

8-1-2011

Media portrayals of athletes in televised sports: a content analysis of ice hockey broadcasts during the 2010 Winter Olympic Games

Heather A. Muir

Follow this and additional works at: <http://digscholarship.unco.edu/dissertations>

Recommended Citation

Muir, Heather A., "Media portrayals of athletes in televised sports: a content analysis of ice hockey broadcasts during the 2010 Winter Olympic Games" (2011). *Dissertations*. Paper 217.

This Text is brought to you for free and open access by the Student Research at Scholarship & Creative Works @ Digital UNC. It has been accepted for inclusion in Dissertations by an authorized administrator of Scholarship & Creative Works @ Digital UNC. For more information, please contact Jane.Monson@unco.edu.

© 2011

HEATHER A. MUIR

ALL RIGHTS RESERVED

AUGUST 2011

UNIVERSITY OF NORTHERN COLORADO

Greeley, Colorado

The Graduate School

MEDIA PORTRAYALS OF ATHLETES IN TELEVISED SPORTS:
A CONTENT ANALYSIS OF ICE HOCKEY BROADCASTS
DURING THE 2010 WINTER OLYMPIC GAMES

A Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy

Heather A. Muir

College of Natural and Health Sciences
School of Sport and Exercise Science
Sport Administration

August, 2011

This Dissertation by: Heather A. Muir

Entitled: *Media Portrayals of Athletes in Televised Sports: A Content Analysis of Ice Hockey Broadcasts during the 2010 Winter Olympic Games*

has been approved as meeting the requirement for the Degree of Doctor of Philosophy in College of Natural and Health Sciences in School of Sport and Exercise Science, Program of Sport Administration

Accepted by the Doctoral Committee

Dianna P. Gray, Ph.D., Chair

David K. Stotlar, Ed.D., Committee Member

Megan Babkes Stellino, Ed.D., Committee Member

Angela C. Henderson, Ph.D., Faculty Representative

Date of Dissertation Defense _____

Accepted by the Graduate School

Robbyn R. Wacker, Ph. D.
Assistant Vice President for Research
Dean of the Graduate School & International Admissions

ABSTRACT

Muir, Heather A. *Media Portrayals of Athletes in Televised Sports: A Content Analysis of Ice Hockey Broadcasts during the 2010 Winter Olympic Games*. Published Doctor of Philosophy dissertation, University of Northern Colorado, 2011.

The Winter Olympic Games are probably the best time for casual sports fans to watch women's ice hockey at its finest, and the commentary of sports broadcasters can greatly shape viewers' impressions of the sporting event. This study explored ways in which the NBC broadcasts of the 2010 Winter Olympic ice hockey tournament differed based on the sex of the ice hockey players including differences in production value, the use of gendered language, and the commentators' portrayals of female and male ice hockey players. The primary method for ascertaining differences was content analysis using a mixed-methods approach to analyze the descriptions of athletes. Chi-Square analysis was used to compare category frequencies between female and male athletes. Results showed similar levels of production value other than the use of the telestrator in which all uses were during the men's games. Gendered language was also present. For example, the women's competition was gender marked frequently as "women's hockey," there were many references to female players with male-gendered terms such as "defensemen," and commentators named female players by just their first names. Finally, the coding of the informative, descriptive, and evaluative commentary showed that female athletes were portrayed as athletes first with the top-ranked description being their fine technical skills. However, commentators also focused on the female players'

emotions and personalities indicating that these aspects also contribute to their success and thus perpetuating that gendered stereotype in sports.

Keywords: media portrayals of athletes, women's ice hockey, gender stereotypes, gendered language, content analysis, mixed-methods

ACKNOWLEDGMENTS

First, I would like to acknowledge the guidance, feedback, and support from my doctoral committee, especially my advisor, Dianna Gray. I have always known that I wanted to be a teacher, and I have learned much from you that I will take with me as I begin my new adventures as a professor. Thank you for your patience and understanding throughout this long process. Thank you to David Stotlar and Megan Babkes Stellino for passing on your knowledge both inside and outside of the classroom. Susan Hutchinson provided feedback and support in the early part of the process, and I appreciate your willingness to serve on my doctoral committee initially. Finally, I am most grateful that Angela Henderson agreed to join my committee for the final phase. Each of my committee members brought a unique expertise to my dissertation for which I will always be thankful. In addition to my formal committee members, there are a few other faculty members who were instrumental in zoning in on a dissertation topic. James Gould and Diane Gaede were kind enough to let me bounce around some ideas with them.

In addition to my formal class work and research, I gained valuable experience working in the Dean's Office of the College of Natural and Health Sciences. I appreciate the financial support through my assistantship as well as the opportunity to learn about the administrative side of academia. Thank you to the staff for their ongoing support throughout my educational experience.

Next, I'd like to acknowledge my fellow students who have walked the halls of Gunter Hall with me. First and foremost, I'd like to acknowledge Crystal Southall who first suggested that I pursue a content analysis of the Olympic hockey tournament. Next, I'd like to express my appreciation for my co-coders involved in both my pilot study and main study: Lamar Reams, Jake Patterson, Callie Byrne, Tariq Ahmad, Meaghan Edison, and Winston Pappas. Finally, I will be eternally grateful for the unending support, friendship, and dog sitting from Sheri Treadwell. Buster and I will miss you greatly!

I have met some amazing mentors and friends through my involvement in the North American Society for the Sociology of Sport and the North American Society for Sport Management. Brenda Riemer and Leigh Ann Danzey Bussell have been tremendous mentors, supporters, and friends as I have journeyed through the dissertation process. Next, I never thought I'd meet an academic who was as big of a hockey fan as me until I met Naila Jinnah at a NASSS conference. Our common interests in hockey, social media, and sports will lead to a long-lasting academic and personal relationship. Finally, I must acknowledge my dear friend Olan Scott. I was fortunate to hear him speak at a NASSS conference and learn about his dissertation study on the television coverage of the NBA Finals. Although we covered different televised sports and focused on different aspects of the coverage, our methodologies were quite similar. Olan provided valuable tips on transcribing television commentary that saved me much time. I owe him so much for helping me through my methodology. Once again, I have found a fellow researcher with whom I hope to have a long-lasting academic and personal relationship.

Last, but not least, I must acknowledge the love and support from my parents as I pursued what they hoped would be my last academic degree. It was my parents who first

put a golf club in my hand, took me to the bowling alley, and supported me when I wanted to be the first girl on the youth baseball league in my hometown. I knew no boundaries growing up. The love of sports came through my father, and the love of learning came through my mother who began her collegiate pursuits about the same time I did. She worked her way through the ranks and finally earned her doctoral degree ten years ago. Thanks for showing the way, Dr. Mom!

TABLE OF CONTENTS

CHAPTER		PAGE
I.	INTRODUCTION	1
	Need for the Study	
	Statement of the Purpose	
	Research Questions and Hypotheses	
	Significance of the Study	
	Delimitations	
	Limitations	
	Definition of Terms	
II.	REVIEW OF LITERATURE	12
	History of Women in Sport	
	Timeline of U.S. Women in Sports	
	Historical Eras of Women's Sports	
	U.S. Women's Sport Participation Rates	
	Women's Participation in the Modern Olympics	
	Women's Ice Hockey in the United States	
	Gender and Sport	
	Feminism and Sport Media	
	Gender Stereotypes in Sport	
	Gender-Appropriate Sports	
	Gendered Language in Sport	
	Mass Media and Sport	
	Growth of Televised Sports	
	Television Coverage of the Olympics	
	Analyzing Televised Sports	
	Television Portrayals of Female Athletes	
	Quality of Media Coverage	
	Description of Athletes	

CHAPTER		PAGE
III.	METHODOLOGY	55
	Content Analysis	
	Definition and Usage	
	Quantitative and Qualitative Methods	
	Steps in Content Analysis	
	Research Design	
	Data Collection	
	Sampling Frame	
	Sampling Scheme	
	Data Analysis	
	Research Question #1	
	Research Question #2	
	Research Question #3	
	Validity and Reliability	
	Pilot Study	
	Pilot Study Results	
IV.	TELEVISION PORTRALS OF OLYMPIC ICE HOCKEY PLAYERS: ADAPTING A MIXED-METHODS APPROACH TO CONTENT ANALYSIS	92
	Theoretical Background	
	Sport Gender Stereotypes in Media	
	Methods for Analyzing Media Portrayals of Athletes	
	Methodology	
	Steps in Traditional Content Analysis	
	Qualitative Content Analysis	
	Data Collection	
	Sampling Frame	
	Sampling Scheme	
	Mixed-Methods Approach to Content Analysis	
	Phase One: Qualitative	
	Phase Two: Quantitative	
	Discussion	
	Decision Making	
	Developing a Classification Scheme	
	Traditional versus Mixed-Methods Content Analysis	
	Future Content Analysis Studies	

CHAPTER		PAGE
V.	DIFFERENTIAL TELEVISION COVERAGE AND PORTRAYALS OF OLYMPIC ICE HOCKEY PLAYERS: A CONTENT ANALYSIS	130
	Literature Review	
	Feminism and Sports Media	
	Quality of Television Coverage	
	Use of Gendered Language in Sports	
	Television Portrayals of Athletes	
	Methodology	
	Data Collection	
	Data Analysis	
	Results	
	Research Question #1	
	Research Question #2	
	Research Question #3	
	Discussion	
	Production Value	
	Use of Specific Gendered Language	
	Descriptions of Female and Male Hockey Players	
	Practical Implications	
	Significance of the Study	
	Limitations	
	Future Directions	
	REFERENCES	173
	APPENDIX: CODING PROCEDURES AND TALLY SHEETS.....	185

LIST OF TABLES

TABLE	PAGE
1. Ice Hockey Games Selected via Stratified, Purposive Selection	70
2. Inter-coder Reliability for Pilot Study	86
3. Intra-coder Reliability for Pilot Study	87
4. Inter-coder Estimates of Reliability for Pilot Study	88
5. Intra-coder Estimates of Reliability for Pilot Study	88
6. Ice Hockey Games Selected via Stratified, Purposive Selection	107
7. Sample Transcription of Commentary from Women's Gold Medal Game...	109
8. Sample Identification of Players and Individual Assertions.....	110
9. Sample Identification of Themes	110
10. Final List of Categories including Definitions and Examples	114
11. Example of Categorization of Assertions	121
12. Top Ten Frequently Mentioned Categories of Commentary by Sex of Player.....	122
13. Ice Hockey Games Selected via Stratified, Purposive Selection	148
14. Chi-Square Analysis Results Regarding Production Value of NBC Broadcast	150
15. Chi-Square Analysis Results Regarding the Use of Gendered Language.....	152
16. Chi-Square Analysis Results Regarding the Portrayals of Hockey Players.....	155
17. Top Ten Frequently Mentioned Categories of Commentary by Sex of Player.....	165

LIST OF FIGURES

FIGURE	PAGE
1. Sport Consumer Decision-Making Process	5
2. Mixed-Methods Approach to Content Analysis	62
3. Effects of Different Situations on Communication Content.....	64
4. Effects of Different Sources on Communication Content	65
5. Mixed-Methods Approach to Content Analysis	107

CHAPTER I

INTRODUCTION

While watching the broadcast of the 2010 Winter Olympic Games, I was very pleased to see girls' and women's ice hockey featured in several television commercials. One featured a mom who was counting up the ways she would spend the money that she saved by shopping at Wal-Mart, including her daughter's ice hockey fees for the next ten years. Visa featured several Olympic athletes including four-time Olympian Angela Ruggiero from the USA women's ice hockey team. Fellow Olympian Julie Chu participated in a public service announcement for the U.S. Census. But the commercial that stood out in my mind was a spot for McDonald's that aired during the NBC broadcast of the Opening Ceremonies on February 12, 2010. This commercial featured a girls' youth hockey team, and at the conclusion of a game the coach felt that even though his team had lost, he should take them to McDonald's:

Guys....we came up a little short today. We went into the game with one goal...and unfortunately that's how we finished the game....with one goal. But I'm proud of you. You played with heart. You played like Olympians. So today...we eat like Olympians.

On the surface this appears to be a wonderful commercial highlighting girls' youth hockey. But when one takes a closer look, the commercial can be viewed quite differently. First, there is an adult male coaching the young girls. From a feminist sports critic's viewpoint this reinforces the dominant role men play in the sport of ice hockey in that only men are qualified to be coaches. Second, the coach of this girls' youth hockey

team called his players “guys” even though they were clearly adolescent girls. Obviously the actor playing the coach knew he was addressing girls. The writers of this television commercial easily could have written “girls” or “team” into the text of the commercial, but instead they chose to use a male-gendered term to address these young girls. Third, hockey players wear a lot of protective equipment, and often it can be difficult to tell the sex of the players on the ice. The producers selected young female actors with long ponytails to clearly identify the player’s sex and reinforce the players’ femininity. Finally, the theme of the commercial was that it did not really matter whether the female players won or not, as long as they played with emotion (another feminine trait).

Feminist sports media critics have published research on the media’s role in stereotyping female athletes (Daddario, 1998; Duncan & Brummett, 1991; Duncan & Hasbrook, 1988; Kane & Greendorfer, 1994). Through this critical feminist lens, one *could* say that the producers of the commercial framed this particular advertisement to reinforce male dominance in ice hockey by casting a male coach of female players. Likewise, the framing of this commercial *could* be seen as an attempt to trivialize and marginalize women’s accomplishments in hockey by using male-gendered terms to refer to female players and by emphasizing the young players’ femininity with their long hair and passionate play.

Need for the Study

Mass media can be a powerful influence on sport consumption (Coakley, 2007). Media tell viewers which sports are important and valuable in our society by providing media coverage of some sports and not others. Spectators in attendance at sporting events have their own eyes and ears to interpret the action on the field, but fans who observe

sporting events via television rely upon the producers, directors, and on-air personalities to interpret the events. This is what Altheide and Snow (1979) termed the theory of “media logic.” The characteristics of the medium of television help shape what the viewers come to see as the reality of the television show. These characteristics can include the content as well as what Altheide and Snow referred to as the “grammar” of the medium: “Each electronic medium has its own unique grammar, and while audiences may not be sophisticated in the knowledge of that grammar, they have an intuitive sense of the differences among these media” (p. 36). For the television medium this grammar might include: the use of time, scheduling, nonverbal communication, plots, characters, action, and dialog (Altheide & Snow, 1979). For televised sports, this list also includes the choice of camera angles, the use of on-screen graphics, and slow-motion replays (Duncan & Messner, 1998).

No matter the content, nearly all television programming is driven by stories and narratives (Altheide & Snow, 1979). This is also true in televised sport where commentators provide narratives to help viewers interpret the events on the field. It is safe to say that what the fans watching on television see and hear is controlled by the medium. Mediated sports fans make their own interpretations of the events, but this assessment is influenced by how the media have framed the events before delivering the product to the consumer.

Why should this matter to sport marketers? Today’s world is full of numerous entertainment and recreation options from which people can choose to spend their free time. For sports fans who enjoy watching televised sports, they have many options on hundreds of channels these days. When making a decision about what to watch, sport

consumers go through a particular decision making process. Figure 1, based on Mullin, Hardy, and Sutton's (2000) model, shows the multi-stage consumer decision-making process for sports fans. First, fans recognize that they have a need to fulfill such as what sport to watch on a wintery Saturday afternoon that will be entertaining and exciting. Next, fans seek out information about available options by consulting a television guide, for example. From all of the available options, fans need to evaluate their options and make a choice. This initial evaluation can be driven by prior experiences and personal values. After the fans watch their chosen sporting event, they will evaluate their choice and determine whether or not this choice fulfilled their initial needs. This second evaluation is particularly significant because if fans felt that their choice filled their needs, they are more likely to choose to watch similar events again in the future. If, however, their choice did not fulfill their needs, then they are less likely to make the same choice in the future.

In the case of televised sports, the fans' level of satisfaction with their choice may be directly influenced by the production value of the televised sporting event as well as to the degree that the commentators made the event interesting and exciting. For new, emerging, and non-gender conforming sports like women's ice hockey, marketers can design marketing campaigns to draw fans to the stands. For potential fans, the marketers can paint glowing images of the sport to draw fans to women's ice hockey games. However, if the mediated images of the sport are incongruent with the images the marketers are cultivating, then the media may be seen as an external threat to the marketing campaign. Marketers need to be aware of and understand the media portrayals of their sport as well as how media can help or hinder their efforts.

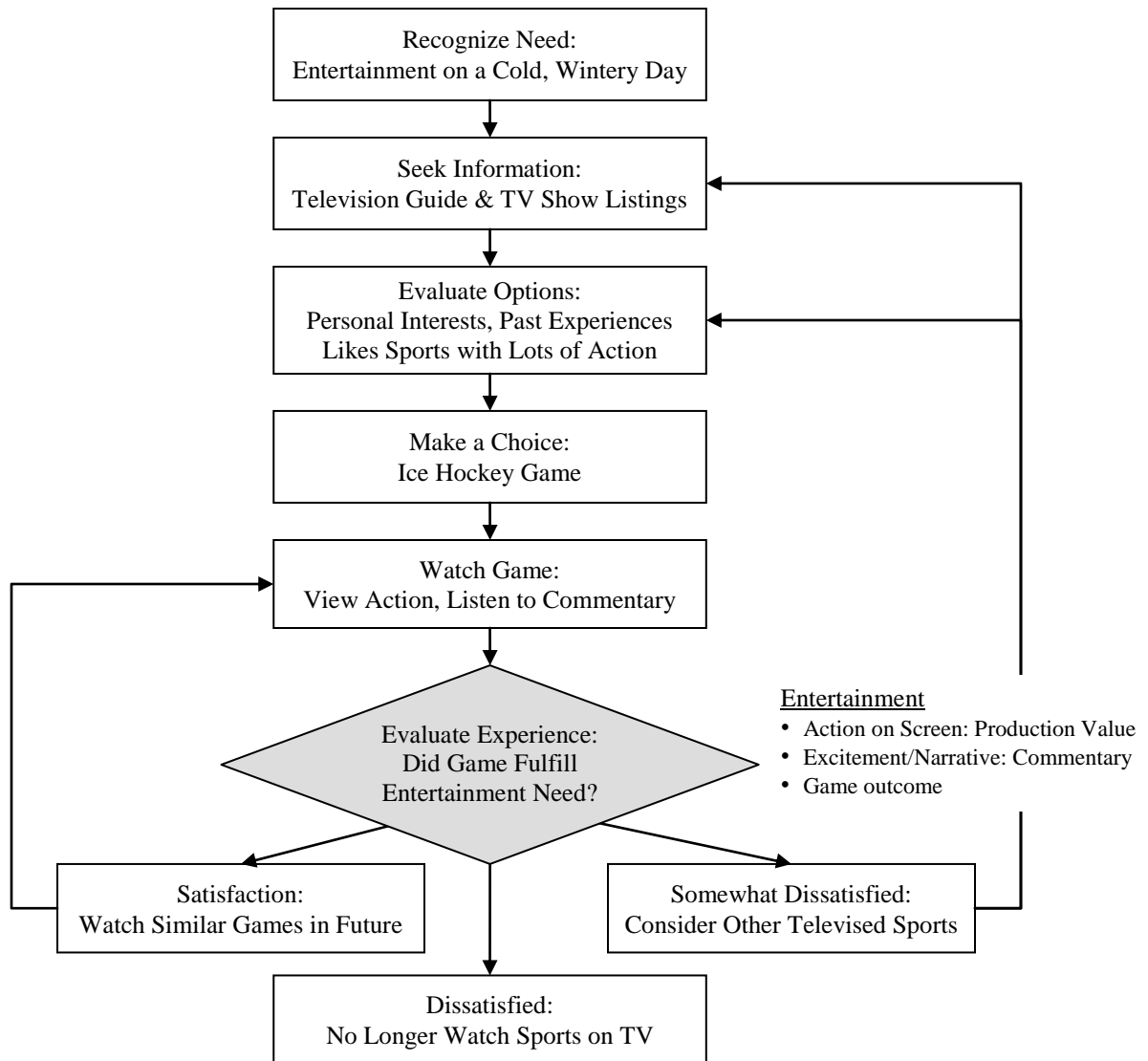


Figure 1. Sport consumer decision-making process. Depicts the various steps a sports fan would go through when deciding what to watch on television and whether or not that fan would watch the same sport again. Based on the decision-making model developed by Mullin et al. (2000).

As I tell people about my research, many are amazed that women play ice hockey. Due to my enthusiasm they frequently ask when and where they can see a women's ice hockey game. The Winter Olympic Games are probably the best time for these casual sports fans and members of the general public to watch women's ice hockey at its finest. During the 2010 Winter Olympic Games, women's ice hockey games were televised in

the United States on one of three cable networks: USA Network, MSNBC, and CNBC. Viewers had the opportunity to see Team USA play five games and win the silver medal. Several people I know watched the women's games because of my interest and studies. I wonder what these and other first-time viewers of women's ice hockey thought of the women's performances on the ice. Did they see the women as trailblazers in a typically masculine sport? Did they think that the women's form of the game was easier, less exciting, or less legitimate than the men's game? The television broadcasts of the 2010 Winter Olympic Games may have been the only exposure that these viewers had to women's ice hockey. As such, one must wonder what lasting impressions these viewers have of the sport and whether or not they would watch more women's ice hockey games.

Statement of the Purpose

The purpose of this study was to analyze the television broadcasts of ice hockey on the NBC family of networks during the 2010 Winter Olympic Games in order to determine how the network portrayed female and male hockey players. A feministic sports criticism framework (Daddario, 1998) was employed. If the players were portrayed differently based on the athletes' sex, the researcher explored possible sources of variation including the sex and the professional backgrounds of the commentators. Differential portrayals *could* impact the viewing public's impressions of women's ice hockey as well as their decision making process when choosing which sporting events to watch or attend in the future.

In order to examine the media portrayals, quantitative and qualitative content analysis were used to look at three elements that may impact viewers' impressions of ice hockey: (1) the production value of the broadcasts; (2) the use of gender-related terms;

and (3) recurring themes in the informative, descriptive, and evaluative commentary about the hockey players spoken by the on-air broadcasters.

Research Questions and Hypotheses

- RQ1 Did the production value of the Olympic broadcasts on the NBC family of networks differ significantly between women's and men's ice hockey during the 2010 Winter Games?
- H1.1 Men's games had a significantly greater number of staff providing commentary.
 - H1.2 Men's games provided significantly more on-screen statistics.
 - H1.3 Men's games used a significantly greater number of slow-motion replays.
 - H1.3a Slow-motion replays made use of multiple camera angles significantly more often during men's games.
 - H1.3b There were significantly more uses of the "telestrator" within replays during men's games.
 - H1.4 Men's games had a significantly greater number of live interviews with players.
 - H1.5 Men's games featured significantly more pre-recorded player profiles.
- RQ2 Did the NBC commentators use gender-related terms to denote differences between female and male hockey players during the 2010 Winter Olympic Games?
- H2.1 Women's ice hockey was verbally marked as "women's ice hockey" significantly more often than men's ice hockey was marked as "men's ice hockey."
 - H2.2 Male commentators used male-gendered hockey terms when referring to female players, officials, and rules (i.e., *defenseman*, center ice *man*, *linesman*, too many *men* on the ice, etc.) significantly more often than female commentators.
 - H2.3 Female players were referred to as "girls" or "ladies" significantly more often than male players were referred to as "boys" or "gentlemen."

- H2.4 Female players were referred to by inappropriate gendered terms significantly more often than male players (i.e., women as “boys,” “guys,” “men,” etc. versus men as “girls” or “ladies,” etc.).
- H2.5 Female players were referred to by just their first name significantly more often than male players.
- H2.6 Male players were referred to by just their last name significantly more often than female players.
- RQ3 Did the commentators portray women’s and men’s hockey players differently during the 2010 Winter Olympic Games on the NBC family of networks?

The classification scheme for this section was developed from the data identified through transcriptions of the commentary. The following hypothesis emerged from the literature review as well as the transcriptions.

- H3.1 Male hockey players’ physical strength (in positive connotations) was mentioned significantly more often than that of female hockey players.
- H3.2 Female hockey players’ physical strength (in negative connotations) was mentioned significantly more often than that of male hockey players.
- H3.3 Female hockey players’ emotions and personalities (in both positive and negative connotations) were mentioned significantly more often than those of male hockey players.
- H3.4 Male hockey players’ technical skills (in positive connotations) were mentioned significantly more often than those of female hockey players.
- H3.5 Female hockey players’ technical skills (in negative connotations) were mentioned significantly more often than those of male hockey players.
- H3.6 Strategies for success were suggested significantly more often for female hockey players than for male hockey players.

