	3.19	1.10	
		Figure Skating	2.27	0.93	

Note. *F* scores indicate values for the interaction between athlete sex and sport type; means indicate number of instances per minute of coverage.

* = $p < .05$; ** = $p < .01$; *** = $p < .001$

Table 4.12 shows, male commentators made significantly more masculine-theme comments, feminine-theme comments, masculine social role comments, and overall gender-marked comments per minute than did female commentators. Because there were no female

commentators for either men’s or women’s snowboarding televised events, the final row of table 4.12 shows overall number of gender-marked comments per minute made by the commentators for figure skating. The differences by commentator sex were still statistically significant. Male commentators made significantly more gender-marked comments per minute than female commentators.

Table 4.12

Mean Number of Comments for Male and Female Commentators

Type of Comment	Male Commentator		Female Commentator		<i>t</i>	<i>DF</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Masculine-theme	1.47	1.04	0.20	0.32	13.80***	140
Masculine Social Role	0.26	0.43	0.03	0.11	5.96***	140
Feminine-theme	0.68	0.67	0.11	0.27	9.49***	140
Feminine Social Role	0.13	0.24	0.08	0.27	1.44	140
Total Comments	2.54	1.44	0.42	0.61	15.39***	140
Total Figure Skating	1.98	1.24	0.42	0.66	9.78***	140

* = $p < .05$; ** = $p < .01$; *** = $p < .001$

Survey Results for Snowboarding and Figure Skating

The next hypothesis (H3) and two research questions (RQ5 and RQ6) explored audience perceptions of athletes who participated in a masculine and a feminine-typed sport. The purpose was to analyze the similarities and differences of audience perceptions of athletes in relation to masculine social roles (aggression and muscularity) and feminine social roles (gracefulness and level of emotion) by the type of sport and sex of the athlete. Furthermore, these research participant attitudes were explored in comparison to reported media consumption of the televised snowboarding and figure skating coverage.

H3: Audience Perceptions of Social Roles will differ by Type of Sport. Under the

guidance of social role theory, this hypothesis proposed that perceptions of masculine and feminine social roles would be congruent with the type of sport the athlete plays. Therefore, audience perceptions of masculine social roles (strong and aggressive) would be greater for athletes in the masculine sport than for the feminine sport, and perceptions of feminine roles (emotion and grace) would be greater for athletes in the feminine sport. On these measures, higher scores indicated perceptions that athletes possessed more of these qualities.

Using paired samples t-tests, mean scores for strong, aggressive, emotional, and graceful were compared across research participant by type of sport (snowboarding versus figure skating). All four tests had significant mean differences at the $p < .001$ level (see Table 4.13). Athletes participating in snowboarding were perceived as significantly stronger and more aggressive than were athletes participating in figure skating; figure skaters were perceived as significantly more graceful and emotional than snowboarders. These findings suggest that athletes are categorized by social roles, depending upon the type of sport they play.

Table 4.13

Social Role Means Paired by Type of Sport

Social Role	Snowboarding		Figure Skating		<i>t</i>	<i>DF</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Strong	5.48	1.45	4.38	1.61	$t=15.63^{***}$	627
Aggressive	5.37	1.54	4.40	1.93	$t=16.01^{***}$	618
Graceful	4.39	1.61	6.29	1.00	$t=28.76^{***}$	610
Emotional	5.15	1.52	5.84	1.29	$t=12.18^{***}$	606

* = $p < .05$; ** = $p < .01$; *** = $p < .001$

RQ5: How Audience Perceptions of Social Roles differ by Athlete Sex. The purpose of this research question was to explore how audience perceptions of social roles differ by the sex of the athlete when examined in context of the sport played. Again, paired-samples t-tests were

conducted for attitudes toward male and female snowboarders and figure skaters as measured by the variables analyzed in H3 (see Table 4.14). Two additional paired samples t-tests were conducted to examine the mean differences between all masculine social roles (strong and aggressive for both sports), and all feminine social roles (level of grace and emotion for both sports). Significant differences were found for six comparisons. Male athletes competing in snowboarding were perceived as significantly stronger and more aggressive than female athletes in the same sport. Furthermore, female athletes competing in figure skating were perceived as significantly more aggressive, more graceful, and more emotional than male athletes competing in the same sport. Overall, using means from all feminine social roles, female athletes were perceived as significantly more feminine than were male athletes, but male athletes were not perceived as significantly more masculine than female athletes. Findings suggest that male athletes competing in gender-appropriate sports are placed into masculine (gender-appropriate) social roles. Furthermore, female athletes competing in gender-appropriate sports are also placed into gender-appropriate (feminine) social roles. It was surprising that female figure skaters were perceived as significantly more aggressive than male figure skaters. However, this finding may simply suggest that a male athlete that competes in a gender-inappropriate sport is considered to be even less masculine than a female athlete in terms of social roles.

RQ6: Social Role Attitudes and Media Consumption. The purpose of this research question was to explore how social role attitudes about snowboarders and figure skaters differed by the reported amount survey participants watched the specific sporting events during the 2010 televised Olympic broadcasts on NBC. First, participants were categorized into three equal groups based on means on the reported amount of Olympic broadcast consumption for men's and

Table 4.14

Social Role Means Paired by Athlete Sex

Sport	Social Role	Male Athletes		Female Athletes		<i>t</i>	<i>DF</i>
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Snow-Boarding	Strong	5.51	1.45	5.44	1.52	3.62***	616
	Aggressive	5.46	1.57	5.30	1.59	5.34***	608
	Graceful	4.40	1.66	4.39	1.67	0.29	606
	Emotional	5.18	1.61	5.14	1.55	1.44	600
Figure Skating	Strong	5.42	1.65	5.42	1.66	0.00	614
	Aggressive	4.34	1.98	4.46	1.98	3.67***	609
	Graceful	6.10	1.23	6.50	1.00	9.98***	606
	Emotional	5.71	1.41	5.99	1.29	7.69***	588
Overall Masculine		5.19	1.30	5.16	1.34	1.84	599
Overall Feminine		4.88	1.12	5.51	0.96	25.49***	587

Note. Higher means indicate stronger agreement that the athletes possess the social role qualities.
 * = $p < .05$; ** = $p < .01$; *** = $p < .001$

women's figure skating, and men's and women's snowboarding. The group with the highest means was labeled high viewers, the middle group was dropped from analysis, and the group with the lowest means was labeled low viewers.

Next, independent samples t-tests were conducted for all four social role characteristics (strong, aggressive, graceful, and emotional), with the social roles as the test variables, and the level of media consumption (high, low) as the grouping variable. Mean differences for all tests were significant at the $p < .001$ level (see Table 4.15). The high viewer perceived athletes in all sports to be significantly stronger, more aggressive, more graceful, and more emotional than did