Significance of the Study

First, this study adds to the overall study of the intersections of gender, media, and sport by adding a study focused on a team sport that has been traditionally seen as a masculine sport. The media portrayals of women playing a “masculine” sport like ice hockey could possibly work against sport marketers’ efforts to promote women’s ice

hockey. Lasting impressions by viewers of the Olympic broadcasts could impact the viewers' evaluation of women's ice hockey and subsequent decisions whether or not to watch or attend women's ice hockey games. Second, this study focused on the Winter Olympic Games. Until now, the majority of Olympic media studies have focused on the Summer Olympics with only a couple of studies focused exclusively on the Winter Games. Finally, most of the studies regarding televised coverage of the Olympics have looked at the primetime coverage of multiple sports on the primary broadcast network. During the 2010 Winter Olympics, the majority of ice hockey games appeared on stations within the NBC "family of networks" including NBC, USA Network, MSNBC, and CNBC. Therefore, this study involved Olympic broadcasts on the main broadcast channel as well as affiliated cable channels. On many fronts this study built on prior research, and in other ways it extended the scope of analysis of televised sports, media portrayals of athletes, and marketing implications.

Delimitations

This study examined the U.S. broadcast of the women's and men's ice hockey games on the NBC family of networks during the 2010 Winter Olympic Games. Several countries were involved in the hockey competition at the 2010 Winter Games, and most of these countries produced their own television broadcasts of the women's and men's hockey games. The broadcasts and commentaries produced by other countries were not examined in this study. Likewise, several other forms of media were used in covering the 2010 Winter Games including newspapers, radio, magazines, and the Internet. These other forms of mass media were not included in this study. Therefore, the results of this study cannot be generalized to international television broadcasts or media depictions

from other media formats. Finally, this study focused on the broadcast of a single team sport played by both women and men. The results of this study cannot be generalized to other individual or team Olympic sports.

Limitations

1. This study relied on secondary data from the recorded broadcasts. Primary sources such as game-day preparation notes or interviews with the NBC producers, directors, and on-air personalities were not included.
2. Only a sample of games was analyzed for this study. Since this study focused on the U.S. broadcast to a U.S. audience, only games involving Team USA were included in the sampling frame.

Definition of Terms

Commentator: the person or persons employed by the network to provide narrative analysis of events and athletes and/or play-by-play coverage of the athletic competitions to the television audience. (Nelson, 1996)

Content analysis: any technique for making inferences by objectively and systematically identifying specified characteristics of messages. (Holsti, 1969)

Feminist sports media criticism: the study of (a) the portrayal of female athletes in the mass media and (b) the degree to which the sports media contribute to the oppression of marginalized groups, particularly women. (Daddario, 1998)

Gender conforming sports: sports which are gender-congruent for each sex and support traditional beliefs about what is considered appropriate feminine and masculine behavior. (Nelson, 1996)

Non-gender conforming women's sports: sports which are played primarily in teams and contain physical contact with other athletes (e.g., basketball, soccer, ice hockey). (Nelson, 1996)

Play-by-play commentary: the factual description made by television commentators of the athletes' actions as they play the game (e.g., "Player A passes the puck to Player B who shoots the puck at the net, and Goalie C makes the save.")

Color commentary: the informative, descriptive, and evaluative comments made by the television commentators about the athletes and their performance (does not include the play-by-play commentary).

CHAPTER II

REVIEW OF LITERATURE

For this study, the review of literature is divided into four sections. The first section provides an overview of the history of women in sport in order to place women's ice hockey within the historical context of women's sports. This section provides a historical timeline of U.S. women in sports, participation rates in sports, the modern Olympic Games, and a brief history of women in ice hockey. Next is a review of gender and sports looking at feminism and sports, gender stereotypes, gender-conforming sports, and gendered language in sports. The third section focuses on media and sports including a review of the theory of media logic and the rise of televised sports. The final section looks at analyzing televised sports focusing specifically on televised coverage of women's sports.

History of Women in Sport

Women have been participating in physical activities for centuries, but it is in the later part of the 19th century when women began to make significant strides in organized sports competition. These advances in athletics occurred at a time when women were seeking opportunities in other aspects of their lives such as education, work, and politics. The role of women in Western society was changing, and women did not want to be left on the sidelines when it came to leisure and recreation activities.

Timeline of U.S. Women in Sports

Several researchers have constructed timelines of women in sports including Cahn and O'Reilly (2007). Their list includes the introduction of particular sports either as new sports or women's versions of established men's sports. For example, in 1892, Senda Berenson Abbott introduced basketball to students at Smith College. She created a women's version of the sport developed by James Naismith that limited female players to one third of the court. Presumably, the female students should not run from one end of the court to another for fears that they might sweat or overexert themselves. The rules of women's basketball changed again in 1914 where players could occupy half of the court allowing them more movement but still did not tax their fragile bodies. In general, women were still limited to half-court basketball until the 1970s when most athletic leagues and conferences began to use five players who played the full court. Women's basketball became a professional sport in 1978 with the introduction of the Women's Professional Basketball League. Also highlighted on the timeline was women's basketball coach Pat Summitt from the University of Tennessee who in 2005 became the all-time winningest college basketball coach (male or female) when she earned her 880th win.

Women were introduced to other sports at the turn of the 19th century (Cahn & O'Reilly, 2007). Volleyball was invented in Holyoke, Massachusetts, in 1895, and field hockey migrated from Great Britain to the United States in 1901. Shortly thereafter, several sports developed their own women's leagues and associations to establish and promote women's athletics including: the Women's International Bowling Congress (1916), the U.S. Field Hockey Association (1922), the U.S. Women's Lacrosse

Association (1931), the All-American Girls Softball League (1943), and the National Women's Rowing Association (1962). Some women's sports elevated their level of play to the professional level and formed their own professional leagues including: the Ladies' Professional Golf Association (1948), the International Women's Professional Softball League (1975), the Women's Professional Basketball League (1978), the Women's Professional Volleyball Association (1986), and the Women's United Soccer Association (2000). Other athletic conferences, leagues, and associations have influenced the development of women's athletics including the formation of the Amateur Athletic Union (1888), the Association for Intercollegiate Athletics for Women (1971), and the Women's Sports Foundation (1974).

Historical Eras of Women's Sports

Boutilier and SanGiovanni (1983) placed many of these historical firsts for women in sports into four historical eras to better understand the development of women's athletics in the United States. They named each era and described who was involved, where women were participating in sports, what types of activities they were engaged in, the purpose or motivation for their participation, and what they called the "apologetic" or explanation of why it was appropriate for women to be involved in sports. The first era was the "Social Darwinism and Female Sports Activity" era that occurred from 1880-1917. During this time period two different groups of women were involved in athletics: leisured nouveau-riche upper class women and middle class women. While the upper class women belonged to social clubs and participated in activities like fox hunting, golf, and tennis, the middle class women attended women's colleges and participated in sports like basketball, tennis, field hockey and bicycling. The

upper class women were seeking activities that were enjoyable and not competitive in nature. Middle class women were motivated by the desire to socialize, have fun, and improve their health through team sports, but they too were not seeking sports that were highly competitive. It was acceptable for women of the upper class to participate in particular physical activities as a way to separate them from lesser classes that did not have the leisure time or resources to participate in these elite activities. It was believed that women from the middle and working classes, especially immigrant women, should participate in limited physical activities to improve their health levels to build a better American stock for future generations.

The next historical era identified by Boutilier and SanGiovanni (1983) was the “First Female Athletic” era from 1917 to 1936. During this time period women from the middle and working classes participated in a wide variety of physical activities including: tennis, swimming, diving, ice skating, golf, softball, basketball, roller derby, field hockey, and track and field. These women were involved in activities through their schools, commercial providers, and community, national, and international organizations. During this era they became much more competitive creating a sense of elitism. It was also during this time period that women began to enter the work force performing tasks that required physical strength and dexterity which could be developed through athletic involvement. Organizations began to emerge that advocated for the development of women’s opportunities in sports.

Following this era was the “Feminine Reaction to the Athletic Era” that ran from 1936 to 1960 (Boutilier & SanGiovanni, 1983). As the war era ended and women returned to their homes, activity in sports decreased for women of all social classes.

Women participated primarily in sports through intramural competitions at school as well as through private sports clubs. In addition to fewer participants, this era was marked by a move away from highly competitive team sports to individual sports like swimming, tennis, and golf. It was acceptable for women to participate in these sports because they promoted feminine traits whereas participation in team sports that required physical strength and competition were deemed too masculine for proper women. Most women during this era avoided participation in sports as a way to affirm their femininity.

The final era identified by Boutilier and SanGiovanni (1983) was the “Female Athletic Revolution” which began in 1960 and continues today. During this revolutionary era more and more women from all social classes began to participate in sports throughout their lifetimes. They participated in traditional women’s sports as well as some new ones including: swimming, tennis, golf, field hockey, basketball, softball, gymnastics, track and field, soccer, rugby, football, and volleyball to name a few. Sports opportunities for women were made available through schools, community organizations, clubs, and commercial establishments. Women participated for a variety of reasons including fun, competition, socializing, for money, and to attain a sense of accomplishment. Beginning in this era, women no longer needed to “apologize” for their participation in sports; there was nothing intrinsically wrong with women playing sports.

Boutilier and SanGiovanni’s analysis of women’s participation in sports over the past 130 years points out significant changes in social values and the emerging changes in gender ideology. Participation rates changed over time and often reflected the social acceptance of women’s physical exertion and competitiveness. During wartimes when women filled industrial jobs vacated by men fighting in the war, it was acceptable for

women to perform physical tasks in the workforce, and participation in sports would make women physically stronger for the workforce. However, when the war ended and women moved back to housework, it was no longer acceptable for women to be physically strong or competitive. Fewer women participated in sports, and when they did participate it was only in particular individual sports that allowed women to be feminine. But gender ideology in sport would change once again during the feminist movements of the 1960s and 1970s when women sought equality in numerous realms of their lives including sports. Women would finally exert their right to participate in any and all sports and did not need to apologize for their participation.

U.S. Women's Sport Participation Rates

There is probably one event that stands out on all of the timelines of women's involvement in sport in the United States, and that would be the passage of Title IX of the Education Amendments of 1972, in which section 1681 stipulated that:

No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance.

Although the law was created to protect students from discrimination in the classroom, it was soon applied to all educationally-sponsored activities including extracurricular activities such as sports. Throughout the years there have been several challenges to the law and how it has been applied to different situations. Although it has created numerous debates, there is no doubt that Title IX greatly impacted the participation rates of girls and women in high school and collegiate sports.

According to the historical database of the National Federation of State High School Associations (NFSHSA), during the 1969-1970 academic year nearly 3.5 million

high school boys competed in 26 sports nationwide (NFSHSA, 2009). The 1969-1970 survey of sports participation did not include any numbers for girls' participation in sports. During the season just prior to the passage of Title IX, the NFSHSA's participation survey for 1971-1972 indicated that boys' participation increased to 3.6 million and girls' participation was first reported at a level of just over 294,000 students. Girls participated in several sports including: basketball, bowling, cross country, field hockey, golf, gymnastics, lacrosse, skiing, soccer, softball, swimming and diving, tennis, outdoor track and field, and volleyball. A dramatic increase in the number of girls participating in sports was reported for the 1973-1974 academic year where nearly 1.3 million girls took part in 22 different sports. Although this represents a significant increase for female students, their participation rates still lagged far behind that of the boys' rate of just over 4 million. The list of girls' sports now included badminton, baseball, curling, drill team, fencing, ice hockey, riflery, and indoor track and field. It was unclear whether there was a true difference in participation rates or a better survey response. During the most recent reporting year, 2006-2007, the NFSHSA participation database shows that female high school athletes are closing the participation gap with just over 3 million female participants compared to 4.3 million male participants. Sports offerings for girls now included: archery, canoeing, competitive spirit squad, crew, dance/drill, equestrian, flag football, tackle football, judo, skiing, snowboarding, water polo, weight lifting, tennis, and various adaptive sports.

Pertinent to this study is the growing participation of girls in high school ice hockey. According to the NFSHSA database (2009), girls were first reported as playing ice hockey in high school during the 1973-1974 season when 96 girls played ice hockey.

The number of girls playing ice hockey remained relatively low until the 1990s when ice hockey became a national collegiate championship-level sport within the National Collegiate Athletic Association (NCAA) in 1991 and an Olympic sport in 1998. Following the first Olympic competition in 1998, the girls' participation rate in high school hockey increased to just over 3,500 players during the 1998-1999 season. As collegiate women's ice hockey programs grew, more and more high school girls pursued the sport. Numbers for the most recent season in the NFSHSA database showed that 558 schools sponsored girls' ice hockey teams and 8,261 girls participated in the sport during the 2008-2009 season.

Passage of the Title IX legislation also affected women's participation rates in intercollegiate sports. Acosta and Carpenter's report on *Women in Intercollegiate Sport* has become the major resource for analyzing women's involvement in intercollegiate sports. Begun in 1978, their annual report has become a longitudinal study tracking women's participation rates as athletes, coaches, officials, and administrators in all three NCAA divisions. In 1978, female students comprised 48% of the undergraduate student body on campuses nationwide but only 30% of these female students participated in collegiate athletics (Carpenter & Acosta, 2005). From their most recent report, Acosta and Carpenter (2010) reported that there were 9,087 women's sports teams among all divisions with an average of 8.64 teams per school during the 2009-2010 season. The most available sports for female athletes were: basketball, volleyball, soccer, cross country, and softball. In 2009-2010, women's ice hockey ranked 14th with 9.8% of schools sponsoring this sport across all divisions. This was a significant increase considering that back in 1991 only 2.7% of schools sponsored hockey. However, within

Division III schools, hockey has become a much more available sport than in the other divisions. During the 2009-2010 season, 14.7% of Division III schools offered ice hockey.

Women's Participation in the Modern Olympics

With the re-introduction of the Olympic Games in 1894 under the leadership of Pierre De Coubertin, women were officially excluded from Olympic competition by the International Olympic Committee (IOC) (Hargreaves, 2007). But women have been struggling to participate in the Olympic Games from the very beginning. For example, in 1896 during the first modern Olympics in Greece, a lone female from Greece, known only as Melpomene, became the first “unofficial” female Olympian when she ran the men’s marathon trail (not during the men’s competition). The IOC firmly stood behind its leader’s belief that women should not participate in the Olympics because sporting events were not appropriate for the female body. A few women slipped through the cracks during early Olympic competitions when the local committees allowed a few women to compete in select sports during the Games of 1900 (Paris), 1904 (St. Louis), 1908 (London), and 1912 (Stockholm). At St. Louis, Lydia Scott Howell won three gold medals in archery (Cahn & O’Reilly, 2007), and in London women competed in archery, lawn tennis, and figure-skating (Hargreaves, 2007). Swimming and diving were added as women’s sports during the Stockholm Olympic Games in 1912 (Cahn & O’Reilly, 2007). Following the 1912 Games, the IOC took back control of the planning of the Olympic Games from local committees and once again took up the position that women should be banned from Olympic competition (Hargreaves, 2007).

However, there was growing support among national sports federations to allow women to compete internationally in select sports. In 1921 a group of female athletes gathered in Monte Carlo to compete in a series of track and field events (Hargreaves, 2007). Following this successful event, the women went on to form the Federation Sportive Feminine International (FSFI). As a reaction to the IOC's ban on female athletes, the FSFI held its own Women's Olympics in 1912. The IOC complained about the FSFI's use of the name "Olympics," and the FSFI later changed the name of the event to the Women's World Games. Like the Olympics, the Women's World Games were held every four years including 1922 (Paris), 1926 (Gothenburg), 1930 (Prague), and 1934 (London). In its final year, the Women's World Games drew teams from nineteen countries from Western Europe, the British Commonwealth, and North America. Although officially banned, some women were later allowed to compete in certain the Olympic Games in gender-appropriate sports. For example, in 1920 women competed in swimming, and in 1928 they competed in five track and field events (Cahn & O'Reilly, 2007). Following the success of the Women's World Games and with continued pressure from numerous athletic organizations, the Olympic Congress of 1930 reversed the ban on women in Olympic competition (Chepko & Couturier, 2001).

Since then, women's opportunities have grown in both the Summer and Winter Olympic Games. Most people picture the Olympic Games as the highest, most-equitable competition for the finest athletes from across the globe. However, women's opportunities have not matched those of men's. Even as late as 1984 the number of men's and women's Summer Olympic events was unequal where men competed in 168 events while women competed in only 73 events. The discrepancy in the number of events stems

primarily from women being banned from certain long-distance, endurance track events because it was believed that women's bodies were not capable of such long distances. Women's Summer Olympic opportunities have steadily increased due to the addition of new sports and more events within established sports. During the 2008 Summer Games in Beijing, women participated in 28 sports and 127 events compared to men who participated in 29 sports and 165 events (Beijing Organizing Committee, 2008).

As for Winter Olympic participation, women have had fewer opportunities to compete compared to the Summer Olympics. In general, the Winter Games feature fewer sports and events than the Summer Games. During the 1988 Winter Games in Calgary, men competed in 11 sports and 30 events while women partook in only 6 sports and 17 events. Like the Summer Games, additional sports and events have slowly been added to the women's Winter Olympic opportunities. For example, during the 1992 Winter Games in Albertville, male Olympians competed in 29 events and female Olympians competed in 22 events (Hargreaves, 2007). Participation rates in the 2010 Winter Games in Vancouver included 46 events in 15 sports for men and 38 events in 13 sports for women (Vancouver Organizing Committee, 2010). The primary difference in the number of sports was the absence of women in the ski jumping and Nordic combined event (which combines ski jumping and cross country skiing). It appears that the IOC believes that ski jumping is too dangerous for female athletes. Female ski jumpers petitioned the IOC and the Vancouver Organizing Committee to add women's ski jumping to the 2010 Winter Games (WSJ, 2010). As of February 28, 2010, over 12,800 supporters had signed an online petition to have women's ski jumping added to the 2010 Winter Games. According to the WSJ organization, over 130 women from 16 nations have registered

with the International Ski Federation, and the first Women's Ski Jumping World Championship took place in the Czech Republic in 2009. Even with the evidence of a worldwide, thriving women's ski jumping community, the event was not added to the 2010 Winter Games.

Women's Ice Hockey in the United States

Although women have been playing ice hockey at local rinks and on frozen ponds across North America for more than 100 years (Avery & Stevens, 1997), it was not until the women took the ice at the 1998 Winter Olympic Games in Nagano, Japan, that the sport became a more legitimate option for female athletes. The impact of Olympic status on female participation in ice hockey can be seen in the nearly tenfold increase in the number of female members of USA Hockey from just over 6,300 member in 1991 to nearly 60,000 members in 2009 (USA Hockey, 2009). As for fans, just over 3,000 fans watched the very first NCAA championship game in 2001 (NCAA, 2005), but this number increased dramatically to 7,202 fans at the 2008 championship game when the University of Minnesota-Duluth won the title in front of its home fans in Duluth (NCAA, 2009a).

Cammi Granato had witnessed her older brother Tony play hockey in the 1988 Olympic Games in Calgary and was jealous of his opportunities on the world stage: "I wanted to be an Olympic athlete like that. I envied all those athletes at the Opening Ceremonies. I always felt shortchanged. There were other women's sports in the Olympics. Why not women's hockey?" (Shontz, 1998, p. D3).

Granato was not the only female player wondering when or if women's ice hockey would be included in the Winter Olympic Games. Also watching the 1988

Olympic hockey games was Samantha Holmes, a 10-year-old hockey player and fan who also had dreams of playing hockey in the Olympics. She wrote to Canadian Prime Minister Brian Mulroney about these dreams:

I am ten years old and have been playing hockey for five years. I am quite a good player....While I was at the Olympics [1988] I saw six hockey games. I did not see any women's hockey teams. When I get older, I want to be able to compete in hockey with other countries from all over the world....Will I have that chance? If not, could you please let me know why? ... I don't want to give up my dreams. (Etue & Williams, 1996, p. 267)

Holmes' letter also found its way to the IOC, and the IOC wanted to add additional winter sports. Therefore, in 1992 the IOC announced the addition of women's ice hockey to the Winter Olympic Games. The first gold-medal competition took place in 1998 at the Winter Games in Nagano (Shontz, 1998).

Ten years after watching her brother compete in the Olympics, Cammi Granato became the first-ever captain of Team USA's women's ice hockey team. Team USA defeated Team Canada and won the first-ever Olympic gold medal in women's ice hockey. Just prior to the medal ceremony, a teammate asked Granato if she was ready. She responded, "Are you kidding? I've dreamed of this ceremony a thousand times, and honest to God, I don't think I can wait another second for it to begin" (Turco, 1999, p. 1). Team USA later selected Granato to carry the American flag during the Closing Ceremonies, thus fulfilling her Olympic dreams (Pucin, 1998, p. A1).

The growth of Olympic women's ice hockey is just one part of the story. Girls' youth and women's collegiate hockey programs have taken off over the past 20 years. In 1991 USA Hockey, the national governing body for hockey, registered just over 6,000 female players representing just over 3% of the total membership (USA Hockey, 2003).

By the 2008-2009 season, USA Hockey registered over 59,500 female ice hockey players in all age categories constituting 12.8% of the overall player membership (USA Hockey, 2009). In just 18 years, female membership in USA Hockey had grown nearly tenfold.

Similar growth can be seen at the collegiate level. The NCAA reported that during the 1981-1982 season there were nine Division I women's ice hockey teams and eight Division III teams (NCAA, 2008). By the 2000-2001 season the participation rate had increased so much so that the NCAA upgraded women's ice hockey to a championship level sport (NCAA, 2009b). During the 2008-2009 season the number of teams in both divisions peaked at 40 Division I teams and 50 Division III teams. There is no Division II competition for women's ice hockey (NCAA, 2009a).

Gender and Sport

Feminism and Sport Media

Theories are ways in which researchers “describe and explain aspects of social life in logical terms that are consistent with systematic observations of the social world” (Coakley, 2007, p. 32). Coakley identified five major theories that most sports studies have used: functionalist, conflict, critical, feminist, and interactionist. Feminist theory, the broad theoretical framework for this study, assumes that social life can be understood by examining gender and gender relations. In the sports context, feminist theory assumes that: (1) sports are gendered and based on the values and experiences of men, (2) sports reproduce male power, and (3) sports generate gendered ideas about the body, physicality, and sexuality. The end purpose of feminist theory in sports is to transform the world of sports, its culture, and its organization so that sports reflect the experiences of both men and women.

Hargreaves (1994) provided another perspective on feminism and sport: “sports feminism [centers] on the efforts of practicing sportswomen to unmask discrimination and to equalize opportunities with men” (p. 25). Her discussion on sport feminism centered on the question of how men’s power over women in sports has been institutionalized. Hargreaves argued that liberal sports feminists should take a pragmatic look at legal and social reforms as well as governmental attempts to bring about equality for both genders in sports.

When focusing specifically on feminism and sports media, Daddario (1998) defined feminist sports media critics as those who “study the portrayal of female athletes in the mass media” and who “consider the degree to which the sports media contribute to the oppression of marginalized groups, particularly women” (p. 10). She has found that feminist sports media criticism studies have fallen into four categories: (1) physiological sex differences between male and female athletes that explain gender-differentiated sports media coverage, (2) the conditions under which female athletes are visible and invisible in sports media, (3) how the media perpetuate gender stereotypes in sports, and (4) gender differences in mediated sports spectatorship. This current study falls under Daddario’s third category in that it examined gender differences in the portrayals of female and male hockey players generated by the television commentators during the 2010 Winter Olympic Games.

Gender Stereotypes in Sport

One area that feminist sport media critics have focused on is how sports media perpetuate gender stereotypes in sports. Sports media create and reinforce images of what it means to be masculine and feminine (Coakley, 2007). Male athletes are described in

ways that emphasize their masculinity: strength, size, speed, and their use of these qualities to overpower and intimidate their opponents. On the other hand, sports media typically portray female athletes in ways that emphasize their femininity: attractiveness, vulnerability, and weakness as well as their personal interests, spouses, and children. Often, female athletes are sexualized by the media (Kane & Greendorfer, 1994). Camera angles often focus in on the female athletes' curves while the commentary emphasizes their physical attractiveness instead of their athletic accomplishments.

When providing descriptions of athletes, members of the media often use words like powerful, smart, gutsy, quick and dominant to denote strength (Duncan, Messner, Williams, Jensen, & Wilson, 1994). Likewise, media use many different words to describe athletes' weaknesses: mental mistakes, frustration, indecision, panic, loss of concentration, and dejection to name a few. Scholars have found that male athletes are described in the media by strength words more often than weakness words while female athletes tend to be described as strong and weak in nearly equal amounts. Interestingly, media descriptions of female athletes tend to be somewhat ambiguous (Kane & Greendorfer, 1994). In other words, they are described as strong and weak simultaneously so that the positive nature of the strength descriptor is washed away by the presence of the weakness descriptor. For example, female athletes might receive glowing descriptions as being powerful, courageous, or skillful while simultaneously being called cute, vulnerable, and anxious.