Table 4.15

Social Role Means Paired by Media Consumption and Interest in Sport

Sport	Social Role	Low Viewer				High Viewer				Low Interest				High Interest			
		M	SD	t	DF	M	SD	t	DF	M	SD	t	DF	M	SD	t	DF
Men's Figure Skating	Strong	4.55	1.80	1.24	6.20	1.24	9.57***	621	4.78	1.75	6.34	1.09	12.13***	625			
	Aggressive	3.61	1.99	1.76	4.99	1.76	8.04***	615	3.78	1.93	5.15	1.74	7.68***	620			
	Graceful	5.64	1.41	0.82	6.57	0.82	9.08***	608	5.67	1.37	6.69	0.73	9.60***	614			
	Emotional	5.22	1.48	1.17	6.19	1.17	6.90***	603	5.28	1.42	6.31	1.16	7.78***	608			
Women's Figure Skating	Strong	4.98	1.71	1.42	5.94	1.42	6.77***	621	4.80	1.78	6.06	1.37	8.47***	625			
	Aggressive	3.87	1.95	1.87	5.02	1.87	6.39***	615	3.84	1.94	5.12	1.83	6.95***	620			
	Graceful	6.19	1.12	0.63	6.78	0.63	7.05***	608	6.10	1.16	6.89	0.67	7.71***	614			
	Emotional	5.54	1.40	1.02	6.39	1.02	6.91***	603	5.53	1.42	6.43	0.97	7.00***	608			
Men's Snowboarding	Strong	5.15	1.51	1.36	5.81	1.36	4.02***	623	4.83	1.66	5.68	1.56	7.11***	619			
	Aggressive	4.88	1.65	1.42	5.88	1.42	7.50***	614	5.19	1.54	5.98	1.33	5.17***	615			
	Graceful	3.91	1.63	1.67	4.80	1.67	6.16***	609	3.97	1.58	5.01	1.69	6.19***	611			
	Emotional	4.43	1.67	1.42	5.77	1.42	8.71***	603	4.63	1.63	6.00	1.21	9.78***	600			
Women's Snowboarding	Strong	5.11	1.54	1.16	6.16	1.16	7.76***	623	5.01	1.55	5.95	1.35	6.30***	619			
	Aggressive	4.84	1.56	1.23	6.11	1.23	9.34***	614	4.82	1.53	5.88	1.40	6.89***	615			
	Graceful	4.09	1.57	1.75	4.96	1.75	4.81***	609	3.92	1.56	4.98	1.65	6.55***	611			
	Emotional	4.76	1.52	1.24	5.93	1.24	8.57***	603	4.58	1.50	5.85	1.22	9.12***	600			

* = $p < .05$; ** = $p < .01$; *** = $p < .001$

the low viewer, regardless of sport type or athlete sex. These findings suggest that high media consumers of a sport perceive the athletes participating in that sport to significantly possess each social role quality more than the low media consumers.

To look at these findings another way, bivariate correlations were conducted for all four sports for the amount of televised media consumption and the social role characteristics for each sport. All correlations were statistically significant at the $p < .001$ level. Pearson r scores ranged from $r = 0.27$ to $r = 0.42$. Again, these findings indicate that as the televised viewing for each sport increased, so did the perceptions of strength, aggressiveness, gracefulness, and level of emotion for the athletes participating in those sports.

For the reported interest in men's and women's snowboarding and figure skating events, participants were again categorized into three groups based on self-reported means. The group with the highest means was categorized as highly interested, and the group with the lowest means was categorized as low-interested participants. The middle group was again removed from analysis. Independent samples t-tests were conducted for all four social role characteristics, with level of interest (low or high) as the grouping variable. Mean differences for all tests were significant (see Table 4.15). Highly interested survey participants self-reportedly perceived the athletes in all sports to be significantly stronger, more aggressive, more graceful, and more emotional.

Again, bivariate correlations were conducted for all four sports for the reported interest and perceptions of all four social roles for each sport. All correlations were statistically significant at the $p < .001$ level. Pearson r scores ranged from $r = 0.33$ to $r = 0.44$. Again, these findings indicate that as the reported interest in each sport increased, so did the perceptions of strength, aggressiveness, gracefulness, and level of emotion for the athletes participating in those

sports. A final series of bivariate correlations were conducted to determine if interest in sport and media consumption were correlated, one for all four sporting events. Interest in the sport and media consumption were highly correlated for men's figure skating ($r = 0.39, p < .01$), women's figure skating ($r = 0.79, p < .01$), men's snowboarding ($r = 0.72, p < .01$), and women's snowboarding ($r = 0.69, p < .01$).

CHAPTER 5

DISCUSSION

This chapter explores the findings from this research in relation to previous literature and discusses the implications of these discoveries. The first three sections summarize major findings from this research and discuss how those findings relate to previous research. Next, the results from the content analysis and survey are discussed in terms of cumulative importance to the body of literature; some results confirm previous findings, others contradict them, and additional findings are presented that are unique to this study. Finally, limitations are discussed in terms of areas where this research can be improved and expanded.

The contents of this discussion section only apply to the 2010 Winter Olympic Games. While other televised sporting events may also involve gender stereotypes, the Olympic Games differ. The Olympics are produced and perceived as a spectacle. There is much pre-olympic hype for specific athletes and events, there is a large body of media consumers, and there is coverage of sports not regularly portrayed in the media (). Because of these differences, gender stereotypes in televised coverage and audience perceptions of the Winter Olympic sports may differ from those of other sporting events.

Sex-Typing Sport and Gender Schema Theory

This section explores the sex-typing of Winter Olympic sports and the personal characteristics that may be linked to sex-typing. Simply put, this section looks at how the Winter Olympic sports are sex-typed, and what types of individuals are most likely to sex-type them.

Gender schema theory posits that individuals sex-type sports based on pre-existing schemas of what constitutes acceptable masculine or feminine behavior (Bem, 1981). The first hypothesis found that, as predicted, people sex-type Winter Olympic sports as masculine, gender-neutral, or feminine as previous literature had suggested was the case with other sports (Hardin & Greer, 2009; Koivula, 2001).

Most sports were typed as masculine (hockey, bobsleigh, luge, skeleton, snowboarding, and speed skating), meaning they were perceived in terms of speed, athleticism, and physical contact (Hardin & Geer, 2009; Koivula, 2001; Pedersen, 2003). Certainly, speed is a central characteristic of all of the masculine-typed Winter Olympic sports. Hockey and speed skating also involve varying levels of physical contact. Indeed, hockey was defined as most masculine, similar to research by Koivula. Even the masculine sports that didn't include physical contact (snowboarding, luge, skeleton, and bobsleigh) involve severe athlete risk. One luge athlete was killed in an Olympic practice run in 2010, for example. Therefore, they are similar to the actions sports studied by Hardin and Greer that were also perceived as masculine. The findings in this study confirm that hockey and snowboarding are masculine sports, and classify four additional unstudied winter sports as masculine.

Participants classified three Winter Olympic sports as gender-neutral: Biathlon, cross-country skiing, and alpine skiing. While few studies have examined gender-neutral sports, Koivula (2001) previously identified cross-country skiing as gender-neutral; therefore, findings from this research served as a confirmation. Previous studies have presented various definitions for gender-neutral sports or have defined gender-neutral sports by the qualities that are lacking. Gender-neutral sports require more endurance than speed and often involve a learned skill. Furthermore, they do not require muscular strength, aesthetic beauty (flexibility, fluidity, grace),

athleticism, or poise. Gender-neutral sports are simply neither masculine nor feminine. This definition is confirmed by the gender-neutral sports identified in this research. Biathlon involves a learned skill (shooting precision), while both biathlon and alpine skiing involve varying levels of athlete endurance. Furthermore, neither male nor female athletes participating in gender-neutral sports are perceived as inappropriate or unfavorable based on gender schemas (Bem, 1981; Hardin & Greer, 2009; Koivula).

As with previous research (Koivula, 2001), figure skating was perceived as the most feminine sport. Additionally, two un-researched sports (curling and free-style skiing) were classified as feminine. Feminine sports are defined by aesthetic requirements, the presence of elaborate feminine clothing, and the show of emotion, lady-like poise, and grace (Hardin & Greer, 2009). Clearly, figure skating involves each of these characteristics. Likewise, curling involves the use of a broom (a clear feminine social role), and freestyle skiing involves judged aesthetic elements.

Like other sports researched previously, winter Olympic sports are categorized as either masculine, gender-neutral, or feminine. A sport's classification also indicates qualities required to be successful in that sport. Examples confirmed in this research include aesthetic beauty in feminine sports, athlete risk in masculine sports, and endurance in gender-neutral sports. Therefore, sport consumers classify sports in terms of masculine, gender-neutral, or feminine qualities. The next hypothesis and research question sought to identify participant personal characteristics that led to the sex-typing of these sports, to identify the type of individual most likely to sex-type sport.

The second hypothesis was guided by gender schema theory, which posits that sex-typed individuals are more likely to sex-type others (Bem, 1981; Campbell, Shirley, & Candy, 2004;

Krane, et al., 2004; Martin & Ruble, 2004). The hypothesis was only partially supported, in that sex-typed individuals only differed from other participants for the two most feminine Winter Olympic sports: figure skating and freestyle skiing. For both, individuals who were sex-typed as highly masculine were more likely to sex-type the sports as feminine. Arguably, highly masculine individuals view highly feminine sports as gender-inappropriate, which boosts the recognition of the feminine qualities in those sports. This finding suggests that hyper-masculine individuals see the feminine Winter Olympic sports more on face value, with a focus on pretty clothes, lady-like poise, and judged aesthetic movements (either on ice, or in air).

This hypothesis was not supported for the masculine Winter Olympic sports, which raised further questions. Gender schema theory predicts that highly feminine individuals are more likely to perceive masculine activities as highly masculine (Bem, 1981). However, the six masculine Winter Olympic sports were perceived similarly by all three groups of individuals (highly masculine, androgynous/undifferentiated, and highly feminine). Sport literature suggests that sport itself is a masculine domain, an ideal that is reflected in the media (Kim, Walkosz, & Iverson, 2006; Solomon, et al., 2003; Vincent, 2004). Therefore, perhaps both highly feminine and highly masculine individuals equally perceive masculine traits in masculine sports. Either due to an expectation of masculinity in the “sport” arena, or the increased exposure to masculine sports in media coverage, findings from this research suggest that Winter Olympic masculine sports do not fit into the presumptions of gender schema theory.

While some previous research had looked at sex-typing and gender perceptions of sport, no studies have explored individual characteristics in relation to sex-typing of sport. While the second hypothesis identified that highly masculine individuals are more likely to sex-type feminine sports, other characteristics were examined in relation to sex-typing. Participant age

and sex were found to be significant predictors of sex-typing in only two of the 12 sports, curling and figure skating. Specifically, younger male research participants were more likely to sex-type sports these two feminine-typed sports. This suggests that younger individuals were more likely to recognize stereotypical gender qualities in these sports. While the literature does not provide an explanation for this finding, it is clear that among several Winter Olympic sports, the perception of gender roles in sport blurred with age.

The other predictor variables did not result in significant linear models for the Winter Olympic sports, and no patterns were identified that warrant further explanation. However, a significant linear model emerged when examining feminine-typed sports. Older individuals with a higher feminine perception of self were significantly less likely to sex-type feminine sports. These results were surprising, as Title IX arguably introduced younger generations to more sport. Additional research is necessary to explore why older individuals are less likely to sex-type feminine sports. This result could be due to the nature of the survey, as female research participants were slightly older (based on means of reported age) than male participants. Male participants on average were 43.2 years of age and female participants on average were 46 years of age. An independent samples t-test showed that this age difference was significant at the $p < .05$ level.

In summary, Winter Olympic feminine-typed sports are sex-typed based on perceptions of masculinity or femininity. Also, only two research participant characteristics were identified as predictors for sex-typing these sports. Participant age and sex, predicted sex-typing for only two feminine-typed sports. Therefore, there was no magical recipe that predicted the type of person most likely to sex-type all sports. Previous research indicates that attitudes are learned from relatives, mentors, peers, and self-experience (Perloff, 2003). Therefore, individuals with

similar experiences may form similar attitudes. Due to the low variance on the predictor variables used, additional variables are needed for further research. Participant education level, census region, climate, exposure to these specific sports, and other predictor variables are needed in future research to explain a larger portion of the variance.

Theoretical Implications. Results from this research suggest that gender schema theory is outdated, especially when used to predict perceptions about sport. Currently, the theory predicts that individuals will sex-type activities, and will do so based on a masculine or feminine perception of self. While this research found that individuals do indeed sex-type Winter Olympic sports into categories of masculine, gender-neutral, and feminine, nine out of the 12 sports received means less than 3.5 on a seven point response set ranging from 1=*Masculine* to 7=*Feminine*. Therefore, the majority of Winter Olympic sports were perceived as masculine.

Implications of these findings are further amplified when examining what types of individuals are most likely to sex-type sport. For the perception of self, and for two demographic variables (age and sex), significant results were only identified for the two most feminine sports. Therefore, the use of gender schema theory (in its current state) with sport is inappropriate. Clearly, sport is a masculine arena, whereby individuals perceive masculine qualities in the majority of athletes and sports. In sport, this theory only makes predictions for the most feminine sports, because the feminine sports stand out as being inappropriate in the sport arena.

Gender Cues in Media Content

This section explores the gender cues in the televised coverage of the 2010 Winter Olympic Games. To identify gender cues, the prominence of coverage for all 12 Winter Olympic sports, and the visual and verbal cues for the snowboarding and figure skating events were analyzed. The second research question examined the amount of televised coverage (or

prominence) awarded to all 12 Winter Olympic sports within the sample. Results showed that more than 90% of the televised, primetime coverage focused on only half of the sports (bobsleigh, snowboarding, speed skating, alpine skiing, free-style skiing, and figure skating). This finding is consistent with previously identified trends of media coverage for mainstream sports; a few sports (e.g., baseball, basketball, and football) receive the majority of media coverage (Fink & Kinsicki, 2002). Therefore, like media coverage of other sports, Winter Olympic media coverage lacks in diversity.

This analysis also confirms presumptions from previous research, that athlete success and athlete popularity are predictors of increased media coverage (Gantz & Wenner, 1995; Pedersen, 2004). The USA teams won at least one gold medal in each of the most prominently covered Winter Olympic events. The USA team received gold medals in a total of seven sports; therefore, biathlon was the only USA gold-winning sport not heavily televised (ESPN, 2010). Five of the six most prominent sports also arguably included athletes with household names, who received notable amounts of media coverage prior to the 2010 Games (ESPN). Examples of these athletes include alpine skiers Bode Miller and Lindsey Vonn, bobsledder Steve Holcomb, figure skater Evan Lysacek, snowboarder Shuan White, and speed skater Apolo Ohno.

When prominence of coverage was further analyzed by athlete sex, male athletes received more coverage than female athletes in 9 of the 12 sports. Snowboarding, skeleton, and alpine skiing were the only sports in which female athletes received more coverage than male athletes. Overall, male athletes received 57.22% of the televised coverage. Therefore, like other sports previously researched, the 2010 Winter Olympic media audience was exposed more frequently to male athletes than female athletes (Christopherson, Janning, & McConnell, 2002; Fink & Kinsicki, 2002; Kim, Walkosz, & Iverson, 2006; Knight & Giuliano, 2003; Vincent,

2004). However, it should be noted that with many of these previous research studies, the gender gap was much larger (as much as 81% coverage in favor of male athletes). Results here suggest that at least with the 2010 Winter Olympic coverage, the gap is much less than with previous research on other sporting events.

Finally, prominence of coverage was further analyzed by type of sport. Male and female athletes were heavily portrayed in both gender-appropriate and gender-inappropriate sports. This finding contradicts results from previous research that suggested athletes are more heavily portrayed in gender-appropriate sports (Fink & Kinsicki, 2002; Hardin & Shain, 2005; Jones, Murrell, & Jackson, 1999). In this research, viewers of the primetime coverage were exposed to highly sex-typed sports nearly 80% of the time. Highly masculine sports received 40.77% of the coverage and highly feminine sports received 37.17% of the coverage, neither differed significantly by athlete sex. Therefore, viewers of the 2010 Winter Olympic Games were frequently exposed to gender stereotypes.