Not only does one find differences in descriptions of athletes but also in the description of the action on the court. For example, a male coach "yells" while a female coach "screams" (Duncan et al., 1994). Screaming denotes an uncontrolled emotional

response while a yell is a controlled, purposeful exclamation. When describing male athlete's movement on the court, media often use martial and power adjectives such as firepower, explodes, punches, battles, misfires, squeezes the trigger, warrior, and fires away. These terms have been found up to three times more often in descriptions of male athletes than female athletes. Also, descriptions of successes and failures are telling of stereotypes assigned to both genders. Male athletic success is often attributed to an individual's physical conditioning, knowledge of the game, good judgment, courage, and natural talent. Female athletic success, on the other hand, is often attributed to getting along with teammates, team chemistry, luck, patience, emotional preparation, playing with heart, and a sense of family within the team. Clearly male athletes are seen as being physically gifted while female athletes are gifted emotionally and socially.

Gender-Appropriate Sports

Along with these stereotypes come notions of which sports are appropriate for each gender. Gender appropriateness is a social construct and changes over time as societies evolve and change. A seminal source on gender-appropriate sports is the work of Metheny (1965). She gauged which sports were deemed appropriate by American college women at that time. Sports in the unacceptable category included: wrestling, boxing, judo, weight-lifting, longer foot races, and all team sports (except volleyball). These were deemed unacceptable because women should not engage in sports in which:

1. The resistance of the *opponent* is overcome by bodily contact.
2. The resistance of a *heavy object* is overcome by direct application of bodily force.
3. The body is projected into or through space over long distances or for extended periods of time. (Metheny, 1965, p. 51)

Certain other sports were perfectly acceptable for women including: swimming, diving, skiing, figure skating, golf, bowling, tennis, badminton, and volleyball. These sports were deemed acceptable because women could engage in sports in which:

1. The resistance of a light object is overcome with a light implement.
2. The body is projected into or through space in aesthetically pleasing patterns.
3. The velocity and maneuverability of the body is increased by the use of some manufactured device.
4. A spatial barrier prevents bodily contact with the opponent in face-to-face forms of competition. (Metheny, 1965, pp. 51-52).

Metheny included a third category of sports that might be appropriate for women from the working class. These sports allowed women to use medium-weighted objects, and to move their bodies over moderate distances for shorter periods of time. Sports appearing on this list included: low hurdles, long jump, shot put, and gymnastics to name a few. During this time period, women were socially encouraged to participate in individual sports that allowed them to be beautiful but that did not require strenuous effort or body contact. In other words, women still needed to be women while engaging in sports.

But, notions of gender-appropriate sports have changed over time. In 1988, Cszima, Wittig, and Schurr conducted a study that compared college students' perceptions of masculine and feminine sports with Metheny's 1965 and Matteo's 1984 gender classification of sports. In her 1984 study Matteo asked college students to rank 68 different sports in terms of how masculine or feminine they believed each sport was. Matteo's analysis of the rankings led to three classifications of sports: masculine, neutral, and feminine. Cszima et al. replicated portions of Matteo's study at a different college in 1988. They compared their results with Matteo's as well as Metheny's earlier work. Boxing was ranked as the most masculine sport in both of the college-based

surveys, and cheerleading was the most feminine. Boxing would have been classified as an inappropriate sport for women by Metheny while cheerleading would have been classified as wholly appropriate for women. There were discrepancies between the three studies though. Several of the “masculine” sports actually fell within Metheny’s list of acceptable sports for women including riflery, skeet-trap, fishing, and fencing as well as some that were appropriate for working class women including shot put, high jump, and long jump. Among the “feminine” sports, nearly all fit Metheny’s classification of acceptable sports with the exception of field hockey.

Pertinent to this current study is the gender appropriateness of ice hockey for women. According to Metheny’s classification system, ice hockey definitely would be unacceptable for women because it is a team sport where physical force and body contact are involved. In Matteo’s 1984 study, ice hockey ranked 55th out of 68 sports with 68th being the most masculine. The results of Csizma and colleagues’ study showed a higher ranking of masculinity for ice hockey where it placed 64th out of 68 sports. This difference was explained by regional differences and exposure to ice hockey. Matteo’s study took place in New York state where more girls and women play ice hockey than in Indiana where Csizma and colleagues’ study took place. But, these studies were conducted before women’s ice hockey became an Olympic sport in 1998, and gender ideologies about ice hockey may have changed as more girls and women participated in the sport.

It is clear that society has deemed some sports as being very masculine and other sports as very feminine, but more and more sports are falling into that gender-neutral territory in between the two extremes. In a 2006 study, Schmalz and Kerstetter examined

the relationship between stigma consciousness and participation in gender-typed sports among children 8-10 years old. As part of this study, students were asked to indicate which sports were for boys only, girls only, or for both genders. From the 26 sports on the list, students agreed that three sports were definitely for girls only (cheerleading, ballet, and dance) and two sports were definitely for boys only (football and wrestling). Students indicated that the remaining 20 sports could be played by boys or girls (students were not familiar enough with lacrosse to assign it a gender). Ice hockey fell within the neutral sports where 49% of the students felt it was a sport just for boys while nearly 47% felt that both boys and girls could play ice hockey. The results of this study show a definite shift in the gender-appropriateness classification of ice hockey compared to earlier studies. The Schmalz and Kerstetter study took place in Pennsylvania where students may have different perceptions of sports compared with those from New York state and Indiana. However, more than likely this shift can be attributed to greater participation by girls and women in ice hockey across the country especially at the collegiate and Olympic levels.

Gendered Language in Sport

The words we use in our everyday language often reflect our society's view on gender relations and gender roles. This is especially true in the world of sports. Many of the terms used in sports are gendered and refer to male athletes including *linesman*, *defenseman*, and *man-to-man* defense. But in recent years there has been a conscious shift by some sports broadcasters to use gender-neutral terms. For example, during the 1989 Women's Final Four games, Steve Physioc often used "player-to-player" defense instead of "man-to-man" defense (Duncan et al., 1994).

Ice hockey, like many other sports, clings to its historical past and continues to use gendered terms even when referring to girls and women. Female players and officials are referred to still as “defensemen,” “center icemen,” and “linesmen,” and women’s teams can be penalized for having “too many *men* on the ice.” Alternative terms could be used for women’s ice hockey, but I have heard players repeatedly say that they accept the term “defenseman” and do not insist upon the use of a gender-neutral term like “defender.” Some broadcasters are sensitive to the use of gendered language and use the phrase “too many *players* on the ice” instead of “*men*” when calling this particular penalty. But sometimes even the players themselves use gendered terms to describe themselves. For example, during the 2010 Winter Games, Team USA’s Angela Ruggiero was asked about her offensive output coming from the defense line: “I was the third *man* in and I ended up open and got a nice shot off” (USA Network, 22 February 2010).

Through the use of specific male gendered-language in sports like ice hockey, media continue to perpetuate the notion that sports are part of the male domain in our society. Certain sports were created *by* and *for* men, but if women choose to participate in these historically masculine sports, they will be referred to as if they are men.

Mass Media and Sport

It has been said that in the 20th century mass media was dependent upon sports for content as much as sport was dependent upon the mass media for exposure (Wenner, 1998a). The history and growth of these two pillars of U.S. society became tightly intertwined, and the two would form a co-dependency throughout the 20th century as sports garnered more and more coverage in newspapers, magazines, radio, television, and most recently the Internet. Likewise, mass media relied heavily on its sports coverage to

generate advertising revenue. In the 1990s, *MediaSport* emerged as a new field of study that brought together the studies of the role of sport in media and the role of media in sport (Wenner, 1998b).

Growth of Televised Sports

The sports media industry began with newspaper and magazine articles in the late 19th century and moved to radio in the 1920s primarily with coverage of boxing, college football, and the World Series. During the 1930s some feared that radio coverage of baseball games would diminish attendance at games causing the teams to lose money. A solution presented itself when advertisers like the Ford Motor Company began paying teams and leagues money for the right to broadcast the games (McChesney, 1989). In the following decades radio broadcasts of sporting events blossomed, especially with the advent of nationwide radio networks.

In the 1950s a new medium appeared on the scene that would change sports forever. In its early years, television was a novelty and not everyone had a television set. The technology was new and usually consisted of single-camera setups, limited focal lengths, and only black and white transmissions. This did not bode well for televising live sporting events. Early televised sports tended to be those where the camera could focus on one or two players in a confined space. The two major sports suited for this early television technology were roller derby and professional wrestling (both of which were staged and could be acted out for the television camera). As the 1950s progressed, additional sports appeared on television including the weekly boxing fight nights, baseball, and college football (McChesney, 1989).

By the 1960s more and more households owned at least one television, and several advancements changed the sports media landscape in the 1960s. First, changes in television technology included the use of multiple, portable cameras with greater focal lengths, videotape, and satellites that could beam live sporting events into homes across the nation. Even more important was the appearance of color television so that sporting events could be viewed in full color. There had always been a fear that televised sports would drive down attendance figures at sporting events. Some teams and leagues had begun to negotiate media rights for their games, but not all teams were successful in doing so. In 1961 Congress passed the Sports Broadcasting Act allowing professional sports leagues to negotiate media rights as a single entity without violating anti-trust laws. Now teams and leagues really began to see the revenue potential of selling media rights, and the three major television networks (ABC, CBS, and NBC) began to compete for these rights. The amount of sport programming on the three television networks gradually increased, and during the decade of the 1970s the annual number of hours devoted to sports increased from 787 to 1,356 (McChesney, 1989). The amount of revenue from advertisement sales on the three networks had increase to over \$1 billion by the mid-1980s. The financial success of sports programming had much to do with the sports broadcasters themselves who created drama and excitement through their narration of sporting events. These broadcasters often became celebrities in their own right, like ABC's Howard Cosell.

But the three major networks were not the only players in the highly competitive world of televised sports. In the late 1970s and early 1980s two new contenders would enter the ring: Fox and ESPN (Bellamy, 1998). The Fox Network gained legitimacy as

the fourth major network by acquiring rights to broadcast NFL and Major League Baseball games. On cable, ESPN became the first channel dedicated to sports 24 hours a day for what one ESPN executive called the U.S. consumers' "insatiable appetite" for sports. By the 1990s, national television networks were not the only providers of live, televised sporting events. Many professional teams sought ways to connect with its local and regional fans and sponsors through a series of Regional Sports Networks (McChesney, 1989).

In the 21st century there has been an explosion of sports programming on cable television. Professional leagues now offer access to out-of-market games through specially packaged and priced cable options like MLB's "Extra Innings," the NBA's "League Pass," and the NHL's "Center Ice" packages. Many leagues like the NFL, NHL, NBA, and MLB, and the Big 10 Conference also developed their own cable networks to provide in-depth coverage for their particular leagues. Cable consumers can also watch channels devoted to individual sports like the Golf Channel, Speed (racing), the Tennis Channel, Fox Soccer Channel, and the Horseracing Network (Comcast, 2010).

Without doubt, the Super Bowl is the most highly-watched televised sport in the United States. In February 2010, Super Bowl XLIV set a new record as the most-watched television show with an estimated audience of 106.5 million viewers (Hiestand, 2010). Television audiences tend to be considerably larger for men's sports than women's sports as documented by the Simmons Market Research Bureau (2008). According to Simmons, 27.25 million people watched the NBA Finals while only 7.28 million watched the WNBA Finals. Similar disparities can be found in other sports like the NCAA Men's Basketball Tournament (31.24 million viewers), NCAA Women's Basketball

Tournament (10 million), The Masters Golf Tournament (27.8 million), and the LPGA Tour Championship (8.26 million). Not too surprising is the size of the viewing audience of the U.S. Open's Tennis Tournaments where the men's tournament had 16.98 million viewers and the women's tournament had 16.6 million. Tennis, as a gender-conforming sport for women, had the largest television audience of all of the women's sports reported by the Simmons survey.

Television Coverage of the Olympics

When the Modern Olympic Games began in 1894, they were not the media spectacle they are today. There was limited coverage of the Games through major daily newspapers in larger markets, but the common person was not very aware of or interested in the Olympics in its early years. It was not until the 1936 Summer Games in Berlin that the Olympics were broadcast live via telecast (and then only to a local German audience). It would be another 20 years before the Olympics were televised to an international audience during the 1956 Winter Games in Cortina, Italy. Like other broadcast sports, the Olympics took advantage of its product to generate revenue through the sale of broadcast rights. In 1960, CBS purchased the rights to broadcast the Summer and Winter Games for \$50,000 (Billings, 2008).

Over the years, each of the three major U.S. television networks has broadcasted the Olympic Games, but, in the early television years, ABC dominated Olympic television coverage by purchasing the rights to the Winter Games in 1964, 1968, 1976, 1980, 1984, and 1988 and the Summer Games in 1968, 1972, 1976, and 1984. ABC's price tag for these television rights was nearly \$700 million over 24 years (Alaszkievicz & McPhail, 1986). Since the 1988 Summer Games, NBC has taken over the U.S.

television rights for both the Summer and Winter Games, and in so doing has branded itself as “The Olympic Network.” NBC paid \$3.5 billion to cover the 2000-2008 Summer and Winter Olympic Games and subsequently extended their exclusive contract through the 2012 Summer Games at a price of \$2.2 billion (Billings, 2008). Why would a network invest so much money for the rights to televise the Olympic Games? Dick Ebersol of NBC explained it best: “...the prime value of the Olympics is in being ‘the only thing in all of television guaranteed to put the whole family in front of the TV set’” (as cited in Bellamy, 1998, pp. 84-85).

Without doubt, the Super Bowl is the most highly-watched televised sport in the United States, but the Olympic telecasts rank near the top of all U.S. televised sports. However, it can be somewhat difficult to estimate the size of the viewing audience during the Olympics. First, the Olympic Games take place over 17 days or so with daytime and primetime coverage. Depending upon the local time zone of the host city, U.S. audiences may see events live or may watch tape-delayed coverage during primetime. Audience numbers can be reported as the number of individuals who watched at least one Olympic event (counting each individual once), or the overall audience size might be reported as a sum total of the number of viewers for each event (counting those who watched multiple events more than once). Primetime coverage tends to be a collage of Olympic events with snippets from one competition followed by a different event and so on. It may not be possible to provide ratings for a specific Olympic event if it aired during the primetime broadcast. Second, in the early years of televised Olympic coverage all events were presented on the primary network (CBS, ABC, or NBC). Recently, NBC has taken advantage of its entire network including the main broadcast channel and its affiliated

cable channels (such as USA Network, Universal Sports, MSNBC, and CNBC) to provide an even wider array of television coverage. Television rating shares tend to report viewers of the primary network stations and not always those on specialized cable channels.

For the 2008 Summer Games in Beijing, NBC reportedly averaged 27.7 million viewers over its 17-day coverage. It also reported a combined network and cable audience of 214 million viewers who watched at least six minutes of NBC's Olympic broadcasts over the 17 days (Keveney, 2008). Pertinent to this study is the size of the U.S. television audience for the 2010 Winter Games in Vancouver. NBC reported that 190 million viewers watched at least some of the Olympic Games on one of its network or cable stations (Pucin, 2010). One of the most-watched events during the Vancouver Games was the men's ice hockey gold medal game between the United States and Canada when an estimated 27.6 million U.S. viewers watched Canada beat the U.S. in a thrilling over-time victory in the gold medal game (McCarthy, 2010). There were no published reports on the number of U.S. viewers who watched Canada beat the U.S. in the women's ice hockey gold medal game.

Analyzing Televised Sports

One of the leading concepts associated with media studies is the theory of media logic. According to Altheide and Snow (1979), *media logic* is the process through which media present and transmit information. It focuses specifically on how media users process and come to understand the content of a medium through the characteristics of that medium. In other words, the format of a medium (how it organizes its content, the style it uses, and the focus of its attention) impacts how its transmissions are interpreted

by its consumers. This is particularly true of the television medium. Television producers of live events could use a single camera and just record the sounds and movements with no editing or frills. However, this type of television programming is not very attractive to viewers who want to be entertained or to sponsors looking to generate sales of their products. That is why television producers and directors add elements to their broadcasts to enhance the programs' production value. But, it is in this editing that the medium transforms the live events to something more: "When television employs different camera angles, uses different camera shots, edits the [content], adds background sound, and integrates graphics and film to accent the [content], then the medium is altering the form or structure of communication" (p. 23).

Viewers and television advertisers come to expect that television programming follows a particular format that makes it entertaining and profitable. This is often referred to as "media consciousness" that helps users make sense of various social phenomena (Altheide & Snow, 1979). For example, most television dramas and comedies employ fairly predictive formulas where the heroic characters tend to triumph over the villains. An example of this is the cowboy dressed in white (good, hero) tends to win the confrontation with the cowboy in black (evil, villain). This is an example of the use of ideal norms which are social rules and strategies that our society upholds as the best possible outcome. The use of ideal-norms as part of the character development and plotlines is an example of one of the characteristics of the television medium that adds to its media logic.

There is much debate over the role of television in how we perceive our society. In his discussion of media literacy, Brown (2006) contends that media are so much a part

of our everyday lives, that they constitute the “message for society.” Of all forms of media, Brown feels that television is “the central socializing process in society” (p. 47). Television helps shape our knowledge and perception of politics, society, and economy. Altheide and Snow (1979) contend that television does not reflect society but that it attempts to establish meanings about social phenomena: “Television takes topical subjects and presents them through the entertainment perspective and formats....In doing so, certain aspects of the way in which the subject is presented are emphasized over others” (p. 47). This emphasis on certain social phenomena and not others leads to a sense of some being more legitimate than others. “If it’s on TV then it is significant” (p. 52). Likewise, if it is not on television, then it is not significant.

The purpose of television programming is two-fold: entertainment and profit. With these two major characteristics, the medium often affects its subject matter as television does with sports. Sports have adapted themselves to be more television-friendly by changing its rules to be more entertaining and subsequently more profitable (Altheide & Snow, 1979). Examples of this include the introduction of television timeouts in many sports, longer seasons, more teams in the playoffs, and rules to increase offensive scoring. Flashy players’ uniforms and the presence of mascots and scantily-clad cheerleaders are all devices to increase the entertainment value both on the field and through the television broadcasts. Sports become stories told by high-profile commentators who “go far beyond the bound of merely reporting the action....to weave an interesting tale” (Duncan & Brummett, 1991, p. 374). Like any good story, sport narratives are full of heroes as well as villains. To heighten these dramas, broadcast companies also add music, graphics, and slow-motion replays. Televised sports are no

longer just sports but rather what Altheide and Snow (1979) called “entertainment games” that draw not only avid sports fans but also men and women who have only a marginal interest in sports.

As for profit, television broadcast companies are in business to make money via selling airtime to companies who wish to advertise their products and services.

Advertising rates are determined by a television program’s viewership because with more viewers comes greater exposure to the advertisers’ products and services. Media logic dictates that broadcasting companies will only produce programs they feel will draw large audiences and greater profits through advertising sales. Sports programming, if done properly, can be highly profitable. Broadcasters see sport as “the programming that can best break through the clutter of channels and advertising and consistently produce a desirable audience for sale to advertisers” (Bellamy, 1998, p. 73). According to Altheide and Snow (1979), “for sports, the relevant media logic is entertainment through an ideal-norms format; the technical format factors that require action, color, noise, and a smooth transitional sequence of events; and, above all, commercial success” (p. 219). If a televised sport is not entertaining, then the show will not deliver a large viewing audience for the show’s advertisers. According to media logic, television programmers will do whatever it takes to make their programs entertaining and thus profitable.

Television Portrayals of Female Athletes

Mass media can play an integral role in the formation of people’s attitudes about what they see and read about sports. “Sports media reflect, shape, and may help create and/or reinforce attitudes and values about what type of sports participation is appropriate and acceptable for females” (Tuggle, Huffman, & Rosengard, 2007, p. 58). Many

scholars have examined what has been called the “triathlon of women, media, and sports” (Daddario, 1998, p. vii). With the advent of 24-hour sports channels and sport-specific networks, some scholars have focused on televised sports including basketball, golf, tennis, marathon running, and surfing (Blinde, Greendorfer, & Shanker, 1991; Duncan & Hasbrook, 1988; Halbert & Latimer, 1994; Messner, Duncan, & Jensen, 1993; Weiller & Higgs, 1993). Studies on televised broadcasts of the Olympic Games have also been quite popular (Andrews, 1998; Billings & Eastman, 2002; Daddario, 1997; Duncan, 1986; Eastman & Billings, 1999; Farrell, 1989; Higgs & Weiller, 1994; Higgs, Weiller, & Martin, 2003; Jones, Murrell, & Jackson, 1999; Tuggle et al., 2007; Tuggle & Owen, 1999; Urquhart & Crossman, 1999; Vincent, Imwold, Masemann, & Nelson, 2002).

Feminist sports criticism looks at how mass media portrays female athletes and how these portrayals contribute to the oppression of women in the realm of sports. Daddario (1998) used this lens to review a series of studies on the topic around four major themes: naturalized sex differences, underrepresentation in mass media, trivialization of female athletes, and gendered sports spectatorship. Many scholars have focused on the trivialization theme including the use of condescending descriptors, an emphasis on physical attractiveness and desirability of female athletes, inclusion of “other” identifying roles such as mother or daughter, and sexual deviants and biological anomalies. According to Boutilier and SanGiovanni (1983) when female athletes are stereotyped or trivialized by the media, women’s sports and female athletes are downgraded and deemed less important than their male counterparts. Duncan and Hasbrook (1988) suggest that the media’s lack of coverage of women’s sports and their

stereotypical portrayal of female athletes constitute a symbolic denial of power for women.

Most media coverage of women's sports continues to focus on individual sports that have been deemed feminine and appropriate for women including golf, tennis, figure skating, and gymnastics where female athletes still look and behave like women should (Tuggle et al., 2007; Tuggle & Owen, 1999; Weiller & Higgs, 1993). However, an increase in quantity has not led to equitable coverage from a content standpoint. The use of gendered terms, ambiguous comments, and stereotypical descriptors by the media continues to reinforce male hegemony in sports (Andrews, 1998; Billings & Eastman, 2002; Blinde et al, 1991; Jones et al., 1999; Lee, 1992; Messner et al., 1993).

There is no greater world stage for sports than the Olympic Games, and the televised broadcasts of the Games help tell the biggest of stories from this grand stage (Billings, 2008). Many sports featured during the Games like luge, bobsled, water polo, and synchronized swimming normally do not receive much coverage in mass media. For many sports, the Olympic Games are the only exposure these sports receive on television. Billings described the uniqueness of the Olympic Games with their wide-reaching sports: "Where else could one witness a Jamaican bobsledding team, a women's hockey team from Russia, a South Korean ski jumper, and women competing in the dangerous event of skeleton melded into one telecast?" (p. 5). Many viewers discover new sports via the televised coverage of the Olympics. Therefore, viewers' perspectives of these little-covered sports often are shaped by the televised coverage of the Olympics. Billings (2008) also suggests that Olympic history is written not only by the winners, but also by those with the television rights.

Analytical studies of televised women's sports have focused on three main areas: (1) the quantity of media coverage, (2) the quality of media coverage, and (3) the description of athletes. What proceeds is an overview of sports media studies and their results regarding the last two areas of interest which are most pertinent to this current study.

Quality of media coverage. As prior studies have shown, women's sports have made strides in the amount of coverage on television however some critics have questioned the quality of this coverage. In addition to monitoring the quantity of women's sports coverage in the NCAA men's and women's basketball Final Four games, Duncan et al. (1994) also monitored differences in the production value. They found the men's games to be of a higher quality with better sound, more camera angles, higher profile commentators, more frequent use of on-screen game clocks and statistics, and more stylish graphics. The women's games, on the other hand, had poor sound quality, fewer camera angles, fewer appearances of the game clock and statistics on screen, and less-frequent graphics (which occasionally were incorrect). Adding to the drama of the men's games was the use of slow-motion replays and high-tech graphics. Duncan et al. found that the men's games featured 43 plays that were replayed in slow-motion while there were only 34 slow-motion replays in the women's games. The difference in amounts seemed not too different, but the researchers pointed out that the men's replays featured multiple camera angles (11 times) while the women's did less frequently (4 times). The men's games also featured high-tech graphics, like the telestrator, to help illustrate the replays. Finally, on-screen statistics were featured more frequently in men's games (24.3 on average per game) than in women's games (9.3 per game).