The third research question explored visual cues in men's and women's snowboarding and figure skating coverage. Two visual gender cues emerged when examining visual differences between male and female athletes: frequency of body shots of the face and body shots of the buttocks. Televised coverage of a female athlete was nearly 30% more likely to focus on the athlete's face than coverage of a male athlete. As confirmed in previous research, focus on facial expressions is a production technique used to emphasize sexuality and emotion (Fink & Kinsicki, 2002; Schell, 2001). Therefore, this visual cue in the 2010 Games emphasized the femininity and vulnerability of the female athletes. Televised coverage was also significantly more likely to focus on a female athlete's buttocks. In fact, an obvious shot (a minimum of two-seconds in length) focusing on a female athlete's buttocks was identified in one out of every three minutes

of televised coverage of female athletes. As confirmed in previous research of women's beach volleyball players, these body shots of the buttocks indicate the intentional sexualized portrayal of female athletes (Bissell & Duke, 2007). The presence of these two visual gender cues suggests an attempt by the media to emphasize the feminine traits of the female athletes.

Next, three visual gender cues emerged when examining visual differences between the snowboarding and figure skating coverage: interaction with a coach, low camera angles, and body shots of the face. Figure skaters were more likely to be shown interacting with their coach than snowboarders. As confirmed in previous research, athletes shown interacting with others suggests dependency, a feminine trait (Daddario, 1994; Jollimore, 2002). The frequency of low camera angles was significantly greater in the production of the masculine sport (snowboarding) than the feminine sport (figure skating). This finding confirms that the production of masculine sports emphasizes the masculinity of the athlete, as low camera angles increase a subject's size, perception of intimidation, and height (Fields, 1988; Homan, 2004; Roof, 1999). Therefore, the production of the snowboarding events emphasized the size, dominance, and athleticism of the athletes. Additionally, body shots of the face were significantly more common in the production of figure skating than snowboarding. This finding further confirms that emphasis on the face accentuates emotion and femininity (Fink & Kinsicki, 2002; Schell, 2001). The presence of these gender cues indicates masculine and feminine athlete traits are emphasized differently for athletes participating in masculine sports than athletes participating in feminine sports.

Among the significant test variables for visual cues, significant interactions between type of sport and athlete sex were found for low camera angles and body shots of the face. These interactions indicate that the masculinity and/or femininity of athletes varies both by athlete sex and type of sport. The interaction for body shots of the face confirmed the emphasis of

femininity among female athletes and athletes competing in the feminine sport (Fields, 1988; Roof, 1999). The interaction for low camera angles confirmed the emphasis of masculinity for athletes participating in the masculine sport, and confirmed an increase in masculine gender cues for athletes participating in gender-appropriate sports (Koivula, 2001).

As confirmed with other sports, visual gender cues of Winter Olympic sports emphasized gender differences via production techniques, which potentially influenced the perception of excitement and viability of the athletes and the sports they play (Messner, Duncan, & Wachs, 1996). Furthermore, while athletes control portions of their visual presence (e.g. wardrobe, personal appearance, and makeup), they cannot alter audience exposure to visual cues via production techniques.

The fourth research question analyzed verbal gender cues, via commentary, of the men's and women's snowboarding and figure skating coverage. Three verbal gender cues were identified when analyzed by athlete sex: masculine-theme comments, masculine social-role comments, and the total number of gendered comments. Masculine-theme comments emphasized athletic qualities (athletic training, athletic ability, and athletic injury). Regardless of sport, male athletes received significantly more masculine-theme comments per minute than female athletes. This finding confirms results from previous literature, that male athletes are more likely to be depicted as athletic and physically strong (Billings, Halone, & Denham, 2002).

Masculine social role adjectives differ from masculine-theme comments, in that they reflect the use of actual masculine descriptors. Regardless of sport, male athletes were described using significantly more masculine social role adjectives (e.g., "explosive", "tenacious", "dangerous", "the great", "untouchable", "clutch", "insane", and "cut-throat") than female athletes. This finding confirms results from previous research; masculine descriptors are more

likely to be used for male athletes, who are often depicted as “true competitors” (Christopherson, Janning, & McConnell, 2002; Daddario, 1994). Furthermore, even when female athletes were described using a masculine social role adjective, the descriptor reflected the sex of the athlete (e.g., “glorious” was used to describe a female athlete’s athleticism; “the queen” was used to emphasize a female athlete’s dominance in her sport). Thus, when masculine adjectives were used to describe female athletes, they involved a feminine twist.

Also, regardless of sport, events involving male athletes received more overall gendered comments per minute than events involving female athletes. Therefore, sports with male athletes were produced with a greater emphasis on masculinity or femininity than sports with female athletes.

Two verbal gender cues were identified when analyzing the snowboarding and figure skating coverage by type of sport: masculine social-role comments and overall gendered comments. The frequency of masculine social role comments was significantly greater for snowboarding than for figure skating. Furthermore, adjectives used to describe snowboarders fit three common themes: risk, anger, and size. Snowboarders were described as risky (e.g., “aggressive”, “dangerous”, and “insane”), angry (e.g., “explosive,” “combative,” and “charging.”) and their moves were described as sizable (e.g., “heavy,” “massive,” “huge,” “on-top,” and “big.”). Previous research confirms that these social-role adjectives define masculinity in sport (Campbell, Shirley, & Candy, 2004; Hardin & Greer, 2009; Koivula, 2001; Krane, et al., 2004). Snowboarding coverage also received significantly more overall gendered comments per minute than figure skating coverage, which indicates an increased emphasis on the masculine and feminine traits for these athletes.

Mean changes for the four comment types were further explored to look for interactions between athlete sex and type of sport. For masculine-theme comments, athletes participating in gender-appropriate sports (male snowboarders and female figure skaters) had the greatest means, and were thus portrayed as more masculine. The opposite was true for feminine-theme comments and feminine social role comments. Athletes who participated in gender-inappropriate sports (male figure skaters and female snowboarders) had greater means for each, and were thus portrayed as more feminine. Finally, for masculine social role comments, male athletes, or athletes participating in masculine sports were more likely to be described using masculine adjectives. Commentators emphasized the femininity and minimized the masculinity of the female athletes participating in snowboarding via feminine descriptors (e.g., “glamorous,” “spiritual,” “generous,” and “pressured”). However, no attempt was made to encourage a masculine perception of male figure skaters, as they were also described using feminine descriptors (e.g., “gracious,” “special,” “charismatic,” “youthful,” and “free and easy”). These results confirm findings from previous research that suggests athletes who participate in gender-inappropriate sports are not preferred (Bem, 1981; Ginsberg, 2005; Hardin & Greer, 2009; Koivula, 2001). Therefore, they are likely to be mocked in media coverage if they are men.

This research also confirmed that verbal gender cues vary by commentator sex, at least in figure skating and snowboarding coverage (Hardin & Shain, 2005; Pedersen et al., 2004). In this research, there were two male commentators for both sports, a single female commentator for figure skating, and no female commentator for snowboarding. Female commentators made fewer gendered comments than male commentators per minute in every category (masculine-theme comments, masculine social role comments, feminine-theme comments, feminine social role comments, and total number of comments). Overall, male commentators made more than six

times the number of gendered comments per minute than the female commentator. Arguably, sport media commentators play the role of the “expert”. Therefore, media consumers of these two sports were exposed to male “experts” six times more frequently than female experts. It should also be noted that the commentators themselves (as individuals) influence commentary. Frequently the commentators represent former athletes. However, (especially in figure skating) the sports potentially change over time from one generation of competitors to the next. These changes may be reflected in the commentary, and could influence how these sports are perceived by the media audience.

To summarize, gender cues were present in the prominence of coverage, camera angles, types of shots, and commentary of the men’s and women’s figure skating and snowboarding coverage in the 2010 Winter Olympic Games. Therefore, the media audience was exposed to multiple gender cues in the media content. Arguably, such exposure assists with the formation of gender attitudes and stereotypes in society. The following section will discuss research participant attitudes (although not directly related to the media content) as they relate to men’s and women’s snowboarding and figure skating.

Gender Attitudes and Social Role Theory

As guided by social role theory, the third hypothesis predicted that audience perceptions of agency (aggression and strength) and communality (gracefulness and emotion) would differ by type of sport. Indeed, snowboarders were perceived as significantly stronger and more aggressive than figure skaters, and figure skaters were perceived as significantly more graceful and emotional than snowboarders. As confirmed by literature on social role theory, social roles of communality represent femininity, while social roles of agency represent masculinity (Eagley

& Chaiken, 1993). Therefore, athletes participating in the masculine sport were perceived as more masculine, while athletes participating in the feminine sport were perceived as more feminine. This further confirms that Winter Olympic sports are also classified as gender-appropriate or gender-inappropriate based on expectations of athlete social roles, similar to how other sports have been classified in previous research (Koivula, 2001).

While social role theory predicted that perceptions of Winter Olympic sports would differ by type of sport, little is known about how perceptions differ by the sex of the athlete. The fifth research question explored how audience perceptions of strength, aggression, gracefulness, and level of emotion differed by athlete sex. Male snowboarders were perceived as significantly stronger and more aggressive than female snowboarders. Furthermore, female figure skaters were perceived as significantly more aggressive, more graceful, and more emotional than male figure skaters. Finally, regardless of type of sport, female athletes participating in snowboarding and figure skating were perceived to be significantly more graceful and emotional than male athletes in these same sports. Overall, these findings suggest that male Winter Olympic athletes in these two sports fit agentic social roles, and female Winter Olympic athletes fit communal social roles.

The sixth research question explored gender role attitudes in relation to reported media consumption of the same athletic events. While results from this question do not reflect causation of the formation of attitudes, they do begin to explore what types of individuals are likely to form gender attitudes. For each sport (men's and women's figure skating, and snowboarding), high media consumers perceived the athlete to be significantly stronger, more aggressive, more graceful, and more emotional than low media consumers. This finding suggests that high media consumers of these Winter Olympic events were able to see past athlete sex and type of sport, to

perceive both masculine and feminine qualities in the athletes. These results are not consistent with the social role theory literature, which suggests that gender stereotypes and media consumption are correlated (Cuneen & Claussen, 1999; Engeln-Maddox, 2005).

In summary, perceptions of an athlete's social roles are congruent with athlete sex and the type of sport he or she plays. However, findings suggest that increased media consumption and/or interest in a sporting event reduces gender specific attitudes about the athletes and sports.

Gender Stereotypes in the 2010 Winter Olympic Games: The Big Picture

This research provides an in-depth look into the televised coverage and audience attitudes about Winter Olympic sports. Many of the findings presented here are consistent with previous research. This suggests, that in many ways winter sports are similar (in terms of media coverage and audience attitudes) to other sports. However, not all findings from this research fit expectations. With a few surprising results using the guidance of gender schema theory and social role theory, this research raises further questions. Finally, this research contributes to the body of literature in gender and sport by filling existing gaps in the literature, and providing a holistic glimpse into the world of winter sport, an entire area of sport not previously researched.

Much of this research confirmed findings in the literature, suggesting that winter sports are perceived and portrayed similarly to other sports. Winter sports were sex-typed similarly (as masculine, gender-neutral, or feminine) in comparison to other sports, as predicted by gender schema theory (Hardin & Greer, 2009; Koivula, 2001). Furthermore, audience perceptions of agency and communality of athletes were congruent with the type of sport, as predicted by social role theory (Eagly & Chaiken, 1993). Also, anticipated gender cues were present (both visually and verbally) in the televised coverage of the winter sports, via camera angles, camera shots, type of commentary, and commentator sex (Bissell & Duke, 2007; Daddario, 1994; Schell,

2001). Finally, prominence of coverage for the winter sports matched trends previously identified with other sports, based on overall coverage, athlete sex, and athlete success/popularity (Fink & Kinsicki, 2002; Gantz & Wenner, 1995; Vincent, 2004).

Despite the numerous findings highlighted in this chapter, the areas of this research with no significant results also have important implications to this research. First, gender schema theory predicted that sex-typed individuals would be more likely to sex-type others (Bem, 1981). However, results were only significant for hyper-masculine participants and two feminine sports. No significant results were found for the other 10 winter sports, suggesting that they were sex-typed similarly, among the three groups of participants. Perhaps the application of gender schema theory to sport research differs here. As previously mentioned, sport itself is viewed as masculine (Pedersen, 2004); therefore, perhaps both masculine and feminine individuals in society are capable of perceiving masculine traits in the majority of sports.

Next, results from the analysis of the televised content of the Winter Games resulted in findings that differed from previous research. Overall, both masculine and feminine sports received similar amounts of coverage. Previous research suggests that gender-inappropriate sports are typically under-represented in media coverage; however, men's figure skating received more overall coverage than 23 of the other winter sporting events. (Fink & Kinsicki, 2002; Hardin & Shain, 2005; Jones, Murrell, & Jackson, 1999). Therefore, previously identified trends regarding prominence of coverage and type of sport, did not apply to the 2010 Winter Olympic Games. This is most likely due to the nature of the Games. Athletes with anticipated success in the Games receive more media coverage, as indicated in the results from this research. Furthermore, a male figure skater received the gold medal in the 2010 Games. This finding suggests that prominence of coverage, at least in the 2010 Winter Olympics, was due mostly to

anticipated athlete success, than whether a sport or athlete were deemed gender-appropriate or not.

The visual cues selected for analysis in this study were all identified from previous research, as significant gender cues in sport (type of segment, wardrobe, interaction with others, camera angles, and various body shots). While significant results were identified either for athlete sex or type of sport for four of these visual cues, no significant results were identified for eight of them (e.g., interaction with a significant other, wardrobe, high camera angles). The lack of significant results in these areas does not negate previous research, but rather implies that those visual gender cues were not present in the analyzed sample of televised coverage of the 2010 Winter Olympic Games. Therefore, not all visual cues identified in previous research apply to all types of sports and sporting events when looking at differences between athlete sex and type of sport.

Finally, this research provided groundbreaking data in areas of sport that have not been previously researched. This study is the first to explore all sports in the Winter Olympic Games regarding gender stereotypes. Previous research has included select winter sports (e.g., figure skating, and hockey), but some winter sports were not yet represented in the gender and sport literature. Therefore, these findings provide much needed data about the Winter Olympic sports, and fill the existing gap in the literature.

In the analysis of the sex-typing of the Winter Olympic sports, this research sought to identify participant personal characteristics that led to sex-typing. Specifically, only age and gender were identified as common predictor variables for the “type” of person most likely to sex-type sport, and only for the feminine-typed sports. This information is valuable in determining

how sports are sex-typed. These results suggest that feminine-typed sports differ in some way from all other sports in the Winter Olympics.

During data analysis, interactions between athlete sex and type of sport were identified for numerous gender cues and attitudes. These interactions expanded upon the previous body of literature, which identified specific gender-appropriate and gender-inappropriate sports (Hardin & Greer, 2009; Koivula, 2001). These interactions provide support that media portrayals and audience attitudes alike, differ for gender-appropriate versus gender-inappropriate sports, based on the interaction of type of sport and athlete sex.