As part of their study of the televised coverage of the 1992 Summer Olympic Games, Higgs and Weiller (1994) included comparisons of the technical qualities of the men's and women's basketball tournaments. They found that plays in the men's games were replayed in slow motion more frequently (average of 16 times per game) while the women's games aired fewer replays (9 times per game). As for on-screen statistics, the men's games averaged 20 occurrences per game while the women's games averaged only six. Higgs and Weiller pointed out that these numbers may be skewed due to the differences in the amount of airtime for the men's and women's games. The 1992 Summer Games featured the "Dream Team" of players from the NBA. Men's games were shown in their entirety including pre-game commentary. The broadcasts of the women's games were often interrupted (about three times per game) to provide highlights of other Olympic competitions. Also, the women's games were often joined "in progress" and did not have much pre-game commentary.

Higgs et al. (2003) performed a follow-up study comparing the coverage of the 1992 and 1996 Summer Olympic Games. They found that the occurrence of slow-motion replays in men's and women's basketball was fairly balanced in the 1996 Games compared to the 1992 Games. On average, there were four slow-motion replays during the men's games and three for the women's games. Once again, the researchers commented on the effect of the "Dream Team" in 1992 to account for the differences between the basketball games in the 1992 and 1996 Games. A gender difference was found when they analyzed the men's and women's volleyball games. More slow-motion replays were found during the women's games (24) compared to the men's games (11). Although not stated, perhaps this was a sign that volleyball is seen as a women's sport

and worthy of more comments and replays. As for swimming and diving, the amount of slow-motion replays was similar. The ratios of slow-motion replays for men versus women were 26 to 19 for swimming and 35 to 21 for diving. With the 1996 Summer Games being billed as the “Games of the Woman,” one might have expected a greater emphasis on female athletes that would have led to a higher production value and use of replays.

Description of athletes. As women’s sports have received increased coverage on television, critics (Duncan & Hasbrook, 1988; Higgs et al., 2003; Tuggle et al., 2007) have felt that there is room for improvement in how female athletes are portrayed by the media, especially in team and non gender-conforming sports like ice hockey. Due to the power and influence of mass media in our culture, it is important to examine how women’s sports are treated by the media because:

...regardless of what is actually happening to the relationship between women and sport, it is the media’s *treatment* and *evaluation* of that relationship that will shape its direction and content (Boutilier & SanGiovanni, 1983, p. 184).

During broadcasts of televised sports, commentators describe athletes in a variety of ways. These descriptions may point out differences in female and male athletes by constantly comparing the women’s game to the men’s, by gender marking the women’s game, or by using sexist and/or non-parallel language. Other variations in description might reference differences in the players’ physicality, strengths, weaknesses, successes, and failures. What follows is an overview of how television commentators have described female and male athletes.

In their 1991 study of men’s and women’s college basketball during the late 1980s, Blinde et al. found that the television commentary of women’s basketball often

referenced men's basketball. Team sports, traditionally seen as part of the male domain, tend to use the men's game as the standard for all other versions while the women's game had a sense of "otherness." During the women's games, commentators frequently talked about male players and upcoming men's games, but female players and women's games were rarely mentioned during the men's games. As a point of understanding, commentators during the women's games often used the rules of the men's game to clarify the rules of the women's game but never the other way around. The commentators often commented on referee calls during a women's game that would have been handled differently during the men's game. Overall, the researchers reported that the commentators made numerous references to the men's game during the women's game as a way to legitimize the women's game even though it ultimately lead to a state of "otherness" for the women's game. This was also found in televised coverage of the 1992 Summer Olympic basketball competition where the commentators referred to the men's team during the women's games 31 times, but only mentioned the women's team four times during the men's games (Higgs & Weiller, 1994).

As has been stated, many team sports continue to be seen as masculine even if both sexes play those sports. In general, men have been playing many of these sports much longer than women. What has evolved is a two category system of sports: the sport and the women's version of the sport. If no gender is mentioned, then it is assumed that one is speaking of the men's game, and if one is speaking of the women's game, then a gender qualification is needed to clarify who is playing that sport. This "gender marking" is prevalent in sports that both men and women play.

During telecasts of the men's and women's NCAA basketball tournaments in the late 1980s, gender marking was present for the women's game but not the men's game (Blinde et al., 1991). For example, the television broadcasts used graphics and verbal passages to distinguish between the "Final Four" and the "Women's Final Four" as well as the "college basketball player of the year" and "college basketball's woman player of the year." Messner et al. (1993) noted similar occurrences during the 1989 Men's and Women's NCAA Basketball Championships and the 1989 U.S. Tennis Open. During the basketball games, the women's games was gender marked 77 times (49 verbally and 28 times graphically) while the men's games were not marked. Men's and women's tennis were gender marked at nearly equal levels.

Another way to differentiate male and female players is the use of specific language that may be gendered or sexist in nature. Once again, the men's game is the standard, original version of the game, and certain male-gendered terms just became part of the game. However, when women began to play these sports, gender appropriate terms were rarely introduced. Television commentators continue to refer to female athletes as "defensemen" and these women still play "*man-to-man*" defense (Blinde et al., 1991).

Also, players may be portrayed differently through the use of non-parallel terms (Blinde et al., 1991). For example, commentators often refer to grown women as "girls" but would never think to call grown men "boys." Some broadcasters are a bit more sensitive and call adult female athletes "ladies," but they do not use the parallel term of "gentlemen" to refer to male athletes. Messner et al. (1993) found similar language usage during the telecast of the 1989 U.S. Tennis Open. Even Steffi Graf was called "the wonder girl of women's tennis" (p. 127). This moniker displays several things: (1)

referring to a grown woman as a girl, (2) gender marking her sport as “women’s” tennis, and (3) being somewhat ambiguous by using both girl and woman in the same sentence.

Nelson (1996) examined the television coverage of the 1996 Summer Olympics and looked at the commentators’ use of a wide variety of gender-related terms among four sports where both men and women compete (basketball, gymnastics, swimming, and equestrian). During the broadcasts of these four sports, commentators referred to female athletes as “girls” 52 times, “young ladies” 25 times, “ladies” 13 times, and “women” 72 times, but they only referred to male athletes as “boys” 1 time, “young men” 3 times, “gentlemen” 3 times, and “men” 36 times. Clearly the commentators were not uniform in their choice of words to refer to each sex. Although not part of her original hypotheses, Nelson also looked for differences in commentary based on the sources of the comments: the commentators’ sex and their professional backgrounds. Male commentators used more gendered language than female commentators, but at the same time there were very few female commentators. As for professional background, professional journalists tended to use different language than former athletes. Journalists are trained to be sensitive to the words they use and follow the guidelines of the Associated Press style guide.

Another form of non-parallel language is what is often referred to as the “hierarchy of naming.” This refers to the use of only first names for female athletes and only last names for male athletes. There is a hierarchy of power and respect in our society, and how we address one another often denotes where we fall within this hierarchy. Those in higher stations are addressed by those in lower stations with a formal title or just by their last names. Similarly, when those in higher stations address those in

lower stations, they often do so in endearing, less-formal ways like addressing them by their first names only. Although a subtle difference for some, linguists and sociologists who study language usage believe that these language patterns help to enforce male dominance and female subordination.

This language pattern can be found in the commentary of televised sports. Messner et al. (1993) found this in their review of the telecasts of the 1989 U.S. Tennis Open. In their study they found that commentators referred to female players by only their first name 304 times and male players only 44 times. Male tennis players were referred to by only their last name 395 times, and female tennis players only 166 times. In her 2002 study of the 2000 Summer Olympic Games, Krist found a similar occurrence of this hierarchy of naming. Krist sampled a portion of the primetime broadcast of the 2000 Summer Games and found that male athletes were referred to by only their last name 710 times compared to just 478 times for female athletes. Krist also found several instances where female athletes were referred to as “guys” by the commentators.

One study found different results regarding the use of first names only for female athletes and last names only for male athletes. During the 1992 Summer Olympics, professional athletes were allowed to compete for the first time at the Olympics. The U.S. men’s basketball team was dubbed the “Dream Team” and was comprised of NBA players who were household names like Michael Jordan. At the same time, the women’s team was made up of relatively unknown collegiate players. In their study, Higgs and Weiller (1994) found that male players were referred to by only their first names 85% of the time, and female players 62% of the time. They found just the opposite for the U.S.

Olympic volleyball teams where women were referred to by only their first names 85% of the time and men just 62% of the time.

During the 1986 NCAA Basketball Championships, Duncan and Hasbrook (1988) observed that the television commentary for the women's games focused on their aesthetically-pleasing movements ("beautiful," "nice," and "fun to watch") and not their physical skills whereas the male players' physical build and abilities were described as "powerful." Similar contrasts can be seen in the commentary regarding the players' skills. The male players were successful because of their knowledge of the game and mental skills ("brilliant shot, "smart foul") but no mentions were made of the women's mental abilities. In between plays during the women's games, commentators told interesting stories about the women's lives away from the game instead of providing technical analysis of their game play. During similar breaks in the men's games, the commentators rehashed the technical aspects of key plays using highly technical jargon. Very rarely did the commentators talk about the personal lives of the male players away from the game.

Descriptions of success and failure for male and female basketball players were different during the 1989 NCAA Basketball Championships. Messner et al. (1993) found that commentators used 59 strength and 10 weakness descriptors for male basketball players and 51 strength and 24 weakness descriptors for female players. The researchers also found that commentators used two different formulas for success on the basketball court. For men, they succeeded due to their talent, size, strength, hard work, intelligence, and risk taking. The women's success formula was similar: talent, hard work, and intelligence, but they also benefited due to their emotions, luck, and togetherness. The formulas for failure differed quite a bit. Women failed because of their emotions, nerves,

lack of aggression, and lack of confidence whereas men were often seen as failures due to the strength and intelligence of their opponents rather than something they possessed or lacked.

Higgs and Weiller (1994) also compared the use of strength and weakness descriptors during television broadcasts of the 1992 Summer Olympics. They found that descriptions of strength were used more frequently than weaknesses for both basketball players (men: 185 for strength descriptors; women: 68 strength and 15 weakness) and volleyball players (men: 63 strength and 4 weakness; women: 26 strength and 3 weakness).

In their analysis of the television coverage of the 1994, 1996, and 1998 Olympic Games, Eastman and Billings (1999) found that most of the commentary focused on the athletes' success or failure (72%) or their personalities and appearance (28%). As for physical descriptions, female athletes' facial features were mentioned three times more often than men's. Surprisingly there was no difference between the number of descriptions of male and female athletes' body shape or size. Finally, the commentators put much more emphasis on the family life of the female athletes than the male athletes.

As a follow-up, Billings and Eastman (2002) studied the 2000 Summer Olympics and found numerous references to athletes' successes and failures (50% of the descriptors) as well as their personalities and physical descriptions (12% of descriptors). Billings and Eastman found that the men's success was more likely than women's to be derived from athletic skill ($\chi^2(1) = 6.68, p = .01$) and commitment ($\chi^2(1) = 4.36, p = .04$). As for the commentators' physical descriptions of the athletes, they referred to men's

physical size and specific parts of the body more frequently than they did for women ($\chi^2(1) = 5.55, p = .02$).

Krist (2002) also studied the 2000 Summer Olympics, but she only used a sample of the broadcasts. She found nearly equal amounts of descriptors for male and female athletes' physical appearance (male = 33 times; female = 39 times), strengths (male = 188; female = 173), and weaknesses (male = 113; female = 102). Strength was defined as brute strength, technique strength, or mental strength. Weakness was defined as physical, technical, or mental. Krist also analyzed the evaluative comments about the players including references to their relationships to others, praise, personality, and performance. She found similar quantities of comments for each of the categories, but there was a striking difference in the area of personality. Krist found 93 references to female athletes' personalities but only 48 for male athletes.

Blinde et al. (1991) found that the commentators had differing expectations of the athleticism and physicality of male and female college basketball players. Male players were expected to be physical and athletic, but the commentators seemed shocked when female players exhibited moves that were strong and athletic. Expectations in terms of physical contact were also different for male and female players. The commentators did not focus too much attention on the physical contact of the male players because it is an accepted part of the game. However, they seemed to overemphasize even minor physical contact in the women's games. Finally, when the games were nearing their conclusions and coaches had called time-outs, the commentators described the coaches' discussions with their athletes in different ways. The coaches of the women's teams were described

as being emotional and giving their players last minute words of encouragement whereas the coaches of the men's teams were focused purely on strategies.

With the use of sexist, gendered, and non-parallel language, women's sports are portrayed often as a derivative, diminutive, less-legitimate version of the men's game. As for women's ice hockey, Jones et al. (1999) found that print media coverage of women's ice hockey during the 1998 Winter Games used frequent comparisons of female to male players as well as comments that reinforced female stereotypes. Theberge (1997), a leading scholar in women's ice hockey and gender, studied the physicality of ice hockey and gender. She found that even though women's hockey had grown considerably, it was still seen as an alternative form of the sport compared to men's hockey.

Televised coverage of women's sports is growing, but, as this review of literature has shown, the quality of the broadcasts and the media's image of women's sports on television need to improve. For example, if the men's games receive more coverage, better coverage, and more favorable descriptions of male athletes, then television viewers may interpret this to mean that the men's version of the game is more important and more authentic than the women's game. If so, corporate sponsors and advertisers may not be interested in supporting women's sports including women's ice hockey. More importantly, potential fans of the sport may be turned off if the televised broadcasts show female hockey players as inferior to the more popular men's version of the sport.

CHAPTER III

METHODOLOGY

The purpose of this chapter is to describe the methods that were used to gather and analyze the data along with the statistical methods that were used to test the hypotheses in order to answer the specific research questions. Section one provides an overview of content analysis which is a method used frequently by scholars to analyze media texts. The second section describes the design of the study. Section three described the data collection procedures including the sampling and recording of ice hockey games from the 2010 Winter Olympic Games. Next is a description of the data analysis and statistical tests that were used to test each hypothesis of this study. The final section of this chapter describes the methods that were used to assess the reliability and validity of the study.

Content Analysis

Definition and Usage

Television broadcasts, like other forms of communication, have been subjected to a wide variety of analyses including content analysis (Nailog, 2009; Kim, 2005), textual analysis (Perks, 2008), framing analysis (Crosby, 2009), and other qualitative methods (Frye, 2003). The primary form of analysis for this study was content analysis which is a research method used for investigating the content of communication from which inferences can be made. Content analysis, as a form of research methodology, has grown

in popularity by those who study mass communication. According to Riffe and Freitag (1997), nearly 25% of the research articles that appeared in *Journalism & Mass Communication Quarterly* from 1971 to 1995 made use of content analysis. During the 25 year period studied, these content analysis-based studies looked at a wide variety of media with nearly 50% analyzing newspapers and 25% television. In a review of this journal's most recent subject index covering 1994 to 2003, 90 articles made use of content analysis (*Journalism & Mass Communication Quarterly*, 2003).

Content analysis has been used in several sports media-related dissertations and theses including Colles' 1997 study of Title IX investigations by the Office of Civil Rights, Cooper's 2007 study of intercollegiate athletic Web sites' coverage of individual sports teams, Huang's 1999 study of Major League Baseball clubs' relationship marketing programs, Maxwell's 2009 study of women's and men's collegiate basketball coverage on ESPN's Web site, and Nelson's 1996 study of NBC's coverage of the 1996 Summer Olympic Games.

Berelson (1952) defined content analysis as "a research technique for the objective, systematic, and quantitative description of the manifest content of communication" (p. 18). Holsti (1969) offered a slightly different definition: "any technique for making inferences by objectively and systematically identifying specified characteristics of messages" (p. 14). Later Krippendorff (1980) used a broader definition: "a research technique for making replicable and valid inferences from data to their context" (p. 21). All three agree that content analysis is an unobtrusive, non-reactive research technique in that the content (or data being studied) is produced prior to the study and without influence from the researcher. It is for this reason, that this current

study does not meet the requirements for needing to seek Institutional Review Board (IRB) authorization. The researcher contacted a co-chair of the IRB, and she confirmed that IRB approval was not necessary due to the nature of the data and data collection (M. B. Stellino, personal communication, September 23, 2010).

Although all three definitions share some common elements, this study made use of Holsti's (1969) definition. This definition focuses on the requirements of *objectivity* and *system*. During multiple stages in the content analysis, the researcher must make many decisions including which procedures to use, selecting a unit for analysis, and selecting criteria for categorization. Decisions need to be made based on a set of rules that removes the researcher's subjective predispositions as much as possible thus achieving objectivity.

The second requirement is that the analysis be systematic (Holsti, 1969). This means that rules set forth in the study for including or excluding content or categories are used on a consistent basis. Without a consistent application, researchers may only choose content that supports their hypotheses. Likewise, categories and criteria for categorization should be well defined and consistently applied. But as Holsti points out, other types of studies and works also are characterized by objectivity and systematic analyses including indexes, bibliographies, and concordances. An added dimension that separates content analysis from these other forms is the notion of theoretical relevance or what Holsti calls *generality*. In other words, content analysis is conducted to answer research questions or to test hypotheses within the context of a theory. Many scientific analyses would fit this broader definition, but content analysis focuses on the analysis of documentary evidence.

Quantitative and Qualitative Methods

Content analysis can be quantitative or qualitative in nature. Berelson (1952) made a distinction between the two by first describing content analysis in general with no qualification but devoted a subsequent chapter to “qualitative” content analysis. In other words, in his view, content analysis is generally a quantitative method, but a more qualitative approach could be used but is not the main thrust of most content analyses. Holsti, however, saw it differently. Holsti (1969) defined qualitative content analysis as “the drawing of inferences on the basis of appearance or nonappearance of attributes in messages” (p.10). To him, content analysis employs both quantitative and qualitative methods in a somewhat circular pattern where qualitative methods and inferences inform the quantitative methods and inferences which may impact the qualitative analysis. Categorizing and quantifying data allows researchers to use quantitative methods to test hypotheses to determine statistically significant differences. But, the assumption here is that greater frequency denotes more importance, which may not be necessarily true. A key idea, phrase, or word may be just as significant even if it was mentioned only once. Holsti proposed working qualitatively to further analyze the context of the data under review.

Several scholars have developed qualitative content analysis procedures to systematically analyze texts. According to Mayring (2000), the main idea of qualitative content analysis is to retain the advantages of quantitative content analysis while developing a qualitatively-based procedure for interpretation. Looking back at Berelson’s definition of content analysis, the focus was on the “manifest” or surface content of the text. Mayring pointed out that texts may have multiple levels of content including the

main ideas expressed by the verbatim text as well as latent content or reading between the lines. This alternative viewpoint of analyzing texts and making inferences is reflected in Krippendorff's 1969 definition of content analysis as a "method for making specific inferences from [the] text to other states or properties of its source" (as cited in Mayring, 2000, p. 2).

Mayring's (2000) procedures for qualitative content analysis follow closely those for quantitative content analysis by analyzing texts in a step-by-step method according to specific rules of analysis and placing texts into categories. The major difference is in the development of the categories. In quantitative content analysis, the categories tend to be developed deductively from a review of literature and the nature of the research questions within a specific context. Mayring suggests that for qualitative content analysis the categories should be developed as nearly as possible to the texts. This is accomplished through the use of inductive category development. This can be described as a model where the researcher begins with initial categories derived from background theories and the literature review. After reviewing the first 10% of the texts, the researcher compares the initial categories with the content of the first 10% of the texts. The list of potential categories is revised to correspond with the first portion of the texts. Then, another portion of the texts is analyzed and compared to the list of categories. Once again, the list of categories is reviewed and revised based on the next portion of content. This continues until all of the texts have been analyzed and adjustments have been made to the list of categories. Each category from this list is compared with others so that similar categories are combined and renamed so that the list of categories is kept to a workable number of categories. For each category on the final list, the researcher needs to provide a name,

write an operational definition, and provide examples of texts that fit that category.

Finally, the researcher categorizes and quantifies each text of the study into this new classification scheme in order to run quantitative statistical analyses, if called for by the research questions.

Maxwell (2009) used a mixed-methods approach to analyze the coverage of women's and men's collegiate basketball on the ESPN Web site. She used a quantitative approach to describe what the media text contained, which in her study included the number and type of photographs and the number, type, and length of articles on the specified Web site. This approach helped her describe the content of these Web sites, but she wanted to make inferences to interpret the meaning behind the content of the medium. Therefore, Maxwell used Mayring's (2000) approach to qualitatively analyze recurring themes in the photographs and articles on the Web site. The procedures were similar for both the quantitative and qualitative portions, but the main difference was that in the quantitative portion a pre-determined set of codes was used into which Maxwell categorized the data (deductive), whereas the categories for the qualitative portion were determined from the data themselves (inductive). From her qualitative analysis of the overarching themes, Maxwell created a classification scheme to categorize each of the photographs and articles. Next, she summed the frequency of each new category and ran subsequent statistical tests on the data. Maxwell contended that multiple approaches helped her triangulate her results where she could compare and contrast the results from multiple methods leading to more reliable inferences.

This current study was primarily quantitative in nature due to the questions being asked. The first research question pertains to a description of the production value of the

hockey broadcasts. Next, the commentators' use of specific language is the subject of the second research question. These two questions build heavily upon prior studies of women's sports' coverage in mass media, and the specific categories to be used for this study were formed *a priori* from these studies. However, the final research question regarding the media's portrayal of female and male hockey players is unique. To date there have been no published studies that have content analyzed televised ice hockey games. One could develop categories for analysis similar to those developed for collegiate basketball or other Olympic sports, but these categories may not be relevant or exhaustive when looking at women playing the non gender-conforming sport of ice hockey. A broader approach to understanding the phenomenon of media portrayals of athletes was taken. Therefore, a grounded-theory, qualitative analysis similar to Mayring's (2000) approach was conducted to identify recurring themes to help analyze the media portrayals and to form categories for subsequent quantitative analysis.

The subject of mixed methods approaches to research has been a subject of much discussion. In 2010, the journal *Qualitative Inquiry* devoted an entire special issue (volume 16) to the subject of emerging methods and practices in the field of mixed methods research. Through her review of several mixed-methods studies, Hesse-Biber (2010) found that most mixed-methods studies positioned the quantitative methods as primary while the qualitative methods were secondary. That is the case with the current study. Content analysis primarily uses quantitative methods to categorize data and calculate frequencies of specific types of data for analysis. Quantitative methods and analysis are primary in this study, and the qualitative portion serves as a preliminary step to the quantitative phase as depicted in Figure 2.

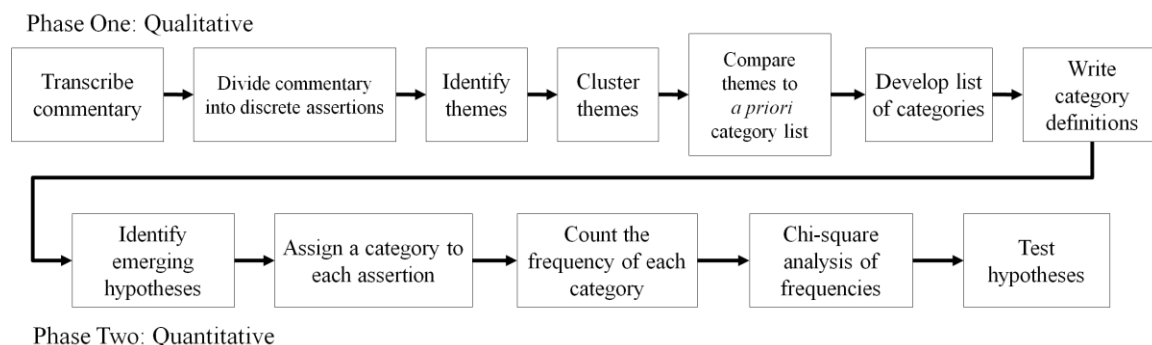


Figure 2. Mixed-methods approach to content analysis. Phase one is the qualitative stage in the process while phase two outlines the quantitative portion.

Steps in Content Analysis

Content analysis is a multi-step methodology for collecting, coding, and analyzing media texts. In the steps outlined by Gall, Gall, and Borg (2007), there are five steps: (1) specifying research questions, hypotheses, or objectives, (2) selecting a sample of documents to analyze, (3) developing a category-coding procedure, (4) coding the data, and (5) analyzing and interpreting the results.

First, this current study focuses on three research questions regarding: (1) the production value of the Olympic hockey broadcasts, (2) the use of specific gender-related language to differentiate female and male hockey players, and (3) the commentators' portrayals of the hockey players through their informative, descriptive, and evaluative comments. Specific hypotheses were developed for the three main research questions.

Next, this study focused on the U.S. television broadcasts of women's and men's ice hockey during the 2010 Winter Olympic Games as aired on the NBC family of networks. Further description of the sampling frame and selection of games for the study is provided in the Data Collection section.

The third and fourth steps in content analysis are the development of the coding procedures and the actual coding of data which Holsti (1969) defined as “the process whereby raw data are transformed and aggregated systematically into units which permit precise description of relevant content characteristics” (p. 94). One must determine the *categories*, the *unit* of content to be categorized, and which system of *enumeration* to use. First, *categories* need to be exhaustive, mutually exclusive, and independent. All data units need to fit into a category, a single category, so that the placement of one datum into a category does not impact the placement of the next datum. Next, the data need to be broken down into recording *units*. These units could be single words or symbols, themes, or larger grammatical units such as a sentence or a paragraph. Finally, one must choose a system of *enumeration* or a way of counting that might include frequency, length of time, percentage, intensity, space allocation, system scaling, and scoring. One must make determinations about categories, units, and enumeration systems within the context of specific research questions. Coding sheets are developed for collecting and counting data. In addition to the coding sheet, researchers must also develop a coding procedure book that provides the necessary background information about the study, the step-by-step process, definitions of categories, and rules for applying categories.

The final step is analyzing and interpreting the data. Since the data collected were nominal (non-parametric) in nature, Chi-Square analysis was used for the majority of the data from which interpretations were made regarding the research questions. The Data Analysis section provides specific information about the coding procedures, categories, units of analysis, and enumeration systems for each research question and hypothesis as well as the statistical analysis used to analyze and interpret the data.

Research Design

This study used two research designs suggested by Holsti (1969) to analyze the media portrayals of female and male hockey players in the 2010 Winter Olympic Games. According to Holsti, a *research design* is “a plan for collecting and analyzing data in order to answer the investigator’s question” (p. 24). At the heart of this study is whether or not the television broadcasts differed based on the sex of the athlete; therefore, the first design looked at the messages from a single source produced in two situations. In this research design, the researcher compared communication content (television broadcasts of the 2010 Winter Olympic ice hockey competition) from a single source A (NBC family of networks) during two different situations (women’s hockey games, *Situation₁*, and men’s hockey games, *Situation₂*) to determine if there was an effect on the communication content based on the variance in situation (see Figure 3).

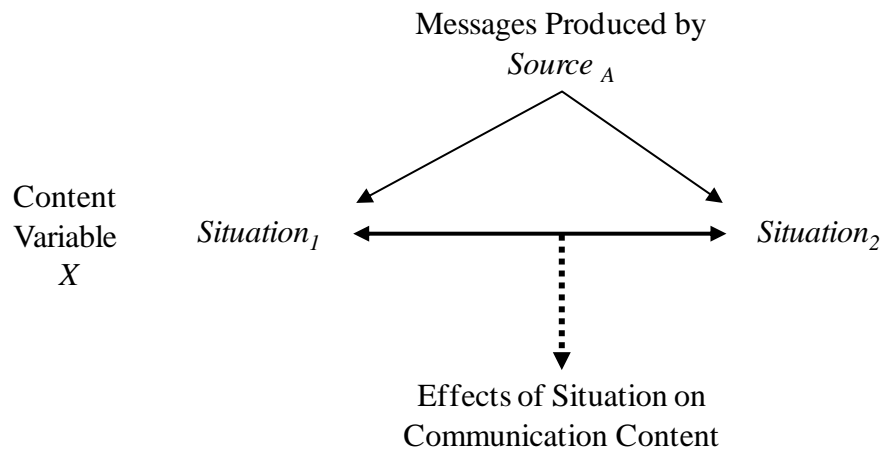


Figure 3. Effects of different situations on communication content. Adapted from Holsti’s (1969) model.

The second research design was used to determine if differences in the source of messages had an effect on the communication content regarding female and male hockey players (see Figure 4). First, the researcher compared differences based on the sex of the commentators ($Source_A$ =female; $Source_B$ =male) first for $Situation_1$ (female players) and then for $Situation_2$ (male players). In other words, did female commentators portray female and male hockey players differently than male commentators? Second, the researcher compared differences based on the professional backgrounds of the commentators ($Source_A$ =professional journalist; $Source_B$ =former athlete) for $Situation_1$ (female players) and $Situation_2$ (male players). In other words, did professional journalists portray female and male hockey players differently than former athletes?

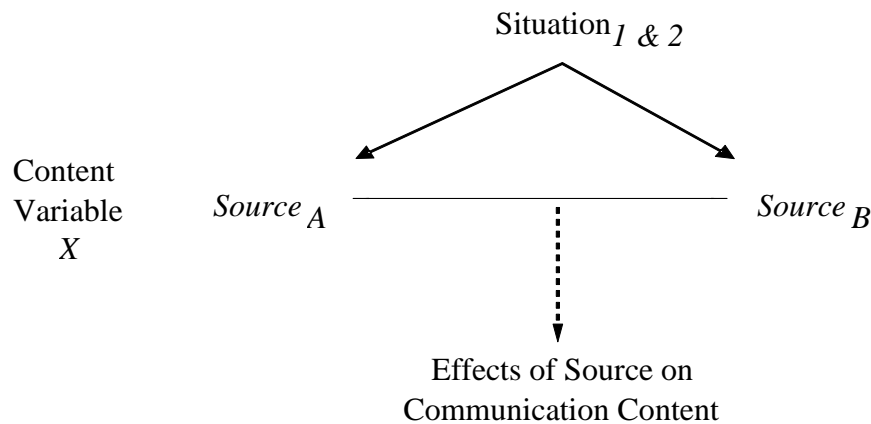


Figure 4. Effects of different sources on communication content. Adapted from Holsti's (1969) model.

Data Collection

The data for this study were comprised solely of video recordings of the 2010 Winter Olympic women's and men's ice hockey competitions as aired by the NBC "family of networks" including NBC and cable channels USA Network, MSNBC, and CNBC. The 2010 Winter Games took place in and around Vancouver, British Columbia, Canada, from February 12-28, 2010. The women's ice hockey competition began on February 13, 2010, and the men's competition began February 16, 2010, after the National Hockey League (NHL) began its Olympic break and professional players were able to join their national teams.

The women's ice hockey competition began with a preliminary round of games with two pools of four teams where each team played every other team in its own pool for a total of three games per team. Group A included teams from Canada, Sweden, Switzerland, and Slovakia; and Group B included the United States, Finland, Russia, and China. At the conclusion of the preliminary round on February 18, 2010, the top two teams in each pool moved on to the semifinals while the remaining teams competed in non-televised playoff games to determine 5th through 8th place (with results impacting future international competitions). The four teams that moved on to the semifinals included Canada and Sweden from Group A, and the United States and Finland from Group B. The top team from Group A (Canada) played the second team from Group B (Finland) and vice versa (United States played Sweden). The semifinal games took place on February 22, 2010. The winners in the semifinal round (Canada and United States) proceeded to the gold medal game while the losers (Finland and Sweden) competed for the bronze medal. The medal games took place on February 25, 2010, with Canada

winning the gold medal, United States the silver, and Finland the bronze. All of the games took place at the ice rink at the University of British Columbia.

The men's ice hockey competition began on February 16, 2010, with a preliminary round of games with teams playing one game against every team in its own pool for a total of three games for each team. The men's competition consisted of twelve teams in three pools. Group A consisted of teams from the United States, Canada, Switzerland, and Norway. Teams in Group B included Russia, the Czech Republic, Slovakia, and Latvia. Finally, Group C consisted of Sweden, Finland, Belarus, and Germany. The preliminary round ended on February 21, 2010, with the top four teams receiving byes and the remaining eight teams competing for spots in the quarterfinals. The winners of the quarterfinal round (United States, Finland, Canada, and Slovakia) moved on to the semifinals, and the winners of the semifinals moved on to the medal round. Canada beat the United States in overtime to win the gold medal, and Finland beat Slovakia for the bronze. The men's games took place at both Canada Hockey Center (home rink of the Vancouver Canucks of the NHL) as well as the rink at the University of British Columbia.

The women's and men's hockey games that aired on the NBC family of networks were recorded by the researcher on VHS videotape. These recordings included any pre- and post-game segments as well as all intermissions and commercial breaks. The researcher received television transmissions via a cable provider so she had full access to all of the networks including local Denver NBC affiliate KUSA, the USA Network, MSNBC, and CNBC. Each videotape was converted to digital format for analysis, and the original VHS recordings were preserved as a back-up.

Sampling Frame

All of the televised games in the women's and men's ice hockey competitions constitute the target population. A census study of all broadcasts of all games from all television companies would not be possible due to the lack of access from all television companies and the need to reduce the data to a manageable size. Therefore, the researcher developed a sampling frame and a sampling scheme.

Because this study used the U.S. broadcasts to a U.S. audience, all of the broadcasts of games involving Team USA were included in the sampling frame. These games featured not only the men's and women's teams from the U.S. but also men's teams from Canada, Switzerland, Norway, and Finland, and women's teams from Russia, Finland, China, Sweden, and Canada.

There is no standard for determining the sample size for a content analysis since each study's purpose, research questions, degree of precision, and nature of the data can vary greatly (Holsti, 1969; Berelson, 1952). Any sampling will contain a certain level of sampling error or variations among samples from the same population. Researchers should take steps to minimize the amount of sampling error by either increasing the size of the sample or by using better instrumentation such as precisely defined categories (Holsti, 1969). Another factor to consider when choosing a sample size is efficiency where satisfactory results are generated with the least cost.

Sampling Scheme

Berelson (1952) discussed the role of "prominence devices" in selecting representative samples. Each communication medium has its own characteristics and sections that may be more prominent such as the front page of a newspaper, headlines

with larger type face, the length of a broadcast, the order of stories, or the incorporation of graphics and music into a broadcast. He suggested that researchers should create sampling schemes that take variations due to prominence devices into account.

In this study, *order*, in terms of when games were played, was factored into the sampling scheme. The content of the commentary may be different during the preliminary round than during the medal round. For example, the preliminary round served as an introduction to the competition and to the teams, but the games in the medal round probably were described differently because only the winning teams would advance to win medals. Choosing games from only one round of competition may introduce sampling bias due to the games' order (Berelson, 1952). Therefore, a stratified sampling technique (Groves et al., 2004) was used to choose the games in order to increase the representativeness of the sample and to partially validate the study (Holsti, 1969). For this study, two strata were used: 1) the order of games (preliminary round and the medal round) and 2) the sex of the players.

When selecting a sample of games from each stratum, one has a couple of options including random sampling and purposive selection. One could choose a random sampling within the strata to choose a game representative or typical of each stratum. However, the stratum of competition level was chosen on purpose. The preliminary round served as an introduction to the teams and tournament, and the medal round represented the best teams at the highest level of competition. Therefore, this study examined games that best represent the specific characteristics of each stratum by using purposive selection to select the most *extreme* cases within each level of competition (Gratton & Jones, 2010).

The USA women's team participated in three games in the preliminary round and two games in the medal round while the U.S. men played three games in the preliminary round and three games in the medal round. In the first game of the preliminary round, the commentators introduced the teams and players for the first time. In subsequent games within the preliminary round, the commentary may have contained less introductory commentary since viewers would have been introduced to the team and players already in the first game. Likewise, the games in the medal round built to a crescendo of excitement toward the final game to determine the winner of the gold medal. The gold medal games featured the best teams in the tournament and just happened to be Teams USA and Canada for both the women's and men's tournaments. Border-country bragging rights were at stake as these two hockey rival countries faced each other in both the women's and men's gold medal games. As such, the gold medal game best represented the excitement characteristic of the medal round stratum.

Therefore, Team USA's first game in the preliminary round and the gold medal game from the medal round for both sexes were included in the sample. The sample included two games per sex for a total of four games in the sample. This sample size represented 36% of the games in the sampling frame and 9% of the entire population of games. See Table 1 for the games that were chosen to be included in this study.

Table 1

Ice Hockey Games Selected via Stratified, Purposive Selection

Round	Sex	Teams	Competition Date	Channel
Preliminary	Women	USA vs. China	February 14, 2010	MSNBC
	Men	USA vs. Switzerland	February 16, 2010	USA Network
Medal	Women	USA vs. Canada	February 25, 2010	MSNBC
	Men	USA vs. Canada	February 28, 2010	NBC

Data Analysis

Within the general communications model there is a sender, a message, and a receiver (Holsti, 1969). This is a rather simplistic description of the communication process, however it helps to focus this study. For this study, the researcher focused on the message (the “what”) as it was sent by the sender (the “who”) via a selected technology for the transmission (the “how”) of the message. In this study, the sender is the NBC family of networks and its producers, directors, and on-air personnel. The message is the visual and oral descriptions of the 2010 Olympic women’s and men’s ice hockey tournaments. The selected transmission medium is the U.S. television broadcast of these games. The receivers (the “to whom”) are the television viewers of the hockey games, but they are not the focus of this study. The analysis focused on the message, and the researcher made inferences about the characteristics of the message which in turn may say something about the sender. For example, if a commentator consistently refers to female players by just their first names and male players by just their last names, this may reflect the commentator’s worldview that women hold a lower status in society. The content from the entire broadcast of every game selected was included in the analysis. This included all three periods of play (in-game) as well as both intermissions and any pre-game and post-game segments (non-game) that were included in the broadcast. The commercials during the broadcasts were not included in the analysis.

For the first two research questions, quantitative content analysis were used to describe the production value and the language used during the television broadcasts while a mixed methods approach was used for the third research question. According to the procedures for quantitative content analysis outlined by Gall et al. (2007), once the

research questions and hypotheses have been determined and the data have been collected, then the researcher needs to analyze the media texts in a systematic fashion. This process includes determining the *categories*, the *unit* of content to be categorized, and which system of *enumeration* to use, and these will vary depending upon the research questions and hypotheses (Holsti, 1969). Therefore, what follows is a description of the analytical procedures that were used for each research question and its related hypotheses.

Research Question #1

The first research question assessed variations in production value of the women's and men's ice hockey games during the 2010 Winter Olympic Games. First, it was hypothesized that the men's games would have a higher level of production value including the number of: (1) on-air personalities, (2) on-screen statistics, (3) slow-motion replays (and the use of the telestrator), (4) live interviews with players, and (5) pre-recorded player profiles. The *categories* and *units of analysis* were the aforementioned components themselves. The *enumeration system* was a simple frequency count of the number of times a component appeared in the broadcasts. The only exception was the enumeration of on-air personalities. There was a headcount of the number of on-air personalities for women's hockey games and for men's hockey games. Some on-air personalities appeared in just women's games, some in just men's games, and some in both. Those who appeared in broadcasts for both women's and men's games in fact were counted twice; once in the total number of on-air personalities for women's games and once in the total number for men's games.

Tally sheets were developed to count the presence of each category in each broadcast (see the Appendix). First, the tallies were summed for each sex for all games. Since these data were nonparametric in nature, Chi-Square analysis was used to determine if there was a significant difference in each component of television production value for women's and men's hockey.

Research Question #2

The second research question concerned the use of specific gender-related terms by commentators to denote differences between female and male hockey players during the broadcast of the 2010 Winter Olympic Games. The literature review showed that television broadcasters have used a variety of gender-related words and phrases to denote differences in athletes including: (1) gender marking of women's sports (i.e., "Women's Olympic Ice Hockey" whereas the men's competition is simply referred to as "Olympic Ice Hockey"), (2) male-gendered hockey terms used during women's hockey games (e.g., *defenseman*, *linesman*, too many *men* on the ice, *man-to-man* defense, etc.), (3) using "girls" or "ladies" to refer to female players but not using the parallel terms "boys" and "gentlemen" to refer to male players, (4) referring to female players by inappropriate gendered terms significantly more often than male players (e.g., women as "boys," "guys," "men," etc. versus men as "girls" or "ladies," etc.), (5) referring to female players by only their first names, and (6) referring to male players by only their last names.

For hypotheses H2.1 through H2.6, the *categories* and *units of analysis* were the aforementioned uses of gender-related language. The *enumeration system* was a simple frequency count of the number of times each gender-related term was used in the broadcasts. Tally sheets were developed to count the presence of each category in each

broadcast (see the Appendix). First, the tallies were summed for all games for each sex. Since these data were nonparametric in nature, Chi-Square analysis was used to determine if there was a significant difference in the use of each gender-related term for women's and men's hockey. If there was a statistically significant difference, then the tallies were summed by the sex of the commentators and then by the professional background of the commentators. Chi-Square analyses were performed to detect significant differences in the use of gendered-terms by commentators based on their sex and then by their professional background.

Research Question #3

The final research question driving this study pertained to the portrayal of female and male ice hockey players by the on-air television personalities. Fans who attended the Olympic ice hockey games in Vancouver saw and heard for themselves what happened during the games. Those who watched on television in the United States observed a mediated version of the games. In other words, the reality of the competition was constructed by someone else and transmitted to the viewers. Viewers' perceptions of the players were impacted by the producers, directors, and on-air staff of NBC. This final research question looked specifically at the images produced by the words and phrases used by the on-air personalities to describe the female and male hockey players.

The *unit of analysis* was *theme*, which Holsti defined as "a single assertion about a subject" (1969, p. 116). To avoid confusion in the analysis section, the researcher used the term "assertion" synonymously with Holsti's definition of "theme" when referring to the unit of analysis. Each assertion might take the form of a phrase, a sentence, or a couple of sentences. Assertions were limited to oral commentary that were informative,

descriptive, or evaluative in nature regarding the players (and players collectively as a team) but did not include commentary about the play-by-play action on the ice (e.g., “Player A passed the puck to Player B who shot the puck wide of the net”) or references to other non-game related content (e.g., other Olympic sports, other athletes, coaches, other events not related to the Olympics, the weather, etc.). Assertions were transcribed for each game including in-game action as well as pre-game, intermission, and post-game segments (commercials were not transcribed).

The researcher watched digital copies of the sample games on one computer. On a second computer, she installed Dragon NaturallySpeaking software (Version 8.1) that automatically transcribed her voice into text. The software learned to recognize the voice patterns of a single speaker (the researcher). However, since the television broadcasts used multiple voices, the Dragon software could not directly transcribe the voices of the commentators. Therefore, the researcher listened to the game on one computer via a single ear bud, then recreated the commentators’ assertions using her own voice and spoke into a microphone connected to the computer with the Dragon software. Whatever she said was converted to text on the second computer. Also, she verbally marked which commentator spoke each assertion. The researcher uploaded the names of the players involved in the games and trained the Dragon software to recognize these names. This preparation helped generate a more accurate first pass at transcription leaving fewer edits. Following the initial computer transcription, the researcher viewed and listened to the sample games once again to clean up the computer-generated transcription to more accurately reflect what was spoken by the commentators. Once the transcription was clean and accurate, the researcher transferred the text to coding sheets: one for non-game

portions (pre-game, intermissions, and post-game) and another for in-game portions (divided by periods).

The coding and analysis procedures combined both qualitative and quantitative methods following those described by Mayring (2000) and used by Maxwell (2009) in a similar sports-related study. As a first step, the researcher developed a list of potential categories based on the review of literature. Next, the researcher reviewed the assertions from the first period of the first women's game and the first men's game. After the first periods, she analyzed qualitatively those assertions looking for recurring themes and compared these themes to the initial list of categories. She revised the list of categories to encompass the themes that emerged in the analysis of the first portion of game commentary. From here, the researcher viewed and transcribed spoken assertions for the next period of the first women's and men's games. She compared the themes of these assertions with the list of categories and refined the list as needed. This process continued with the gold medal games. After all of the games had been viewed, the researcher made a final list of categories based on the contents of the assertions from the entire sample. The final list was exhaustive of all possible categories and included operational definitions and examples for each category. Each category was given a specific numeric code for coding purposes.

Finally, the researcher went back through the assertions and assigned a single category code for each assertion according to the definitions and examples from the final list of categories. Then the frequency of each category was summed for all games for each sex. Chi-Square analysis was used to compare the frequency of categories first by

the sex of the players, then by the sex of the commentators, and finally by the professional background of the commentators.

Throughout the entire study, the researcher viewed all of the games multiple times. During the first two viewings of the games, the researcher tallied the occurrences of different aspects of production as well as the use of specific language. The next viewing focused solely on the informative, descriptive, and evaluative assertions made about the players. The analysis for the third research question was the most qualitative in nature, and with any qualitative study it is essential for the researcher to get to know the data through repeated readings (Creswell, 2007). By the time the researcher was ready to transcribe verbatim the assertion statements from the broadcasts, the researcher had watched and listened to each broadcast several times already and thus was familiar with the content of the commentary.

To avoid fatigue throughout the entire process and possible pattern bias, the researcher watched the first period of the first women's game and then took a break. Then she watched the first period of the first men's game and took a break. Once the preliminary round games were complete, she proceeded to the gold medal games following the same pattern of alternating between the women's and men's gold medal games and taking breaks in between periods.

Validity and Reliability

As with any research study, validity and reliability are crucial in content analysis (Potter & Levine-Donnerstein, 1999). As a research tool, content analysis relies heavily upon the coding process and a list of categories that have been clearly defined so that all trained coders should agree upon how the content should be coded. If the category

definitions and coding procedures are unclear or not specific enough, then the coders may have relied upon their own personal judgments to assign codes. If this occurred, then the study would have been less reliable and unreplicable, and the subsequent inferences made about the data would have been less valid.

According to Holsti (1969), *validity* is “the extent to which an instrument is measuring what it is intended to measure” (p. 142). There are different types or levels of content that may be content analyzed including manifest, latent, and projective (Potter & Levine-Donnerstein, 1999). In this study, the researcher was interested in the use of specific language and not the meaning behind the use of that language, and therefore, this study was a manifest content analysis. Likewise, there were also several types of validity including content (or face), predictive, concurrent, and construct validity (Holsti, 1969). This study’s purpose was descriptive in nature and not predictive, and therefore, the researcher was interested in the face validity of the study.

Face validity is the most commonly measured facet of validity used by content analysts, and it is established through the researcher’s own informed judgments (Holsti, 1969). Holsti suggested that content analysts should be able to answer the following questions in the affirmative, based on their own knowledge and experiences:

- Was the sample representative of the entire population?
- Were the categories adequate for the purposes of the study?
- Was the coding reliable?
- Are the results plausible?
- Are the results consistent with other information about the phenomena being studied?

Potter and Levine-Donnerstein (1999) suggested that content analysts can establish validity in their studies through a two-step process. The first step is to create a coding scheme including rules on how to correctly place data into the well-defined

categories. The coding scheme may be based on existing theory or the review of related literature. Most of the categories for this study were drawn from the literature review. The key is to develop a coding system that is logically consistent and provides clearly defined categories and rules for categorization. The second step is to compare the coding decisions against a standard. As this is a manifest content analysis, the standard is apparent on the surface of the content being analyzed so that coders just need to concentrate and accurately count the number of times an item of interest appears in the data. Therefore, validity is closely intertwined with the level of reliability in a study.

In the context of content analysis, Riffe, Lacy, and Fico (1998) define *reliability* as “agreement among coders about categorizing content” (p. 104). They suggest a multi-step process to ensure a greater level of reliability in content analysis studies. First, the researcher must develop categories with operational definitions as well as step-by-step coding procedures. Next, the researcher needs to train coders by providing them with the clearly defined categories and coding procedures. Three co-coders were selected from graduate students who were interested in gender, sports, and/or media. There was one female and two male co-coders who had some familiarity with the sport of ice hockey. Third, the trained coders and researcher analyzed the same media content in a pilot study using material outside the sampling frame. The researcher then compared the coding results of all of the coders to determine the level of inter-coder agreement which should be at a high level to make sure that the decisions about which codes to apply to the content are made due to the coding procedures and category definitions rather than coder bias. If a low level of agreement is found, then the researcher needs to discuss the results with the trained coders to ascertain how and why the codes were not applied similarly.

Then, the researcher will revise the coding procedures and category definitions as needed to clarify any confusion or ambiguities present in the initial coding process. The coder agreement process should be repeated until the coders' level of agreement is high, which Riffe et al. (1998) suggest is at least 80% agreement but that a level of 70% may be acceptable in certain exploratory studies. Following this, the researcher will code the exact same content a second time. The results of Time 1 and Time 2 can be compared in order to determine the level of intra-coder reliability or consistency over time. As with the inter-coder reliability, the intra-coder reliability level should reach at least 70% but preferably closer to 80% agreement.

The simple percentage of agreement is just one way to measure inter-coder and intra-coder reliability. Many researchers contend that the implications of the simple percentage of agreement can be misleading and may overinflate the level of reliability (Riffe et al., 1998). Lombard, Snyder-Duch, & Bracken (2002) suggested calculating both the simple percent agreement as well as a second index that takes expected agreement by chance into account. Additional indices have been developed to test for agreement by chance including Scott's *Pi*, Cohen's *Kappa*, and Krippendorff's *Alpha* (Lombard et al., 2002). Cohen's *Kappa* is one of the most frequently used indexes for content analysis, and it also one of the most conservative measures according to Perreault and Leigh (1989).