Some measures in this research were designed to gather more specific data about gender cues. This research introduced a “social-role” measure for both masculine and feminine adjectives directly used to describe the athlete. These adjectives further clarified the audience’s exposure to gender cues, and allowed for interesting qualitative information regarding female athletes participating in snowboarding, for example. While a comment “theme” could technically be coded as masculine, the specific social-role adjective often emphasized the femininity of the female athlete. Also in the survey portion of this research, media consumption was measured differently than in previous research. Results from the present research directly analyzed media consumption means to the specific athletic events. Therefore, these findings are not based on expectations of sport enthusiasts but rather expectations of snowboarding and figure skating enthusiasts. Arguably, generic sport enthusiasts form attitudes from high levels of exposure to masculine sports in the media (e.g., football and basketball). Therefore, this distinction could result in different results.

The holistic approach to this study also allowed for a more detailed understanding of the Winter Olympic sports, in relation to audience attitudes and media portrayals. Similarities in

gender cues of televised media content and audience attitudes about the same sports and athletes were found. Therefore, this research suggests that audience attitudes and media portrayals of winter sports are congruent. Masculine winter sports were defined as having increased speed, athleticism, and athlete risk; the media portrayed snowboarding (a masculine sport) as more athletic and dangerous both visually and verbally than figure skating (a feminine sport); and the media audience perceived athletes who participated in snowboarding as significantly more aggressive and strong than athletes who participated in figure skating. Similarly, feminine-typed sports were defined as having aesthetic and physical beauty, and increased emotion; figure skaters (a feminine sport) were portrayed as more emotional and sexy in the televised coverage; and the media audience perceived figure skaters to be more emotional and aesthetically graceful. Therefore, gender stereotypes about masculine and feminine sports were congruent in both televised coverage, and audience attitudes.

Limitations

Limitations in this research exist in terms of methodology and scope. Overall, the findings from this research only apply to the 2010 Winter Olympic Games and athletes. Winter Olympic Games in future years will possibly involve additional sporting events. Furthermore, the athletes, medal counts, successes/failures, judging regulations, host countries, spectators, and venues will all differ. The competing athletes in future Games will also differ in appearance, personality, and skill. These changes may result in different audience perceptions and media portrayals of the Games and the athletes.

While findings are presented in this study for both media content and audience perceptions of athletes and sports, this research does not suggest causation. There are likely numerous factors that lead to the formation of audience attitudes about gender and sport. This

research only explores the similarities and differences in the media content and audience attitudes.

These findings also only apply to the specific winter sports included in this study. Portions of the data analysis only explored a single masculine sport and a single feminine sport. The findings cannot be generalized to all masculine or feminine winter sports, or all sports in general. For the content analysis data, only primetime televised coverage was analyzed. Media audiences are exposed to televised gender cues in sport outside of primetime (e.g. news highlights, and coverage at other times of day), and are exposed to gender cues in other forms of media (e.g., print, online, and social).

The convenience nature of the survey distribution indicates that findings from this research cannot be generalized to other populations. A probability sample is necessary to make such assumptions. Furthermore, these results are only applicable to the specific sample surveyed in this research. While survey participants represented 44 states, it is unknown whether participants reside in areas where winter sports are popular.

Finally, results from this survey and content analysis are only applicable to media coverage and audience attitudes about American athletes. Although athletes representing other nations were not excluded from the content analysis sample, American media likely skew the amount of coverage involving American athletes. Furthermore, attitudes about winter sports may well differ from nation to nation. For example, Canadian attitudes about winter sports probably differ from American attitudes due partially to climate and exposure. These limitations provide a roadmap for future research in gender and sport.

Implications for Additional Research

Since this research provides groundbreaking data for a large group of winter sports, additional research on the winter sports is necessary. Longitudinal research on the Winter Olympics is necessary to determine if the trends identified here apply to all Winter Olympic Games, or just the Games in 2010. This research also only analyzed a single masculine and feminine sport. Therefore, additional research should explore all identified masculine and feminine sports (winter and non-winter) to determine if results remain consistent. Also, an international survey would better assess how audience attitudes about winter sports differ by nationality, and the nationality of the athlete. Furthermore, the analysis of other media sources is necessary, as they also provide exposure to gender cues in sport.

In regards to the survey sample, similar research using a more representative sample of the population is necessary. Furthermore, the climate of research participants was not collected during data collection. Arguably, research participants in colder climates feel differently about winter sports than participants in warmer climates. Although research participants did indicate which state they currently live in, some states (e.g. New Mexico, Arizona, Colorado) have regions with both cold and warm climates. Finally, some research participants may currently live in a warm climate but may have spent a significant amount of time in a colder climate. Therefore, previous participation in, or exposure to, any winter activities should also be considered for measurement in future research.

Since this research is the first to explore research participant characteristics in relation to sex-typing, additional survey research is necessary. Additional research could identify trends within mainstream sports (e.g. baseball, basketball, and football) and summer sports (e.g. track

and field, gymnastics, and swimming). Furthermore, additional predictor variables should be included in the analysis to determine how sports are sex-typed.

This research added multiple winter sports to the list of existing masculine, feminine, or gender neutral sports. Athlete qualities were suggested that assist with how these “types” of sports are defined. An in-depth survey would be useful in determining an exhaustive list of athlete qualities that assist with the sex-typing of sport. Specifically, how do sport consumers themselves define “masculine sports”, “feminine sports”, and “gender-neutral sports”?

This research only explored audience attitudes regarding social roles. Additional survey and/or experimental research is necessary to determine if other audience attitudes (e.g., perceptions of likeability, endorsement effectiveness, and credibility) differ by type of sport and athlete sex. Specifically, are athletes who participate in gender-appropriate sports viewed more favorably than athletes who participate in gender-inappropriate sports? Additional research would clearly allow those working in the sport industry and sport media to identify how athletes are going to be perceived by the media audience.

Conclusion

This research provides an in-depth understanding of winter sports, for which a minimal amount of previous research exists. Therefore, the findings presented here are important to the body of literature on gender and sport. Findings from the survey and content analysis data in this study suggest that survey participant attitudes about the Winter Olympic sports and athletes were similar to the gender cues depicted in the televised coverage of the Winter Olympic Games. Therefore, gender cues were similar to the gender attitudes reflected in society. Clearly, gender cues and gender attitudes vary by athlete sex and type of sport. An understanding of how sports are portrayed and perceived could potentially influence sport marketing, athlete endorsements,

athlete wardrobe, and other decisions made by the media, athletes, and individuals working in the sport industry. In conclusion, sport is a sector of society with numerous expectations regarding gender. These expectations are reflected in society and in the media's portrayal of male and female athletes participating in masculine and feminine sports.

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APPENDIX A: Survey

1: Olympic Media Use

1: Overall, how closely did you follow the televised action of the 2010 Winter Olympic Games during the 17 days it was broadcasted on NBC and affiliates?

- None
- A few days
- Several days
- Some every day
- Multiple hours every day

2: Approximately how many hours on average each day did you spend using the following types of media to follow the 2010 Winter Olympic Games?