Perreault and Leigh (1989) developed their own reliability index, I_r , that is "the percentage of the total responses (observations) that a typical judge could code consistently given the nature of the observation, the coding scheme, the category definitions, the directions, and the judge's ability" (p. 140). In other words, their index

focuses on the whole coding process and not just the level of agreement between judges. It also takes into account differences due to different numbers of categories for different variables. The formula for calculating the I_r is:

$$I_r = \{[(F_o/N) - (1/k)] [k/(k-1)]\}^{.5}, \text{ for } F_o/N \geq 1/k$$

Where:

F_o = observed frequency of agreement

N = number of judgments made

k = number of categories

I_r values range from 0.0 (no reliability) to 1.0 (perfectly reliable)

As with other reliabilities indices, a level of 90% is acceptable for all studies, and 80% is acceptable for most studies (Lombard et al., 2002).

Because the index is an estimate of reliability within a sample, one needs to calculate an approximate confidence interval for the reliability estimate. Perreault and Leigh (1989) developed this equation to determine the upper and lower confidence levels:

$$\text{Limits} = I_r \pm z_c [I_r (1 - I_r)/N]^{.5}$$

Where:

I_r = reliability index

z_c = critical value for the c percent confidence interval ($c = 95\%$, $z_c = 1.96$)

N = sample size

Following the pilot study, additional inter-coder and intra-coder reliability checks took place on content from the sample games. Lombard et al. (2002) suggest that at least 10% of the full sample should be used to check inter-coder and intra-coder reliability. Hockey games are most easily divided by three distinct periods of play. Therefore, one randomly selected period from each of the games in the study was coded by the co-coders and the researcher. The co-coders analyzed data for Research Questions #1 and #2. If the inter-coder or intra-coder reliability levels had been below 80%, then the researcher would have re-evaluated the coding scheme and procedures.

Pilot Study

As with any research study, it was important to use a pilot study for several reasons (Gall et al., 2007). First, it was important to test the coding sheets that were to be used for this study. Adjustments may need to have been made in the layout of the tally sheets to make sure that all required data were recorded in the simplest manner possible. Second, the pilot study tested the coding procedures as well as the levels of inter-coder and intra-coder agreement to assess the reliability of the coding process.

Assisting the researcher with the pilot study were three graduate students (two male and one female) who were familiar with the sport of ice hockey. The researcher and the co-coders watched the recording of a randomly chosen women's game that was not part of the sampling frame (i.e., a game in which Team USA did not compete). During the first viewing, the co-coders assessed the functionality of the tally sheets for the first two research questions as well as the reliability of the coding process. The researcher and the co-coders tallied the frequency of each of the items under investigation. Following the coding of the content, the researcher compared her results with those of the co-coders and calculated an inter-coder agreement level. If the agreement level had been less than 80%, a figure suggested by Riffe et al. (1998), the researcher would have met with her colleagues to discuss discrepancies in the coding results. Then, adjustments would have been made to the coding procedures. The process would have been repeated until the inter-coder agreement level reached at least 80%. The researcher also sought input from the co-coders regarding the usability of the tally sheets and made the necessary edits to improve the ease of use of the tally sheets.

Then, the researcher viewed the game a second time. These frequency counts were compared to the results of her first viewing. The simple percentage of agreement between Time 1 and Time 2 was used to calculate an intra-coder level of agreement, also known as consistency. Once again, the level of agreement should be at least 80% (Riffe et al., 1998).

Finally, the researcher watched the first period of the game again and transcribed the assertions made by the commentators that were informative, descriptive, of evaluative about the players (singly or collectively as a team). The researcher qualitatively analyzed the assertions looking for recurring themes and categories that captured these themes. Next, she created a list of codes, assigned a code to each of the commentator's assertions, and calculated the frequencies of each code.

Pilot Study Results

For the pilot study, one women's hockey game from outside the sampling frame was randomly selected for coding by the researcher and her co-coders. This was the preliminary round game between the women's teams from Canada and Sweden that aired on February 17, 2010. Three graduate students in sport management volunteered to assist the researcher with the pilot study: 1) female master's student, 2) male master's student, and 3) male doctoral student. All three students indicated that they were familiar with the sport of ice hockey. Prior to coding the data, the researcher provided each co-coder with a training packet (see the Appendix) including an overview of the study, operational definitions, coding procedures, and coding sheets. The reliability estimates for the researcher and co-coders focused on just the coding of the presence of items pertaining to

Research Questions #1 and #2. The researcher was the only one who coded the informative, descriptive, and evaluative comments for Research Question 3.

As a first step, the researcher coded the test game on her own. First, she watched the recording of the test game and coded visual elements (Research Question #1), and then she watched it a second time listening for verbal elements (Research Question #2). During this process she realized and remedied inefficiencies in definitions and descriptions of some of the categories. She also adjusted the layout of the coding sheets to make them more user-friendly. This coding (Researcher Time 1) would serve as a comparison for the inter-coder reliability with the other coders as well as a comparison for intra-coder reliability (Researcher Time 2).

Two weeks later, the researcher met with the two master's students for training and coding of the sample game. Because it was difficult to watch and listen simultaneously, the female master's student (Coder 2) coded the visual elements regarding production value while the male master's student (Coder 3) coded the verbal elements regarding the use of gendered language. The researcher coded the game a second time (Researcher Time 2) to test the intra-coder reliability or the consistency of coding over time by the same researcher. Following the coding, the two co-coders provided verbal feedback on the coding process and forms. Later that week, the male doctoral student (Coder 4) took home the recording of the test game and the coding packet. He watched the game twice, first coding the visual elements and second coding the verbal elements. He also provided written feedback on the training manual, operational definitions and categories, and coding procedures.

The researcher incorporated many of the coders' suggestions into the category definitions, coding procedures, and coding sheets. For example, two categories regarding gendered language were not mutually exclusive as labeled on the coding sheets. One category was labeled "referring to women as 'guys,' 'boys,' or 'men,'" but another category was "using male-gendered hockey terms to refer to female players" such as "defensemen" or "center icemen." Some coders heard "men" and tallied it under the first category having forgotten about the second category pertaining to specific hockey terms. The first category now denotes "referring to female players as 'guys,' 'boys,' or 'men'" *other than* the use of specific male-gendered hockey terms.

The researcher gathered the coding sheets from the co-coders and tallied the frequency of each category within each dimension from each co-coder. Next, she calculated the simple percentage of agreement among the coders for each dimension: production value, use of gendered language, and hierarchy of naming. Each dimension was made up of several categories, and a percentage of agreement was calculated for each category as well (see Table 2). The simple percentage of agreement for each dimension was above the 80% minimum level suggested by Riffe et al. (1998). However, the percentage of agreement on some of the individual categories was below the recommended level. This primarily occurred when there were very few occurrences of some of these categories.

Table 2

Inter-coder Reliability for Pilot Study

Dimension Category	Researcher Time 1	Coder 2	Coder 3	Coder 4	% agreement
Production value	137	149		131	88%
No. of player interviews	2	2		2	100%
No. of on-screen statistics	35	36		24	67%
No. of pre-recorded profiles	2	1		2	50%
No. of slow-motion replays	30	33		33	91%
Total no. of camera angles used	68	77		70	88%
No. of uses of telestrator	0	0		0	100%
Gendered language	23		26	24	88%
Gender marking women's hockey	16		17	12	71%
Gender marking men's hockey	4		6	8	50%
Women as "girls"	0		0	0	100%
Women as "ladies"	0		0	0	100%
Women as "guys," "boys," "men"	0		1	2	50%
Male-gendered hockey terms for women	3		2	2	67%
Hierarchy of naming	649		622	594	92%
Refer to players by first name only	4		6	1	17%
Refer to players by last name only	376		372	349	93%
Refer to players with both names	269		244	244	91%

As for intra-coder reliability or consistency, the researcher compared her tallies from the first time she coded the sample game to the second time she coded the game two weeks later. A simple percentage of agreement was calculated between the two time periods. The intra-coder percentages of agreement were above 90% for each dimension and over 80% for most of the categories within each dimension (see Table 3).

Table 3

Intra-coder Reliability for Pilot Study

Dimension Category	Researcher Time 1	Researcher Time 2	% agreement
Production value	137	151	91%
No. of player interviews	2	2	100%
No. of on-screen statistics	35	36	97%
No. of pre-recorded profiles	2	2	100%
No. of slow-motion replays	30	33	91%
Total no. of camera angles used	68	78	87%
No. of uses of telestrator	0	0	100%
Gendered language	23	25	92%
Gender marking women's hockey	16	15	94%
Gender marking men's hockey	4	4	100%
Women as "girls"	0	0	100%
Women as "ladies"	0	0	100%
Women as "guys," "boys," "men"	0	1	0%
Male-gendered hockey terms for women	3	5	60%
Hierarchy of naming	649	665	98%
Refer to players by first name only	4	5	80%
Refer to players by last name only	376	386	97%
Refer to players with both names	269	274	98%

The pilot study evaluated the coding categories, definitions, and procedures by calculating both the simple percentage of agreement and Perreault and Leigh's index of reliability, I_r . For inter-coder reliability (see Table 4), the percentages of agreement for the following categories were: *production value* (88%), *gendered language* (88%), and *hierarchy of naming* (92%). These same categories had reliability index values and 95% confidence levels of: *production value* ($I_r = 92\% \pm 4.5$), *gendered language* ($I_r = 93\% \pm 1.8$), and *hierarchy of naming* ($I_r = 93\% \pm 8.8$). These values fall above the recommended 80% indicating a sufficient level of reliability so that multiple researchers, given the same data and coding procedures, are more likely to code the data in the same manner.

Table 4

Inter-coder Estimates of Reliability for Pilot Study

Dimension	No. of categories	No. of thoughts	Frequency of observed agreement	% agreement	Estimate of reliability, I_r	95% confidence limit of I_r
Production value	6	149	131	88%	92%	88%
Gendered language	6	26	23	88%	93%	91%
Hierarchy of naming	3	649	594	92%	93%	84%

For intra-coder reliability (see Table 5), the percentages of agreement for the following categories were: *production value* (91%), *gendered language* (92%), and *hierarchy of naming* (98%). These same categories had reliability index values and 95% confidence levels of: *production value* ($I_r = 94\% \pm 4.0$), *gendered language* ($I_r = 95\% \pm 1.5$), and *hierarchy of naming* ($I_r = 98\% \pm 4.8$). These values fall above the recommended 80% indicating a sufficient level of reliability so that the same researcher, given the same data and coding procedures, is more likely to code the data in a consistent manner over time.

Table 5

Intra-coder Estimates of Reliability for Pilot Study

Dimension	No. of categories	No. of thoughts	Frequency of observed agreement	% agreement	Estimate of reliability, I_r	95% confidence limit of I_r
Production value	6	151	137	91%	94%	90%
Gendered language	6	25	23	92%	95%	94%
Hierarchy of naming	3	665	649	98%	98%	93%

During the final phase of the pilot study, the researcher focused on the data needed to answer Research Question #3. While watching the pre-game and first period of the sample game, she transcribed verbatim the informative, descriptive, and evaluative comments spoken by the on-screen personalities but did not include the play-by-play comments. She listed who spoke each comment through the use of commentator codes as well as which player or team the comment was about. Each comment was then broken down into individual assertions which could be as short as a word or as long as a couple of statements as long as the assertion was about a single concept. Following the transcription, the researcher looked for common themes within the assertions. Next, she clustered similar themes and compiled a list of categories from the data. Then she coded the individual assertions with a category code and tallied the frequency of each category. The list of categories included: 1) age, 2) college, 3) comparison to others, 4) Olympic success, 5) emotions, 6) exciting, 7) expectations, 8) family, 9) fans, 10) heroes, 11) keys to game, 12) years of Olympic experience, 13) youth success, 14) rivalry, 15) poor performance, 16) skills, and 17) retaliation.

During the first period portion of the game, the play-by-play commentator was a male professional and the color analyst was a female former athlete. Not surprisingly, the bulk of the assertions were from the female former athlete (76%) since it was her job to provide evaluative comments about the play that just occurred while the play-by-play commentator described the action on the ice and provided fewer evaluative comments than the color analyst. As for the frequency of assertions, the greatest proportion pertained to players' skills (28%), Olympic success (13%), and poor performance (10%).

There was insufficient data to run Chi-Square analyses regarding the commentators' sex or their professional backgrounds.

This portion of the pilot study allowed the researcher to test the transcription and coding procedures for the informative, descriptive, and evaluative commentary. As a result, she added a column to the coding sheet to record the player or team the assertion was spoken about. This helped her eliminate extraneous comments that were about things other than the players and the teams (like other Olympic sports, the coaches, the facility and so on). It also provided antecedent references for the pronouns "she" and "they" within the assertions. Finally, the researcher found that a coding sheet without horizontal lines worked better than trying to fit an entire comment or assertion within a prescribed space.

The results of the pilot study indicated that the researcher should move forward with the full study. The categories, definitions, and coding procedures were modified based on the suggestions from the pilot study.

In summary, this chapter described the methods that the researcher used to gather and analyze the data. A stratified, purposive selection method was used to select one game from the two rounds of Olympic competition for both women's and men's hockey for a total of four games. The research design first looked at messages from the same source (NBC family of networks) but during two different situations (women's hockey and men's hockey) to see if differences in situation have an effect on the content of the messages. The second research design looked at messages from different sources first by the sex of the commentators and then by the professional background of the

commentators. Content analysis was the method used to analyze the data making use of tally and coding sheets. Statistical analysis varied depending upon the nature of the research questions and types of data, but Chi-Square analysis was used to test most of the hypotheses. Finally, the researcher conducted a pilot study to assess the ease of use of the tally and coding sheets as well as the reliability of the coding process. The results of the pilot study indicated that the coding process was valid and reliable.

CHAPTER IV

TELEVISION PORTRAYALS OF OLYMPIC ICE HOCKEY PLAYERS:
ADAPTING A MIXED-METHODS APPROACH
TO CONTENT ANALYSIS

Mass media can be a powerful influence on sport consumption (Coakley, 2007). Media tell viewers which sports are important and valuable in our society by providing media coverage of some sports and not others. Spectators in attendance at sporting events have their own eyes and ears to interpret the action on the field, but fans who observe sporting events via television rely upon the producers, directors, and on-air personalities to interpret the events. This is what Altheide and Snow (1979) termed the theory of “media logic.” The characteristics of the medium of television help shape what the viewers come to see as the reality of the television show. These characteristics can include the content as well as what Altheide and Snow referred to as the “grammar” of the medium: “Each electronic medium has its own unique grammar, and while audiences may not be sophisticated in the knowledge of that grammar, they have an intuitive sense of the differences among these media” (p. 36). For the television medium this grammar might include: the use of time, scheduling, nonverbal communication, plots, characters, action, and dialog (Altheide & Snow, 1979). For televised sports, this list also includes the choice of camera angles, the use of on-screen graphics, and slow-motion replays (Duncan & Messner, 1998).

No matter the content, nearly all television programming is driven by stories and narratives (Altheide & Snow, 1979). This is also true in televised sport where commentators provide narratives to help viewers interpret the events on the field. It is safe to say that what the fans watching on television see and hear is controlled by the medium. Mediated sports fans make their own interpretations of the events, but this assessment is influenced by how the media have framed the events before delivering the product to the consumer.

As women's sports have received increased coverage on television, critics (Duncan & Hasbrook, 1988; Higgs et al., 2003; Tuggle et al., 2007) have felt that there is room for improvement in how female athletes are portrayed by the media, especially in team and non gender-conforming sports like ice hockey. Due to the power and influence of mass media in our culture, it is important to examine how women's sports are treated by the media because:

...regardless of what is actually happening to the relationship between women and sport, it is the media's *treatment* and *evaluation* of that relationship that will shape its direction and content (Boutilier & SanGiovanni, 1983, p. 184).

Although women have been playing ice hockey at local rinks and on frozen ponds across North America for more than 100 years (Avery & Stevens, 1997), it was not until the women took the ice for the first time at the 1998 Winter Olympic Games in Nagano, Japan, that the sport became a more legitimate option for female athletes. The American women won the very first Olympic gold medal in 1998, the silver medal in 2002 and 2010, and the bronze in 2006 (IIHF, 2010). The impact of Olympic status on female participation in ice hockey can be seen in the nearly tenfold increase in the number of female members of USA Hockey from just over the past 20 years (USA Hockey, 2009).

As for fans, the attendance figures at NCAA championship games have more than doubled over the past ten years (NCAA, 2005, 2009a).

However, when talking to casual sports fans about women's ice hockey, the researcher found that some fans were amazed that women play what is seen by many as a men's sport. They often ask when and where they can see a women's ice hockey game. The Winter Olympic Games are probably the best time for these casual sports fans to watch women's ice hockey at its finest. During the 2010 Winter Olympic Games, viewers had the opportunity to see Team USA's women's ice hockey team play five games on the USA Network, MSNBC, and CNBC cable channels. The television broadcasts of the 2010 Winter Olympic Games may have been the only exposure that many viewers had to women's ice hockey. As such, one wonders what these first-time viewers thought of the women's performances on the ice.

As television is a story-driven medium, the commentary of sports broadcasters can greatly shape viewers' impressions of that sporting event. Thus, the main research question behind this study was: Did the commentators portray women's and men's hockey players differently during the 2010 Winter Olympic Games on the NBC family of networks? To better understand these media portrayals of athletes, a mixed-methods content analysis was conducted.

In traditional content analysis, researchers categorize and quantify data using quantitative methods to test hypotheses and determine statistically significant differences. The categories usually are developed *deductively* from a review of literature, relevant theories, and the nature of the research questions (Holsti, 1969). However, with an *a priori* list of categories researchers *could* miss categories of data or nuances specific to

the targeted broadcast that were not captured by the deductively-developed list of categories. To answer the main research question of this study, a mixed-methods approach was developed to analyze the commentary of the NBC network's coverage of the 2010 Winter Olympic ice hockey competition in order to determine how the network portrayed female and male hockey players.

The purpose of this study was to develop a step-by-step methodology incorporating both qualitative and quantitative phases to thoroughly examine the media's portrayal of female and male Olympic ice hockey players. This study builds upon the work of others who have used both quantitative and qualitative content analysis methods, for example Maxwell's 2009 study of women's and men's collegiate basketball coverage on ESPN's Web site. The research model developed in this study will serve as a starting point for future researchers who wish to analyze other mediated sporting events. The mixed-methods approach should be beneficial in revealing the full spectrum of categories for analysis unique to other sports and media contexts.

Theoretical Background

Sport Gender Stereotypes in Media

Feminist theory assumes that social life can be understood by examining gender and gender relations (Coakley, 2007). When focusing specifically on feminism and sports media, Daddario (1998) defined feminist sports media critics as those who "study the portrayal of female athletes in the mass media" and who "consider the degree to which the sports media contribute to the oppression of marginalized groups, particularly women" (p. 10).

Feminist sports media critics have published numerous studies on the media's role in stereotyping female athletes (Daddario, 1998; Duncan & Brummett, 1991; Duncan & Hasbrook, 1988; Kane & Greendorfer, 1994). When providing descriptions of athletes, members of the media often use words like: "powerful," "smart," "gutsy," "quick" and "dominant" to denote strength. Likewise, media use many different words to describe athletes' weaknesses: "mental mistakes," "frustration," "indecision," "panic," "loss of concentration," and "dejection" to name a few (Duncan et al., 1994). Descriptions of success and failure are telling of stereotypes assigned to both genders. Male athletic success is often attributed to an athlete's physical conditioning, knowledge of the game, good judgment, courage, and natural talent. Female athletic success, on the other hand, is often attributed to getting along with teammates, team chemistry, luck, patience, emotional preparation, playing with heart, and a sense of family within the team (Duncan et al., 1994).

Methods for Analyzing Media Portrayals of Athletes

Researchers have taken different approaches when analyzing media portrayals of athletes. Sometimes the process to arrive at the results is just as important as the results themselves, especially with content analysis. Content analysis requires researchers to make numerous decisions from data collection to analysis. Some have used a strictly quantitative approach or a strictly qualitative approach while others have tried to incorporate both procedures into their analysis.

For example, in their 1993 study of gender differentials during the television broadcasts of the 1988 Summer and Winter Olympic Games, Weiller and Higgs qualitatively examined the commentary about the athletes in their study by examining the

adjectives used by the commentators. Male athletes were “strong,” “aggressive,” and “unstoppable” while female athletes were referred to as “little darlings,” “sweet,” “pretty” and “graceful.” There was no quantification of how often certain adjectives were used for each sex of athlete.

In an interesting dual approach, Halbert and Latimer (1994) independently used inductive and deductive approaches to analyze the commentary from a televised tennis match between a male and a female tennis player in order to analyze the portrayals of the athlete by sex. First, the commentary from the televised event was transcribed verbatim. Next, one researcher reviewed relevant literature to develop a coding scheme prior to reading the commentary (deductive) while the other research did not review the literature and went straight to the content of the commentary to develop the categories (inductive). Although they used different approaches, both researchers came up with nearly identical coding schemes and frequency counts for the data. The researchers reported frequency counts and ratios for comparisons but no quantitative testing of hypotheses. The results section read more like a qualitative study than a quantitative study. The content analysis revealed six themes: asymmetrical gender marking, gendered hierarchy of naming, ratio of praise to criticism, type of praise, character portraits, and gendering the athletic event. One of the key points from this study was that the commentators portrayed the female player as emotional or vulnerable which the researchers felt trivialized her playing abilities.

Higgs and Weiller (1994) used quantitative analysis to measure the amount of coverage provided for each sex of athlete during the 1992 Summer Olympic coverage on NBC. Later they used qualitative analysis to identify the adjectives (strengths and

weaknesses) used to describe the male and female athletes as well as the themes of the narrative portion of the commentary. The researchers reported the frequencies of strength and weakness descriptors as well as the ratios between the sexes. Finally they provided summary descriptions of the themes discerned from the narrative portions of the commentary. It was not reported whether or not the researchers transcribed the commentary before analyzing the adjectives and narrative themes, or if they took notes while watching recordings of the Olympic events.

In their analysis of gender parity during the television broadcasts of the 1994, 1996, and 1998 Olympics, Eastman and Billings (1999) analyzed the adjectives used to describe male and female athletes. While watching videotapes of the Olympics, coders wrote down all descriptive phrases related to individual athletes. These descriptors were gathered and sorted into groups of similar terms. Using grounded inductive analysis, the descriptors fell into three initial categories: neutral, factual, and gender descriptors. The neutral and factual descriptors were set aside, and the remaining descriptors were further grouped and analyzed until they all fell into one of two categories: (1) explanations of athlete's or team's success or failure, and (2) general descriptions of the athletes' personalities or appearances. Eastman and Billings performed Chi-Square analysis to determine if there were any statistically significant differences in description by the sex of the athlete. Descriptions of male athletes' successes were mentioned significantly more frequently than females', and female athletes' appearances were mentioned significantly more frequently than males'.

In her 1996 study of the television coverage of the 1996 Summer Olympic Games, Nelson used content analysis to examine the language used by television

commentators. She focused specifically on men's and women's basketball, equestrian, gymnastics, and swimming. The various competitions were recorded and prepared for analysis. The coders watched the competitions and transcribed verbatim select portions of the commentary. The unit of analysis was a single idea, statement spoken, or what Nelson called a "kernel idea" by each commentator. For each kernel idea, the coders recorded: (1) type of sport, (2) commentator name, (3) professional status of commentator, (4) performance or non-performance segment, (5) gender of athlete, and (6) the comment or commentary sentence. All total, the coders recorded information for 35 hours of competition.

Upon completion of the transcription of kernel ideas, the coders applied category codes to each kernel idea. Nelson (1996) did not state the origin of the classification scheme, but the categories included: (1) gender specific references (broken down into 16 sub-categories), (2) physical references (broken down into 10 sub-categories), and (3) evaluative references (broken down into 13 sub-categories). Once the kernel ideas were assigned category codes, frequencies of each category were calculated and used for Chi-Square analyses to test her various hypotheses.

Krist (2002) used a modified version of Nelson's (1996) coding sheets to analyze the prime-time television coverage of the 2000 Summer Olympic Games. Her coding sheets tracked: (1) gender specific comments, (2) physical references (appearance, strength, and weakness), and (3) evaluative references (relationships, praise, personality, performance, and other). Within each broad category, the coders tallied the number of times the television commentators mentioned the specific items listed on each tally sheet for both male and female athletes. Tallies were summed and compared. Results were

reported as percentages distributed between the two sexes of athletes. Krist did not analyze the statistical significance in the differences between the number of occurrences between female and male athletes.

Maxwell (2009) used a mixed-methods approach to analyze the coverage of women's and men's collegiate basketball on the ESPN Web site. She used a quantitative approach to describe what the media text contained, which in her study included the number and type of photographs and the number, type, and length of articles on the specified Web site. This approach helped her describe the content of these Web sites, but she wanted to make inferences to interpret the meaning behind the content of the medium. Therefore, Maxwell used Mayring's (2000) approach to qualitative content analysis in order to analyze recurring themes in the photographs and articles on the Web site. The procedures were similar for both the quantitative and qualitative portions, but the main difference was that in the quantitative portion a pre-determined set of codes was used into which Maxwell categorized the data (deductive), whereas the categories for the qualitative portion were determined from the data themselves (inductive). From her qualitative analysis of the overarching themes, Maxwell created a classification scheme to categorize each of the photographs and articles. Next, she summed the frequency of each new category and ran subsequent statistical tests on the data. Maxwell contended that multiple approaches helped her triangulate her results where she could compare and contrast the results from multiple methods leading to more reliable inferences.

Methodology

In order to examine the media portrayals of the Olympic ice hockey players, content analysis was chosen as the methodological approach to analyze the television

broadcasts. Berelson defined content analysis as “a research technique for the objective, systematic, and quantitative description of the manifest content of communication” (1952, p. 18). Holsti offered a slightly different definition: “any technique for making inferences by objectively and systematically identifying specified characteristics of messages” (1969, p. 14). It is an unobtrusive, non-reactive research technique in that the content or data being studied is produced prior to the study and without influence from the researcher.

Content analysis was initially developed to analyze the content of newspaper articles on a wide variety of topics. Over the years, it has been used to examine physical activity and sports in newspapers (Jones et al., 1999; Lee, 1991; Urquhart & Crossman, 1999; Vincent et al., 2002), magazines (Duncan, 1986; Pirinen, 1997), television (Messner et al., 1993; Nelson, 1996; Tuggle, 1997), and Internet content (Cooper, 2007; Maxwell, 2009).

Steps in Traditional Content Analysis

Content analysis is a multi-step methodology for collecting, coding, and analyzing media texts. In procedures outlined by Gall et al. (2007), there are five steps: (1) specify research questions, hypotheses, or objectives, (2) select a sample of documents to analyze, (3) develop a category-coding procedure, (4) code the data, and (5) analyze and interpret the results. During multiple stages in the content analysis, the researcher must make many decisions including which procedures to use, selecting a unit for analysis, and selecting criteria for categorization. Decisions need to be made based on a set of rules that removes the researcher’s subjective predispositions as much as possible thus achieving objectivity (Holsti, 1969).

Qualitative Content Analysis

Holsti (1969) defined qualitative content analysis as “the drawing of inferences on the basis of appearance or nonappearance of attributes in messages” (p.10). To him, content analysis employs both quantitative and qualitative methods in a somewhat circular pattern where qualitative methods and inferences inform the quantitative methods and inferences which may impact the qualitative analysis. Categorizing and quantifying data allows researchers to use quantitative methods to test hypotheses to determine statistically significant differences. But, the assumption here is that greater frequency denotes more importance, which may not be necessarily true. A key idea, phrase, or word may be just as significant even if it was mentioned only once. Holsti proposed working qualitatively to further analyze the context of the data under review.

This study focused specifically on Step 3 of the traditional content analysis outlined above, the development of a category-coding procedure. Traditionally, researchers have chosen their categories *deductively* based on prior research, working theories, and the nature of their studies. In 2000, Mayring suggested a multi-stage qualitative content analysis. Mayring’s procedures closely followed those for quantitative content analysis by analyzing texts in a step-by-step method according to specific rules of analysis and placing texts into categories.

However, Mayring (2000) suggested that for qualitative content analysis the categories should be developed as nearly as possible to the texts. This is accomplished through the use of inductive category development. He described a research model where the researcher begins with initial categories derived from background theories and a review of literature. After reviewing the first 10% of the texts, the researcher compares

the initial category list with the content of the first 10% of the texts. The list of potential categories is revised to correspond with the first portion of the texts. Then, another portion of the texts is analyzed and compared to the list of categories. Once again, the list of categories is reviewed and revised based on the next content. This continues until all of the texts have been analyzed and adjustments have been made to the list of categories. Each category from this list is compared with others so that similar categories are combined and renamed so that the list of categories is kept to a workable number of categories. Finally, for each category on the final list, the researcher needs to provide a name, to write an operational definition, and to provide examples of texts that fit that category.

Data Collection

The data for this study included the 2010 Winter Olympic women's and men's ice hockey competitions as aired by the NBC "family of networks" including NBC and cable channels USA Network, MSNBC, and CNBC. The 2010 Winter Games took place in and around Vancouver, British Columbia, Canada, from February 12-28, 2010. The women's ice hockey competition began February 13, 2010, and the medal games took place on February 25, 2010, with Canada winning the gold medal, United States the silver, and Finland the bronze. On February 16, 2010, the men's ice hockey competition began, and on February 28, 2010, Canada beat the United States in overtime to win the gold medal. As with the women's competition, Canada won the gold medal, United States the silver, and Finland the bronze in the men's competition.

All women's and men's hockey games aired on the NBC family of networks were recorded by the researcher on VHS videotape. The recordings of the games included any

pre- and post-game segments as well as all intermissions and commercial breaks. Each videotape was converted to digital format for analysis, and the original VHS recordings were preserved as back-ups.

Sampling Frame

All of the televised games in the women's and men's ice hockey competitions constituted the target population. A census study of all broadcasts of all games from all television companies would not be possible due to the lack of access from all television companies and the need to reduce the data to a manageable size. Therefore, the researcher developed a sampling frame and a sampling scheme. As this study used the U.S. broadcasts to a U.S. audience, all games involving Team USA were included in the sampling frame. These games featured not only the men's and women's teams from the U.S. but also their opponents including men's teams from Canada, Switzerland, Norway, and Finland; and women's teams from Russia, Finland, China, Sweden, and Canada.

There is no standard for determining the sample size for a content analysis since each study's purpose, research questions, degree of precision, and nature of the data can vary greatly (Holsti, 1969; Berelson, 1952). Any sampling will contain a certain level of sampling error or variations among samples from the same population. Holsti suggested that researchers should take steps to minimize the amount of sampling error by either increasing the size of the sample or by using better instrumentation such as precisely defined categories.

Sampling Scheme

Berelson (1952) discussed the role of "prominence devices" in selecting representative samples. Each communication medium has its own characteristics and

sections that may be more prominent such as the front page of a newspaper, headlines with larger type face, the length of a broadcast, the order of stories, or the incorporation of graphics and music into a broadcast. He suggested that researchers should create sampling schemes that take variations due to prominence devices into account.

In this study, *order*, in terms of when games were played, was factored into the sampling scheme. The content of the commentary may be different during the preliminary round of competition than during the medal round. For example, the preliminary round served as an introduction to the competition and to the teams, but the games in the medal round probably were described differently because only the winning teams would advance to win medals. Choosing games from only one round of competition may introduce sampling bias due to the games' order (Berelson, 1952). Therefore, a stratified sampling technique (Groves et al., 2004) was used to choose the games in order to increase the representativeness of the sample and to partially validate the study (Holsti, 1969). For this study, two strata were used: 1) the order of games (preliminary round and the medal round) and 2) the sex of the players.

When selecting a sample of games from the strata outlined above, one has a couple of options including random sampling and purposive selection. One could choose a random sampling within the strata to select a game representative or typical of each stratum. However, the stratum of competition level was chosen on purpose. The preliminary round served as an introduction to the teams and tournament, and the medal round represented the best teams at the highest level of competition. Therefore, this study examined games that best represent the specific characteristics of each stratum by using

purposive selection to select the most *extreme* cases within each level of competition (Gratton & Jones, 2010).

In the first game of the preliminary round, the commentators introduced the teams and players for the first time. In subsequent games within the preliminary round, the commentary may have contained less introductory commentary since viewers would have been introduced to the team and players already in the first game. Likewise, the games in the medal round built to a crescendo of excitement toward the final game to determine the winner of the gold medal. The gold medal game for both the women's and men's tournament featured the best teams in the tournament and just happened to be Teams USA and Canada. Border-country bragging rights were at stake as these two hockey rival countries faced each other in the women's and men's gold medal games. As such, the gold medal game best represented the excitement characteristic of the medal round stratum.

Therefore, Team USA's first game in the preliminary round and the gold medal game from the medal round for both sexes were included in the sample. The sample included two games per sex for a total of four games in the sample. This sample size represented 36% of the games in the sampling frame and 9% of the entire population of games. See Table 6 for the games that were chosen to be included in this study.

Table 6

Ice Hockey Games Selected via Stratified, Purposive Selection

Round	Sex	Teams	Competition date	Channel
Preliminary	Women	USA vs. China	February 14, 2010	MSNBC
	Men	USA vs. Switzerland	February 16, 2010	USA Network
Medal	Women	USA vs. Canada	February 25, 2010	MSNBC
	Men	USA vs. Canada	February 28, 2010	NBC

Mixed-Methods Approach to Content Analysis

An adaptation of Mayring's (2000) qualitative content analysis methodology was used in this study to analyze the television commentators' portrayals of female and male ice hockey players during the 2010 Winter Olympic broadcasts on the NBC family of networks. Phase one describes the qualitative portion of the content analysis while phase two shows the quantitative portion that was used in this study (see Figure 5).

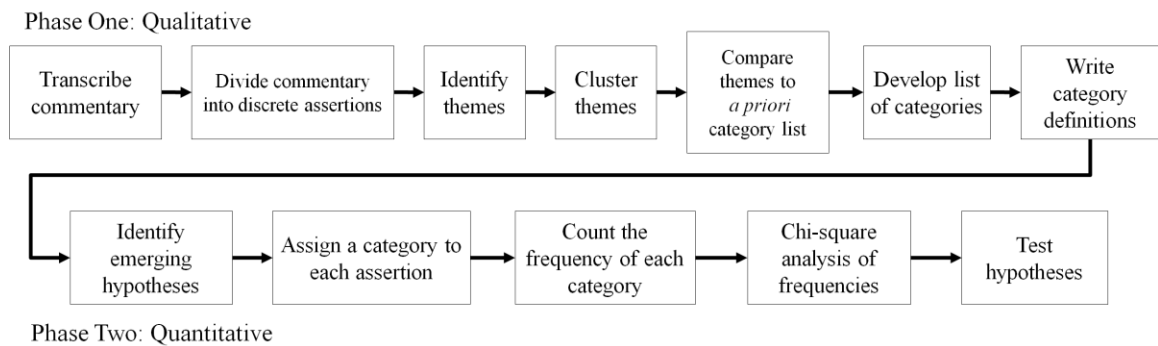


Figure 5. Mixed-methods approach to content analysis. Phase one is the qualitative stage in the process while phase two outlines the quantitative portion.

Phase One: Qualitative

Phase one began with the transcription of the television broadcasts. Transcription was limited to oral commentary that was descriptive, informative, or evaluative in nature

regarding the players and players collectively as a team but did not include commentary about the play-by-play action on the ice (i.e., “Player A passed the puck to Player B who shot the puck wide of the net”) or references to other non-game related content (i.e., other Olympic sports, other athletes, coaches, other events not related to the Olympics, etc.).

The researcher watched digital copies of the sample games on one computer. On a second computer, she installed Dragon NaturallySpeaking software (Version 8.1) that automatically transcribed her voice into text. The software learned to recognize the voice patterns of a single speaker (the researcher). However, since the television broadcasts used multiple voices, the Dragon software could not directly transcribe the voices of the commentators. Therefore, the researcher listened to the game on one computer via a single ear bud, then recreated the commentary using her own voice, and spoke into a microphone connected to the computer with the Dragon software. Whatever she said was converted to text on the second computer. Also, she verbally marked which commentator spoke which comments. The researcher had uploaded the names of the players involved in the games and trained the Dragon software to recognize these names. This preparation helped generate a more accurate first pass at transcription leaving fewer edits. Following the initial computer transcription, the researcher viewed and listened to the sample games once again to clean up the computer-generated transcription to reflect more accurately what was spoken by the commentators. Once the transcription was clean and accurate, the researcher transferred the text to a table-formatted coding sheet. The first column in the coding sheet was a code for the commentator, and the second column contained the verbatim transcription of the commentary (see Table 7).

Table 7

Sample Transcription of Commentary from Women's Gold Medal Game

Commentator #	Commentary
3	Twenty year-old Hilary Knight from Hanover, New Hampshire, is one of the rising American stars playing in her first Olympics. Right now tied for the team lead with seven assists.

The second step was to prepare the commentary for analysis. One of the rules of content analysis is that only one category code can be assigned to each datum. Therefore, the commentary needed to be broken down into what Holsti called *themes*. He defined a theme as: “a single assertion about a subject” (1969, p. 116). To avoid confusion in the analysis section, the researcher used the term “assertion” synonymously with Holsti’s definition of “theme” when referring to the unit of analysis. The commentary was broken down into individual assertions that took the form of a phrase, a sentence, or a couple of sentences. The entire assertion had to be about just one theme. If the content of the assertion changed themes, then a new line of commentary was created in the table. During this stage, the coding table was updated to include a column that identified the subject of the comment whether it was a player(s) or team(s) as well as a column to identify each individual assertion (see Table 8). Ellipses were used to identify commentary that continued from one assertion to another to retain the context of each assertion.

Table 8

Sample Identification of Players and Individual Assertions

Commentator #	Player	Assertions
3	Knight	Twenty year-old Hilary Knight...
3	Knight	...from Hanover, New Hampshire...
3	Knight	...is one of the rising American stars...
3	Knight	...playing in her first Olympics.
3	Knight	Right now tied for the team lead with seven assists.

Once all of the commentary had been divided into discrete assertions, the third step was to identify a theme for each assertion. A fourth column was added to the coding sheet for the theme of each assertion (see Table 9). To avoid bias and fatigue, the researcher alternated between the women's and men's games. She began by identifying themes for the pre-game and first period of the women's preliminary game followed by the pre-game and first period of the men's preliminary game. Next, she identified themes from the first intermission and second period of the women's preliminary game followed by the men's preliminary game. This process continued period-by-period until both games had been completed. Finally, she identified themes in the women's and men's gold-medal games in a similar stepwise fashion.

Table 9

Sample Identification of Themes

Commentator #	Player	Assertions	Themes
3	Knight	Twenty year-old Hilary Knight...	Age
3	Knight	...from Hanover, New Hampshire...	Hometown
3	Knight	...is one of the rising American stars...	Rising star
3	Knight	...playing in her first Olympics.	First Olympics
3	Knight	Right now tied for the team lead with seven assists.	Team lead in assists

In the fourth step, the researcher analyzed the themes of the assertions to develop a list of categories for later analysis. As a first step, she developed a list of potential categories based on the literature review and the nature of the sporting event. Relevant categories from the literature review included those that pertained to physical descriptions about the players (age, height, weight, hair, facial expressions, etc.), information about the players (hometown, years of experience, college attended, etc.), and evaluation of players (skills, strengths, areas of improvement, etc.). The *a priori* list of categories included:

1. Hair
2. Age
3. Height
4. Weight
5. Role as mother/father
6. Role as daughter/son
7. Relationships to others
8. Female compared to male player
9. Male compared to female player
10. Comparing women's rules to men's rules
11. Comparing men's rules to women's rules
12. Use men's game as standard for women's game
13. Facial features/expression
14. Aesthetically pleasing performance
15. Physically attractive
16. Physical strength
17. Emotional/personality strength
18. Technical skills strength
19. Physical weakness
20. Emotional/personality weakness
21. Technical skills weakness
22. Use of technical jargon for analyzing sport
23. Personal stories
24. Personalities
25. Past Olympic competition
26. Past Olympic success
27. College attended
28. NCAA Championships won
29. Hobey Baker/Patty Kazmaier Awards won
30. Non-classifiable

Next, the researcher clustered the themes of the assertions from the commentary and compared them with the *a priori* categories listed above. Per Mayring's (2000) suggestion, she analyzed portions of the assertions in a systematic fashion. As with the previous step, she began clustering and comparing the themes of the assertions from the pre-game and first period of the women's preliminary game to the initial list of categories. Some categories from the initial list were deleted while new ones were added. Then she compared the assertions from the pre-game and first period of the men's preliminary game with this new list of categories. She continued in a stepwise fashion with the subsequent periods of the preliminary games before proceeding to the gold medal games. After each portion, the researcher compared the themes to the list of categories from the previously analyzed portions of the commentary and adjusted the list to fit the new data. Along the way, some categories were combined and renamed. This review of categories continued until the themes from all four games had been reviewed and no further categories emerged. This was an indication that a level of saturation of categories had been reached. The researcher made a final list of categories based on the contents of the assertions from all of the games. The final list was exhaustive of all possible categories and included a non-classifiable category for any possible assertions that did not fit any of the categories.

During the initial coding of the data with the coding team, the coders' level of agreement was lower than desired. Following discussions with the co-coders, the researcher made minor adjustments to the category list by combining similar categories,

clarified definitions, and provided additional examples. The final list of categories included:

1. Facial expression
2. Hair
3. Age
4. Height
5. Weight
6. Uniform
7. Nickname
8. Hometown, home state, high school
9. Family
10. Relationships to others
11. Personal stories
12. Crowd pleasing performance
13. Female player compared to female player
14. Male player compared to male player
15. Female player compared to male player
16. Male player compared to female player
17. Physical strength (positive connotation)
18. Emotions/personality (positive connotation)
19. Technical skills (positive connotation)
20. Physical weakness (negative connotation)
21. Emotions/personality (negative connotation)
22. Technical skills (negative connotation)
23. Suggested strategies
24. Olympic experience
25. Lack of Olympic experience
26. Olympic outcomes
27. Olympic leadership roles
28. Rivalry
29. College attended
30. College experience
31. College outcomes
32. Other playing experience
33. Other playing outcomes
34. Respect for/from opponent
35. Inspiration
36. National pride
37. Non-classifiable

The final step of the qualitative phase was to prepare the final list of categories for quantitative analysis. This included writing operational definitions for each category and

providing examples that would fit each category. Each category was given a specific numeric code for coding purposes (see Table 10).

Table 10

Final List of Categories including Definitions and Examples

Code #	Category	Definition	Examples
1	Facial expression	A player's emotional response expressed on his/her face.	Smile, smirk, grin, frown, wink, etc.
2	Hair	Comments about a players' hair or facial hair	color, length, curls, hairstyles, pony tail, beard, mustache, bald
3	Age	Comments about a player's age either specific or broad, or in comparison to others	Age in years, young(er), old(er), age when player joined Olympic team
4	Height	Comments about a player's height either specific or broad, or in comparison to others	Height in feet & inches, tall(er), short(er)
5	Weight	Comments about a player's weight either specific or broad, or in comparison to others	Weight in pounds, big(ger), heavy(ier), small(er), light(er)
6	Uniform	Reference to a player's uniform	Number, color
7	Nickname	An alternative name used for a player or a group of players	"Sid the Kid," "The Baby Line", "Waterbug"
8	Hometown, home state, high school	Reference to a player's place of origin	Danbury, IL; Minnesota; Cushing Academy, Lincoln High School
9	Family	Any reference to a player's family life or family members	Marital status, role as mother, role as father, role as son, role as daughter; or player's parents, siblings, children, family support

Table 10 (continued)			
Code #	Category	Definition	Examples
10	Relationships to others	Reference to players' non-familial relationships	Players' friends, teammates, roommates
11	Personal stories	Stories about a player's life not related to their family life or Olympic hockey. Very broad and all-encompassing. Stories that do not fit in any other category.	Liked to play boys' hockey, coaching experience, wounded warrior program, childhood dreams
12	Crowd pleasing performance	Reference to a player's playing or being that brings smiles and cheers from the spectators	"crowd favorite" for: aesthetics, beauty, playing skills, personality, "entertaining"
13	Female player compared to male player	The commentator compares a current female player to any male player.	She reminds me of Bobby Orr.
14	Male player compared to female player	The commentator compares a current male player to any female player.	He reminds me of the great Cammi Granato.
15	Female player compared to female player	The commentator compares a current female player to any other female player.	She reminds me a lot of Cammi Granato.
16	Male player compared to male player	The commentator compares a current male player to any male player.	He reminds me of Patrick Roy in net.
17	Physical strength (positive connotation)	Reference to a player's physical strength, fitness level, amount of weight training – as a strength to the game	Athleticism, physically fit, energy, tough, body check, scrum, power, hard-nosed, hard-hitting, black & blue hockey, collision, make a hit, battling

Table 10 (continued)			
Code #	Category	Definition	Examples
18	Emotions/ personality (positive connotation)	Reference to a player's emotions or personality – as a strength to the game	Persistent, aggressive, confident, leadership, calm, loyal, teamwork, team chemistry, excited, gritty, intense, feisty, great teammate, disciplined, maturity, work ethic, comfortable, creative, loves to _____
19	Technical skills (positive connotation)	Reference to a player's technical skills – as a strength to the game	Speed, skating ability, puck handling, shooting, poke-check, passing, consistent, gain momentum, active defensemen, praise for any ability not covered by physical strength or emotions (good, great, etc.); for goalies: glove work, positioning, saves, hot goalie
20	Physical weakness (negative connotation)	Reference to a player's physical strength, fitness level, amount of training – as a weakness to the game – OR – lack of physical strength, poor fitness level	Too strong, too big to skate, can't keep up with opponent, out of gas, out- muscled by opponent, weak, over-powered by opponent, out-worked by opponent
21	Emotions/ personality (negative connotation)	Reference to a player's emotions or personality – as a weakness to the game – OR – lack of emotion, lack of personality	Too aggressive, overly aggressive, nervous, feeling pressured, lackadaisical, docile, too excited, disappointed, loss of spirit, helpless, hopeless, feeling out process

Table 10 (continued)			
Code #	Category	Definition	Examples
22	Technical skills (negative connotation)	Reference to a player's technical skills – as a weakness to the game – OR – lack of technical skills	Holding stick too tightly, weak passing, inconsistent, lose momentum, challenge to team, embellishment/take a dive, take a lot of penalties, failed to score, mishandle puck, poor goalie positioning, criticism for any ability not covered by physical strength or emotions (poor, bad, etc.)
23	Suggested strategies	Commentators suggest things that players/teams should or shouldn't do in order to win	Ought to ____; should ____; shouldn't ____; need to ____; can't ____; don't ____, gotta ____, key to the game, trying to ____, make adjustments, working on ____, would like to see ____
24	Olympic experience	Reference to a player's Olympic experience	Participated in specific previous Olympiads, number of times chosen for Olympic team, team veteran
25	Lack of Olympic experience	Reference to a player's lack of experience in the Olympics	First-time Olympian, rookie, newcomer
26	Olympic outcomes	Reference to a player's or team's Olympic achievements or outcomes	Number of medals, type of medals, games won/lost in prior Olympics, Olympic records, MVP awards, team qualification for Olympics
27	Olympic leadership roles	Reference to a player's role as a leader on his/her Olympic team	Captain, Assistant Captain

Table 10 (continued)			
Code #	Category	Definition	Examples
28	Rivalry	Reference to a rivalry between teams or players	Big rivalry, at each other's throats, playing for keeps, heavyweight/top teams in sport
29	College attended	Reference to the college that a player attended	University of Minnesota, University of Wisconsin
30	College experience	Reference to a player's collegiate playing experience in terms of years played	4 years at UMN; in her sophomore year at UW
31	College outcomes	Reference to a player's achievements or outcomes while a collegiate player	Number of NCAA Championships, played in Frozen Four, MVP in Frozen Four, won the Hobey Baker or Patty Kazmaier Awards, All-American honors
32	Other playing experience	Reference to a player's experience playing on teams or in leagues other than college or Olympics; games played in preparation for current Olympics; may include other sports played	Number of years played on team or in league, teammates on other team, leadership role on other team, name of team or league (NHL, AHL, OHL, Junior Hockey, World Juniors, World Championships, National Team Development Program, European teams, Four Nations Cup, etc.)
33	Other playing outcomes	Reference to a player's achievements or outcomes while playing on teams or in leagues other than college or Olympics; may include other sports	Wins, losses, championships, Stanley Cup, records, professional draft selection, MVP, other awards
34	Respect for/from opponent	Reference to a team seeking respect from opponent or others for their playing ability, development, or improvement	Give team credit, give team respect, no respect from opponent

Table 10 (continued)			
Code #	Category	Definition	Examples
35	Inspiration	Reference to a player who inspires others OR who was inspired by someone. Someone helping the growth of the sport.	Inspired by someone, inspiring to others, role models, help sport grow, ambassador for sport, tribute to sport, what tournament means for hockey
36	National Pride	Reference to a player who is the pride of his/her country	National hero, national icon
37	Non-classifiable	Any assertion that does not correspond to one of the categories listed above	

Phase Two: Quantitative

Phase two, or the quantitative phase, began with the development of hypotheses for the study. Like the coding categories, the hypotheses emerged from the literature review, the feminist sports criticism viewpoint, and the outcomes of the qualitative content analysis. The main research question was: Did the commentators portray women's and men's hockey players differently during the 2010 Winter Olympic Games on the NBC family of networks? By looking at the categories that emerged as well as ways in which male and female players were stereotyped, the following hypotheses emerged from the qualitative phase and were tested in the quantitative phase:

- H1 Male hockey players' physical strength (in positive connotations) will be mentioned significantly more often than that of female hockey players.
- H2 Female hockey players' physical strength (in negative connotations) will be mentioned significantly more often than that of male hockey players.
- H3 Female hockey players' emotions and personalities (in both positive and negative connotations) will be mentioned significantly more often than those of male hockey players.