	None	30m	1h	1.5h	2h	2.5h	3h	3.5h	4h	4.5h	5h	5+h
Televised Broadcast of the Olympics (NBC)	<input type="radio"/>											
News reports about the Olympics (newspaper, TV, magazines, and online)	<input type="radio"/>											

2: Perception of Winter Olympic Sports:

1: On each line below, indicate your perception of the masculinity/femininity of each Winter Olympic sport listed:

	1	2	3	4	5	6	7
	Highly Masculine						Highly Feminine
Alpine Skiing	<input type="radio"/>						
Biathlon	<input type="radio"/>						
Bobsleigh	<input type="radio"/>						
Cross-country Skiing	<input type="radio"/>						
Curling	<input type="radio"/>						
Figure Skating	<input type="radio"/>						
Freestyle Skiing	<input type="radio"/>						
Ice Hockey	<input type="radio"/>						
Luge	<input type="radio"/>						
Skeleton	<input type="radio"/>						
Snowboarding	<input type="radio"/>						
Speed Skating	<input type="radio"/>						

2: On each line below, please indicate your opinion about how interesting the following 2010 Winter Olympic sports were to watch:

	1	2	3	4	5	6	7
	Not at all Interesting						Very Interesting
Alpine Skiing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Biathlon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bobsleigh	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cross-country Skiing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Curling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Figure Skating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Freestyle Skiing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ice Hockey	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Luge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Skeleton	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Snowboarding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Speed Skating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3: For each line below, please indicate how frequently you watched the televised coverage of the following sports during the 2010 Winter Olympic Games:

	1	2	3	4	5	6	7
	Never Watched						Watched Frequently
Alpine Skiing	<input type="radio"/>						
Biathlon	<input type="radio"/>						
Bobsleigh	<input type="radio"/>						
Cross-country Skiing	<input type="radio"/>						
Curling	<input type="radio"/>						
Figure Skating	<input type="radio"/>						
Freestyle Skiing	<input type="radio"/>						
Ice Hockey	<input type="radio"/>						
Luge	<input type="radio"/>						
Skeleton	<input type="radio"/>						
Snowboarding	<input type="radio"/>						
Speed Skating	<input type="radio"/>						

3: Perceptions of the Winter Athletes:

1: On each line below, indicate your perception about the physical strength of the 2010 Winter Olympic athletes competing in the following sports:

	1	2	3	4	5	6	7
	Not at all Physically Strong						Very Strong Physically
Men's Alpine Ski	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Men's Figure Skate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Men's Freestyle Ski	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Men's Luge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Men's Snowboard	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Men's Speed Skate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Women's Alpine Ski	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Women's Figure Skate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Women's Freestyle Ski	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Women's Luge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Women's Snowboard	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Women's Speed Skate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2: On each line below, indicate your perception about the aggressiveness of the 2010 Winter Olympic athletes competing in the following sports:

	1	2	3	4	5	6	7
	Not at all					Very	
	Aggressive					Aggressive	
Men's Alpine Ski	<input type="radio"/>						
Men's Figure Skate	<input type="radio"/>						
Men's Freestyle Ski	<input type="radio"/>						
Men's Luge	<input type="radio"/>						
Men's Snowboard	<input type="radio"/>						
Men's Speed Skate	<input type="radio"/>						
Women's Alpine Ski	<input type="radio"/>						
Women's Figure Skate	<input type="radio"/>						
Women's Freestyle Ski	<input type="radio"/>						
Women's Luge	<input type="radio"/>						
Women's Snowboard	<input type="radio"/>						
Women's Speed Skate	<input type="radio"/>						

3: On each line below, indicate your perception about the gracefulness of the 2010 Winter Olympic athletes competing in the following sports:

	1	2	3	4	5	6	7
	Not at all					Very	
	Graceful					Graceful	
Men's Alpine Ski	<input type="radio"/>						
Men's Figure Skate	<input type="radio"/>						
Men's Freestyle Ski	<input type="radio"/>						
Men's Luge	<input type="radio"/>						
Men's Snowboard	<input type="radio"/>						
Men's Speed Skate	<input type="radio"/>						
Women's Alpine Ski	<input type="radio"/>						
Women's Figure Skate	<input type="radio"/>						
Women's Freestyle Ski	<input type="radio"/>						
Women's Luge	<input type="radio"/>						
Women's Snowboard	<input type="radio"/>						
Women's Speed Skate	<input type="radio"/>						

4: On each line below, indicate your perception about the level of emotion shown by athletes competing in the following sports:

	1	2	3	4	5	6	7
	Not at all						Very
	Emotional						Emotional
Men's Alpine Ski	<input type="radio"/>						
Men's Figure Skate	<input type="radio"/>						
Men's Freestyle Ski	<input type="radio"/>						
Men's Luge	<input type="radio"/>						
Men's Snowboard	<input type="radio"/>						
Men's Speed Skate	<input type="radio"/>						
Women's Alpine Ski	<input type="radio"/>						
Women's Figure Skate	<input type="radio"/>						
Women's Freestyle Ski	<input type="radio"/>						
Women's Luge	<input type="radio"/>						
Women's Snowboard	<input type="radio"/>						
Women's Speed Skate	<input type="radio"/>						

4: Demographic Information:

1: What is your sex?

- Male
- Female

2: In what year were you born? _____

3: What is your ethnicity?

- White
- Black
- Hispanic
- American Indian
- Asian
- Other

4: What state do you live in? _____

5: What is your relationship status?

- Single
- Married
- Divorced
- Widowed

6: On the following items, rate your perception of yourself:

	1	2	3	4	5	6	7
	Strongly Disagree			Strongly Agree			
Affectionate	<input type="radio"/>						
Aggressive	<input type="radio"/>						
Athletic	<input type="radio"/>						
Compassionate	<input type="radio"/>						
Competitive	<input type="radio"/>						
Dominant	<input type="radio"/>						
Feminine	<input type="radio"/>						
Forceful	<input type="radio"/>						
Gentle	<input type="radio"/>						
Sympathetic	<input type="radio"/>						

5: General Sport and Media Use:

1: Approximately how many hours on average each day do you spend:

	None	30m	1h	1.5h	2h	2.5h	3h	3.5h	4h	4.5h	5h	5+h
Watching news and/or information programs on TV	<input type="radio"/>											
Watching Sports on TV	<input type="radio"/>											
Watching entertainment programs on TV	<input type="radio"/>											
Reading about sports in newspapers, magazines or online	<input type="radio"/>											

2: Approximately how many hours on average each day do you currently spend participating in the following:

	None	30m	1h	1.5h	2h	2.5h	3h	3.5h	4h	4.5h	5h	5+h
Competitive sports (e.g., baseball, tennis)	<input type="radio"/>											
Recreational activities or exercise (e.g., running, weightlifting)	<input type="radio"/>											

3: Which of the following options best describes your highest level of competition in competitive sports?

- Never played
- Played before high school
- Played in high school
- Played in college
- Played professionally

APPENDIX B: Codebook

Inclusion Criteria: Any uninterrupted segment of coverage of the dominant 2010 Winter Olympic athlete or one or more coactive 2010 Winter Olympic sports. The segment must have been telecast on NBC from the dates of February 12 through February 28, 2010, during the hours of 6:00 PM to 11:00 PM Central Standard Time. The athlete must be competing, preparing for competition, recovering from competition, or interviewing about competition to be included.

Exclusion Criteria: Television coverage will not be coded if it does not focus on one or more of the 2010 Winter Olympic sports or one or more of the 2010 Winter Olympic athletes. For example, television coverage about Canada, the city of Vancouver, or of the “athlete village” will not be included. Coverage of the athlete that does not involve competition, preparing for competition, recovering from competition, or interviewing about competition will be excluded (e.g., coverage from the opening and closing ceremonies will be excluded). Televised coverage not from the 2010 Winter Olympics will not be coded (for example, taped footage of athletes from previous Olympics will not be coded). 2010 Winter Olympic coverage that did not originally air between the hours of 6:00 PM to 11:00 PM will not be coded. Only individual Olympic sports will be coded including men’s and women’s alpine skiing, figure skating, freestyle skiing, luge, snowboarding, and speed skating. In figure skating, pairs will not be coded because that is not considered to be an individual sport. In individual sports where more than one athlete is shown competing within the same segment (e.g., speed skating, or during warm-ups for figure skating) only the dominant athlete (defined as the athlete receiving the dominant amount of televised coverage and commentary) will be considered for coding. Also excluded is all advertising airing during the primetime 2010 network Winter Olympic coverage. This includes any ad that features an athlete or a sport, even if it was a recap of the day’s events (such as the daily Visa commercials used during this coverage).

Unit of Analysis: The unit of analysis will be the dominant Olympic athlete within any uninterrupted segment of televised coverage of the 2010 Winter Olympic Games that is a competitor in one of the following sports: men’s and women’s alpine skiing, figure skating, freestyle skiing, luge, snowboarding, and speed skating. An interruption will be defined by commercial breaks, a shift from one sport to another sport, a shift from one competitor or group of competitors to another, and/or a shift from one type of video segment to another. Type of video segment will be defined as live athletic coverage (athletic coverage of a 2010 Olympic athletic event that is shown to the media audience for the first time), taped replay (athletic coverage of a previously aired 2010 Olympic athletic event, such as the replay of an athlete’s performance in a previously aired athletic event), features, interviews, studio commentary, studio highlights, medal ceremonies, and athlete awaiting scores. For example, when televised coverage shifts from an athlete competing live to an athlete awaiting scores, a new unit of analysis will

begin. Also, when televised coverage shifts from one athlete competing live to another athlete or sport in live competition, a new unit of analysis will begin.

Visual Cues:

- 1: **Wardrobe:** Specify the type of wardrobe worn by the athlete during the segment. Only code for one category unless the athlete switches the type of wardrobe worn in the middle of the segment. In this case, record both types of wardrobes worn within the segment.
 - 1=street clothes: The athlete is not wearing any competition gear
 - 2=Modified competition gear: The athlete has removed or added an article of clothing (e.g., a helmet, jacket, skis, skates) but is still wearing some of the athletic gear used in competition
 - 3=Full competition gear: The athlete is depicted in the full wardrobe he or she would compete in.
 - 4=Other: Please Specify _____
 - 5=Can't tell: During the segment, the type of athletic wardrobe cannot be determined.

- 2: **Interaction with others:** Tally the number of times the athlete in the segment interacts with the following types of individuals. To code for this category, record a 0 if the athlete does not interact with the type of person within the segment, a 1 if the athlete interacts with the type of person once within the segment, a 2 if the athlete interacts with the type of person twice within the segment, and so on. Record for all types of interactions listed below:
 - ___1: Family member
 - ___2: Friend
 - ___3: Significant other
 - ___4: Coach
 - ___5: Another Olympic Athlete/teammate
 - ___6: Other (please specify)
 - ___7: Can't tell (there is an interaction, but the athlete's relationship with that individual is not clear either visually or verbally).

- 3: **Camera Angle:** Tally the number of times each camera angle is used to show the athlete in the segment. To code for this category, record a 0 if the camera angle is not used to show the athlete within the segment, a 1 if the camera angle is used once within the segment, a 2 if the camera angle is used twice within the segment, and so on. Record for all types of camera angles listed below:
 - ___1: High camera angle: The camera looks down on athlete
 - ___2: Eye-level camera angle: The camera is at eye level with the athlete depicted in the segment
 - ___3: Low camera angle: The camera looks up on the athlete

4: **Body Shots:** Tally the number of types each type of body shot is used to show the dominant athlete within the segment. The body shot must last for a minimum of two seconds to be coded. To code for this category, record a 0 if the body shot is not used, a 1 if the body shot is used once, a 2 if the body shot is used twice, and so on. Record for all types of body shots listed below:

- ___1: Close up of athlete Face
- ___2: Close up of athlete buttocks
- ___3: Close up of athlete chest
- ___4: Full shot of athlete backside

Verbal Cues:

5: **Sex of Commentators:** Type a number (e.g., 0, 1, 2, 3, etc.) next to each sex to identify how many male and/or female commentators there were in the segment. Commentators will be identified as any non-competitor in the 2010 Winter Olympic Games speaking about the performance of an athlete or team that is competing in the Games.

- ___1: Male
- ___2: Female
- ___3: Can't tell

For commentary theme and social role adjectives, code whether a male or female commentator says the comment. Tally marks should be used, since some themes may be repeated within a single segment, as there may be multiple comments within each segment. Use a "0" if the theme or adjective is not used in the commentary in the segment, by a male or female commentator. Use a "1" if the theme or adjective is used once within each segment, a "2" if the theme or adjective is used twice within each segment, and so forth. Record the presence of each theme or adjective for both male and female commentators.

6: **Commentary Theme:** Tally the number of time each theme is used and the sex of the commentator for each comment within the segment:

- ___Male ___Female

1: **Physical appearance:** comment focuses on the athlete's physical appearance unrelated to athletic ability (e.g., hair style, facial features, costume, etc.)

- ___Male ___Female

2: **Aesthetic athletic ability:** comment focuses on the athlete's aesthetic beauty in relation to athletics (e.g., symmetry, agility, flexibility, artistic ability)

- ___ Male ___ Female 3: **Personal life/Relationships:** Comment focuses on the athlete's love life in a way that defines him/her as a heterosexual or a homosexual, on the athlete's personal life (e.g., parents, siblings, non-athletic hobbies, relationships with other athletes, hometown, or emotional hardships).
- ___ Male ___ Female 4: **Athletic Training/Preparation:** Comment focuses on the athlete's training and preparation for the Olympic Games, including previous athletic experiences
- ___ Male ___ Female 5: **Performance/Athletic Ability:** Comment focuses on the athlete's athletic performance, strength, power, and/or athletic ability in relation to The Games.
- ___ Male ___ Female 6: **Athletic Injury:** Comment focuses on physical adversity faced by the athlete in relation to overcoming athletic injuries.
- ___ Male ___ Female 10: **Other:** Please specify

7: **Social Role Adjectives:** This category will code the specific adjectives used to describe the most prominent athlete within the segment. Tally the number of times each type of adjective is used and the sex of the commentator for each applicable comment within the segment.

- ___ Male ___ Female 1: **Aesthetic Beauty:** (e.g., artistic, inventive, flexible, graceful, poise)
- ___ Male ___ Female 2: **Affection/Compassion:** (e.g., warm, friendly, sociable, sincere, charismatic, sympathetic, concerned, humble)
- ___ Male ___ Female 3: **Emotion:** (e.g., passionate, delighted, distressed, satisfied)
- ___ Male ___ Female 4: **Gentleness:** (e.g., soft, mellow, calm, serene)
- ___ Male ___ Female 5: **Physical Beauty:** (e.g., attractive, good looking, nice smile)

- ___ Male ___ Female 6: **Aggression:** (e.g., violent, hostile, angry, harsh, callous)
- ___ Male ___ Female 7: **Athleticism:** (e.g., physical, energetic, healthy, sporty, active, talented)
- ___ Male ___ Female 8: **Competitive Spirit:** (e.g., blood thirsty, cut throat, confidence, courageous, dangerous)
- ___ Male ___ Female 9: **Dominance:** (e.g., sovereign, in control, leader)
- ___ Male ___ Female 10: **Physical strength/Muscularity:** (e.g., power, force, speed)
- ___ Male ___ Female 11: **Other:** (Please specify)

APPENDIX C: Intercoder Reliability for Content Analysis Variables

<u>Variable</u>	<u>Cohen's kappa</u>
Wardrobe	.88
Interaction with others	.91
High camera angle	.71
Low camera angle	.76
Body shot: Face	.82
Body shot: Buttocks	.94
Body shot: Chest	1.00
Body shot: Backside	.76
Type of segment	.94
Sex of commentators	1.00
Commentary themes overall	.82
Physical appearance	.82
Aesthetic athletic ability	.79
Personal life/relationships	.82
Athletic training/preparation	.79
Performance/athletic ability	.76
Athletic injury	.88
Social role adjectives overall	.77
Aesthetic beauty	.82
Affection/Compassion	.74
Emotion	.79
Gentleness	.76
Physical beauty	.82
Aggression	.79
Athleticism	.74
Competitive spirit	.71
Dominance	.68
Physical strength/muscularity	.82
Overall reliability	.82
Reliability for visual cues	.88
Reliability for verbal cues	.80