- H4 Male hockey players' technical skills (in positive connotations) will be mentioned significantly more often than those of female hockey players.
- H5 Female hockey players' technical skills (in negative connotations) will be mentioned significantly more often than those of male hockey players.
- H6 Strategies for success will be suggested significantly more often for female hockey players than for male hockey players.

The next steps in the quantitative phase followed those of the traditional content analysis methodology. A coding procedures manual was prepared including the purpose of the study; instructions for coding; and the classification scheme including names, operational definitions, examples, and coding numbers for each category. Three graduate students (two males and one female), who are interested in gender, sports, and/or media, volunteered to assist with the coding of the assertions. One period from each of the four games in the sample was randomly chosen for coding. Each co-coder received the training package and independently coded the sub-sample of data.

Prior to the coding of the data, the researcher edited the coding table (Table 9) by removing the "themes" column so that the co-coders would not be influenced by the identified themes. Then she added a "code" column for categorizing the assertions. Next, she went back through the assertions and assigned a single numerical code for each assertion according to the definitions from the final list of categories. As with previous processes, she assigned the numerical category codes in a stepwise fashion, women's and then men's, period-by-period, preliminary games followed by the gold-medal games. See Table 11 for a sample application of categories. While the researcher coded the assertions from all four games in the sample, the co-coders coded only one randomly chosen period from each of the four games.

Table 11

Example of Categorization of Assertions

Commentator #	Player	Assertions	Category #
3	Knight	20 year-old Hilary Knight	3
3	Knight	...from Hanover, New Hampshire	8
3	Knight	...is one of the rising American stars	19
3	Knight	...playing in her first Olympics.	25
3	Knight	Right now tied for the team lead with 7 assists.	26

The third step in the quantitative phase was to count the frequency of each category and to measure inter-coder reliability. As a research tool, content analysis relies heavily upon the coding process and a list of categories that have been clearly defined so that all trained coders should agree upon how the content should be coded. If the category definitions or coding procedures were unclear or not specific enough, then the coders may have relied upon their own personal judgments to assign codes. If this occurred, then the study would have been less reliable and unreplicable, and the subsequent inferences made about the data would have been less valid.

The first measurement of inter-coder reliability yielded unacceptable levels of agreement. Game 1 saw a level of 57% agreement, Game 2, 45%, Game 3, 49%, and Game 4, 53%. This led to a discussion with co-coders over reasons for differential coding. As a result, some of the definitions were refined, additional examples were added to the scheme, and a couple of categories names were adjusted. “Past Olympic Experience” became simply “Olympic Experience” while “Past Olympic Outcomes” and “Current Olympic Outcomes” were combined into “Olympic Outcomes.”

The researcher and co-coders coded a different period from each of the four games in the sample. Inter-coder agreement levels increased to acceptable levels: Game 1, 78%; Game 2, 76%; Game 3, 76%; and Game 4, 76% which met the minimal level of 70% and was near the 80% suggested by Riffe et al. (1998). The researcher coded the new periods of play a second time. Intra-coder agreement levels exceeded the 80% desired level for each game: Game 1, 88%; Game 2, 82%; Game 3, 84%; and Game 4, 86%. Once the classification scheme was finalized, the researcher coded the assertions from all four games and calculated the frequency of each category. The most frequently mentioned categories for female and male players can be found in Table 12.

Table 12

Top Ten Frequently Mentioned Categories of Commentary by Sex of Player

Rank	Female players	<i>n</i>	%	Male players	<i>n</i>	%
1	Technical skills (positive connotation)	451	35%	Technical skills (positive connotation)	496	37%
2	Emotions/personality (positive connotation)	116	9%	Suggested strategies	213	16%
3	Technical skills (negative connotation)	97	7%	Technical skills (negative connotation)	147	11%
4	Suggested strategies	80	6%	Other playing experience	121	9%
5	Physical strength (positive connotation)	77	6%	Physical strength (positive connotation)	61	5%
6	Olympic outcomes	49	4%	Emotions/personality (positive connotation)	60	4%
7	Emotions/personality (negative connotation)	48	4%	Olympic outcomes	50	4%
8	Age	40	3%	Emotions/personality (negative connotation)	32	2%
9	Olympic experience	33	3%	Other playing outcomes	27	2%
10	College Attended	32	2%	Hometown, home state, high school	16	1%

The fourth and fifth steps in the quantitative phase were to run Chi-Square analyses goodness of fit tests and test the hypotheses. From the summed frequency of categories, Chi-Square analyses were used to test the six hypotheses regarding the NBC broadcasters' portrayals of female and male ice hockey players. For the analyses, it was assumed that there would be an equal distribution of the frequencies of each category between the two sexes of the players. For example, the number of assertions about players' physical strength in a positive connotation (category #17) was relevant for Hypothesis 1. It was hypothesized that male athletes were physically stronger and thus that attribute would be mentioned significantly more often for male athletes than female athletes. A Chi-Square goodness of fit test was calculated comparing the frequency of occurrence of assertions regarding players' physical strength in positive connotations. The directional hypothesis assumed that the number of assertions would occur equally between male and female players. No significant deviation from the assumed values was found ($\chi^2(1) = 1.86, p > .05$). Hypothesis 1 was not supported. Men's physical strength in positive connotations was not mentioned significantly more often than women's.

Two of the remaining five hypotheses were supported (*) through Chi-Square goodness of fit analyses, and two hypotheses indicated a statistically significant difference, but the direction of the hypothesis was not supported (**):

- H2* Female hockey players' physical strength (in negative connotations) was mentioned significantly more often than that of male hockey players ($\chi^2(1) = 4.00, p < .05$).
- H3* Female hockey players' emotions and personalities (in both positive and negative connotations) were mentioned significantly more often than those of male hockey players ($\chi^2(1) = 10.64, p < .05$).

- H4 Male hockey players' technical skills (in positive connotations) were not mentioned significantly more often than those of female hockey players ($\chi^2(1) = 2.14, p > .05$).
- H5** Female hockey players' technical skills (in negative connotations) were not mentioned significantly more often than those of male hockey players. There was a statistically significant difference, but technical skills (in negative connotations) were mentioned more often for men than for women ($\chi^2(1) = 10.25, p < .05$).
- H6** Strategies for success were not suggested significantly more often for female hockey players than for male hockey players. There was a statistically significant difference, but strategies for success were more often suggested for men than for women ($\chi^2(1) = 60.37, p < .05$).

Discussion

The purpose of this study was to analyze the television portrayals of female and male ice hockey players during the NBC broadcast of the 2010 Winter Olympic Games using a mixed-methods approach. A methodology that included a qualitative portion was desired in order to give a complete picture of the commentators' portrayals of the hockey players. A quantitative portion was desired in order to quantify and statistically compare the portrayals of the players based on their sex. By using Mayring's (2000) approach, the researcher was able to develop a two-phase process: (1) to develop a list of categories that corresponded to the data from the commentary and (2) to quantify and analyze the data. What follows is a discussion of the decision-making process for this study along with suggestions for future content analysis studies using a mixed-methods approach.

Decision Making

As with any content analysis, the researcher must make a number of decisions throughout the process. First, one has to determine which portions of the television broadcasts to analyze. For this study, it was decided to focus on the color commentary

and not the play-by-play. This eliminated a good portion of the broadcast, and the distinctions between the two types of commentary seemed readily apparent. The bulk of the play-by-play would come from one commentator while the color commentary would be spoken by the “analysts.”

However, the play-by-play announcer would often interject commentary that was informative or evaluative in nature. Therefore, the researcher decided to redefine what she was analyzing. She decided that any comments that were informational, descriptive, or analytical about a player would be included in the study. This was broadened later to include players singularly or collectively as a team. Comments about coaches, trainers, administrators, fans, or other personnel were not included. She also decided to include comments only about players or teams in the current game. In order to assure that only these comments were included, she recorded the subject (player or team) of each comment. Because the focus of this study was the media’s portrayals of ice hockey players during the Olympics, it was important to retain only those comments pertaining to the players in the games under investigation.

The unit of analysis was single, discrete assertions. The researcher transcribed verbatim the commentary and included information about the commentator and the subject of each comment. One of the tenants of content analysis is that each data unit can be assigned only one category. Some of the comments were short phrases while others were several sentences, and most contained multiple assertions or information about the players. The next phase of decision making was to divide the commentary into discrete assertions.

This parsing of commentary into discrete assertions occurred in multiple stages. First, while checking the accuracy of the transcription, the researcher recognized multiple assertions within a line of commentary and created multiple entries in the coding table. Next, as the researcher identified themes in the assertions, it became evident that some lines of commentary still contained more than one assertion. These comments were further sub-divided into discrete assertions. Finally, while applying categories to each assertion, a few assertions needed further parsing so that each was aligned with just a single category for analysis.

Developing a Classification Scheme

The final area of decision making was the development of the categories for analysis. In the beginning, a list of categories from prior studies served as a starting point. This list was modified in a systematic fashion to arrive at categories derived from the data within the commentary. It was important to cluster related themes, name them, and define them in ways that made sense. Finally, the list of categories needed to be manageable. Some categories were clearly descriptive of the players (age, height, weight, etc.) while others were informative (hometown, college attended, family, etc.). The largest portion of categories included those that were evaluative of the players' performances on the ice. These evaluative categories will probably vary greatly when analyzing other televised sports because the categories will be dependent upon the nature of the sports and the nuances of the competition.

When assigning an evaluative category it is important to think about the context of each assertion. When the commentary was divided into discrete assertions, the researcher inserted ellipses to link assertions together to retain the original context of the

commentary. One must also keep in mind the subject of the assertion. One player's poor play may result in another player's skilled play, or one player's physical strength can overpower a weaker opponent. This is especially important if the categories pertain to positive or negative connotations, for example "That's great awareness for her to move the goalie..." In this assertion, the subject was Angela Ruggiero of Team USA so the assertion was coded as a technical skill in a positive connotation (code #19) for her, rather than the goalie's technical skill in a positive connotation (code #22).

Traditional versus Mixed-Methods Content Analysis

Finally, this study would have been quite different had a traditional content analysis methodology been used where the category list was created purely from the literature review. First, the researcher might have created a tally sheet from the original list of categories and recorded occurrences by simply watching and listening to the game and not transcribing the commentary. This would have recorded how often each athlete was described using categories already identified through previous studies, but it may have missed other categories unique to the current study like "Suggested Strategies" and "Rivalry." Listening for thirty different categories at one time would be mentally exhausting and could have led to coder error. Researchers using this approach would need to listen to small portions of the games to avoid fatigue or break down the categories list into smaller portions and watch the game multiple times. Ideally, researchers should still transcribe the commentary and identify the number of times each category occurred.

Second, a number of categories unique to the current study may not have appeared on the *a priori* list of categories. When looking at the final category list for this current study, a number of categories were not included on the *a priori* list. For example,

the original list included categories where players were compared to players of the opposite sex. However, during the games in this study, players were also compared to other players of the same sex. Because the Olympics focus on athletes from particular countries, commentators often mentioned the players' hometowns, home states, or high schools as a way of providing information about the players as well as validating their place on their national team. Thus, the category relating to a players' hometown, home state, and high school would have been missed. Finally, a key evaluative category had not appeared in previous studies: "Suggested Strategies." The commentators would often evaluate a player's or team's performance and then follow up with suggested strategies on how the player or team could have performed better.

Third, there may be categories on the *a priori* list that are not relevant to the current study. For this study, a couple of categories were not present including: (1) comparing women's rules to men's rules, (2) comparing men's rules to women's rules, (3) using men's game as the standard for women's game, (4) physical attractiveness, and (5) use of technical jargon for analyzing sports. Other categories from the original list were re-packaged and combined with others under similar but different headings. For example, "role as mother/father" and "role as daughter/son" were lumped together under the new category of "family." Specific college achievements such as winning the NCAA championship or an individual award like the Hobey Baker or Patty Kazmaier Awards were lumped together under "college outcomes."

Future Content Analysis Studies

Going forward, the researcher will use this study's list of categories as a starting point for category development in future studies of television broadcasts of hockey

games. She will transcribe the commentary and compare a small portion of the commentary to this initial list of categories, and adjust the list as necessary depending upon the themes and data found in that commentary. As this study has shown, the qualitative portion captured all of the nuances of the commentary while the quantitative portion allowed a statistical way to measure differences in portrayals of athletes.

CHAPTER V

DIFFERENTIAL TELEVISION COVERAGE AND
PORTRAYALS OF OLYMPIC ICE HOCKEY
PLAYERS: A CONTENT ANALYSIS

While watching the broadcast of the 2010 Winter Olympic Games, it was very interesting to see girls' and women's ice hockey featured in several television commercials. One featured a mom who was counting up the ways she would spend the money that she saved by shopping at Wal-Mart, including her daughter's ice hockey fees for the next ten years. Visa featured several Olympic athletes including four-time Olympian Angela Ruggiero from the USA women's ice hockey team. Fellow Olympian Julie Chu participated in a public service announcement for the U.S. Census. But the commercial that stood out in my mind was a spot for McDonald's that aired during the NBC broadcast of the Opening Ceremonies on February 12, 2010. This commercial featured a girls' youth hockey team, and at the conclusion of a game the coach felt that even though his team had lost, he should take them to McDonald's:

Guys....we came up a little short today. We went into the game with one goal...and unfortunately that's how we finished the game....with one goal. But I'm proud of you. You played with heart. You played like Olympians. So today...we eat like Olympians.

On the surface this appears to be a wonderful commercial highlighting girls' youth hockey. But when one takes a closer look through a critical feminist lens, the commercial can be viewed quite differently. First, there is an adult male coaching the

young girls. From a feminist sports critic's viewpoint (Daddario, 1998) this reinforces the dominant role men play in the sport of ice hockey in that only men are qualified to be coaches. Second, the coach of this girls' youth hockey team called his players "guys" even though they were clearly adolescent girls. Obviously the actor playing the coach knew he was addressing girls. The writers of this television commercial easily could have written "girls" or "team" into the text of the commercial, but instead they chose to use a male-gendered term to address these young girls. Third, hockey players wear a lot of protective equipment, and often it can be difficult to tell the sex of the players on the ice. The producers selected young female actors with long ponytails to clearly identify the player's sex and reinforce the players' femininity. Finally, the theme of the commercial was that it did not really matter whether the female players won or not, as long as they played with emotion (another feminine trait).

Feminist sports media critics have published research on the media's role in stereotyping female athletes (Daddario, 1998; Duncan & Brummett, 1991; Duncan & Hasbrook, 1988; Kane & Greendorfer, 1994). Through this critical lens, one *could* say that the producers of the commercial framed this particular advertisement to reinforce male dominance in ice hockey by casting a male coach of female players. Likewise, the framing of this commercial *could* be seen as an attempt to trivialize and marginalize women's accomplishments in hockey by using male-gendered terms to refer to female players and by emphasizing the young players' femininity with their long hair and passionate play.

The best opportunity for casual sports fans to watch some of the finest women's ice hockey is during the Winter Olympic Games. During the 2010 Winter Olympic

Games, viewers had the opportunity to see Team USA play five games and win the silver medal. One must wonder what first-time viewers of women's ice hockey thought about the women's game. The television broadcasts of the 2010 Winter Olympic Games may have been the only exposure that these viewers had to women's ice hockey. As such, one wonders what lasting impressions these viewers have of the sport and whether or not they would watch more women's ice hockey games.

The purpose of this study was to analyze the television broadcasts of ice hockey on the NBC family of networks during the 2010 Winter Olympic Games in order to determine how the network portrayed female and male hockey players. Using the theory of media logic (Altheide & Snow, 1979), this study explored ways in which the grammar of television impacted the medium's portrayals of women's and men's Olympic ice hockey players. A feminist sports criticism framework (Daddario, 1998) was employed. If the players were portrayed differently based on the athletes' sex, the researcher explored possible sources of variation including the sex and professional backgrounds of the commentators. Differential portrayals *could* impact the viewing public's impressions of women's ice hockey as well as their decision making process when choosing which sporting events to watch or attend in the future.

Mass media can be a powerful influence on sport consumption by telling viewers which sports are worthy of watching by providing media coverage of some sports and not others (Coakley, 2007). Unlike spectators at sporting events who view and evaluate the performance with their own eyes and ears, television viewers rely upon the producers, directors, and on-air personalities to interpret sporting events. This is what Altheide and Snow (1979) termed the theory of "media logic." What viewers come to see as the reality

of a sporting event is shaped by the characteristics of the medium of television (Duncan & Brummet, 1991). These characteristics can include the type of content as well as the “grammar” of the content which for television might include the choice of camera angles or the use of on-screen graphics and slow-motion replays (Duncan & Messner, 1998). Televised sport, like most television programming, is driven by stories and narratives. On-air personalities provide narratives to describe the events on the field, but they also tell stories about the teams, athletes, and coaches to provide background information about the sporting event. They also evaluate the athletes’ performance and provide suggestions on how teams or players could be more successful. Media logic dictates that all of these characteristics of television have framed the sporting event in a certain way that impacts the mediated fans’ interpretations of the event.

Sport marketers should be concerned with the media’s portrayals of athletes because today’s world is full of numerous entertainment and recreation options from which people can choose to spend their free time. For sports fans who enjoy watching televised sports, they have many options on hundreds of channels these days. When making a decision about what to watch, sport consumers go through a particular decision making process. First, fans recognize that they have a need to fulfill such as what sport to watch on a wintery Saturday afternoon that will be entertaining and exciting (Mullin et al., 2000). After the fans watch their chosen sporting event, they will evaluate their choice and determine whether or not their choice fulfilled their initial needs. This second evaluation is particularly significant because if fans felt that this choice filled their needs, they are more likely to choose to watch similar events again in the future. If, however, their choice did not fulfill their needs, then they are less likely to make the same choice in

the future. The fans' level of satisfaction with their choice may be directly influenced by the production value of the televised sporting event as well as to the degree that the commentators made the event interesting and exciting. Television viewers come to expect that television programming follows a particular format that makes it entertaining. This is often referred to as "media consciousness" that helps users make sense of various social phenomena (Altheide & Snow, 1979).

In order to examine the media portrayals of Olympic hockey players, quantitative and qualitative content analyses were used to look at three elements of the grammar of television that may have impacted the viewers' impressions of the ice hockey competition: (1) the production value of the broadcasts; (2) the use of gender-related terms; and (3) recurring themes in the informative, descriptive, and evaluative commentary about the hockey players spoken by the on-air broadcasters.

Literature Review

Feminism and Sports Media

Mass media can play an integral role in the formation of people's attitudes about what they see and read about sports. "Sports media reflect, shape, and may help create and/or reinforce attitudes and values about what type of sports participation is appropriate and acceptable for females" (Tuggle et al., 2007, p. 58). Many scholars have examined what has been called the "triathlon of women, media, and sports" (Daddario, 1998, p. vii). Feminist theory assumes that social life can be understood by examining gender and gender relations. In the sports context, it assumes that: (1) sports are gendered and based on the values and experiences of men, (2) sports reproduce male power, and

(3) sports generate gendered ideas about the body, physicality, and sexuality (Coakley, 2007).

When focusing specifically on feminism and sports media, Daddario (1998) defined feminist sports media critics as those who “study the portrayal of female athletes in the mass media” and who “consider the degree to which the sports media contribute to the oppression of marginalized groups, particularly women” (p. 10). She has found that feminist sports media criticism studies have fallen typically into one of four categories: (1) physiological sex differences between male and female athletes that explain gender-differentiated sports media coverage, (2) the conditions under which female athletes are visible and invisible in sports media, (3) how the media perpetuate gender stereotypes in sports, and (4) gender differences in mediated sports spectatorship. The current study falls under Daddario’s third category in that it examined the portrayals of female and male hockey players generated by the television commentators during the 2010 Winter Olympic Games.

Quality of Television Coverage

Although women’s sports have made strides in the amount of television coverage (Eastman & Billings, 1999; Higgs et al., 2003; Tuggle & Owen, 1999; Urquhart & Crossman, 1999; Vincent et al., 2002; Weiller & Higgs, 1993), some critics have questioned the quality of this coverage. Many scholars (Duncan et al., 1994; Higgs & Weiller, 1994; Higgs et al., 2003) have found men’s games to be of a higher quality with better sound, more camera angles, higher profile commentators, more frequent use of on-screen game clocks and statistics, and more stylish graphics. The women’s games, on the other hand, had poor sound quality, fewer camera angles, fewer appearances of the game

clock and statistics on screen, and less-frequent graphics (which occasionally were incorrect). Adding to the drama of the men's games was the use of slow-motion replays with multiple camera angles and the use of high-tech graphics like the telestrator.

Given the nature of the results of prior studies, the following research question was posed along with the corresponding hypotheses.

RQ1 Did the production value of the Olympic broadcasts on the NBC family of networks differ significantly between women's and men's ice hockey during the 2010 Winter Games?

H1.1 Men's games had a significantly greater number of staff providing commentary.

H1.2 Men's games provided significantly more on-screen statistics.

H1.3 Men's games used a significantly greater number of slow-motion replays.

H1.3a Slow-motion replays made use of multiple camera angles significantly more often during men's games.

H1.3b There were significantly more uses of the "telestrator" within replays during men's games.

H1.4 Men's games had a significantly greater number of live interviews with players.

H1.5 Men's games featured significantly more pre-recorded player profiles.

Use of Gendered Language in Sports

The words we use in our everyday language often reflect our society's view on gender relations and gender roles. This is especially true in the world of sports where many of the terms are gendered and refer to male athletes such as *linesman*, *defenseman*, and *man-to-man* defense. But in recent years there has been a conscious effort by some sports broadcasters to use gender-neutral terms. For example, during the 1989 Women's

Final Four games, Steve Physioc often used “player-to-player” defense instead of “man-to-man” defense (Duncan et al., 1994).

Ice hockey, like many other sports, clings to its historical past and continues to use gendered terms even when referring to girls and women. Female players and officials are referred to still as “defensemen,” “center icemen,” and “linesmen,” and women’s teams can be penalized for having “too many *men* on the ice.” Some broadcasters are sensitive to the use of gendered language and use the phrase “too many *players* on the ice” instead of “*men*” when calling this particular penalty. But sometimes even the players themselves use gendered terms to describe themselves. For example, during the 2010 Winter Games, Team USA’s Angela Ruggiero was asked about her offensive output coming from the defense line: “I was the third *man* in and I ended up open and got a nice shot off” (USA Network, 22 February 2010).

Many team sports continue to be seen as masculine even when both sexes play these sports. In general, men have been playing many of these sports much longer than women. What has evolved is a two category system of sports: the sport and the women’s version of the sport. If no gender is mentioned, then it is assumed that one is speaking of the men’s game, and if one is speaking of the women’s game, then a gender qualification is needed to clarify who is playing that sport (i.e.; “Women’s Final Four”). This “gender marking” is prevalent in sports that both men and women play like basketball (Blinde et al., 1991; Messner et al., 1993).

Also, players may be portrayed differently through the use of non-parallel terms (Blinde et al., 1991; Nelson, 1996). For example, commentators often refer to grown women as “girls” but would never think to call grown men “boys.” Some broadcasters

are a bit more sensitive and call adult female athletes “ladies,” but they do not use the parallel term of “gentlemen” to refer to male athletes. Nelson (1996) also found that male commentators used more gendered language than female commentators, but at the same time there were very few female commentators. As for professional background, professional journalists tend to use different language than former athletes. Journalists are trained to be sensitive to the words they use and follow the guidelines of the Associated Press style guide.

Another form of non-parallel language is often referred to as the “hierarchy of naming” (Messner et al., 1993). There is a hierarchy of power and respect in our society, and how we address one another often denotes where we fall within this hierarchy. Those in higher stations are addressed by those in lower stations with a formal title or by just their last names. Similarly, when those in higher stations address those in lower stations, they often do so in endearing, less-formal ways like addressing them by their first names only. Although a subtle difference for some, linguists and sociologists who study language usage believe that these language patterns help to enforce male dominance and female subordination. This naming pattern has been found in the commentary of televised sports (Messner et al., 1993; Krist 2002).

Within the context of Olympic ice hockey broadcasts, the following research question and hypotheses were formulated.

RQ2 Did the NBC commentators use gender-related terms to denote differences between female and male hockey players during the 2010 Winter Olympic Games?

H2.1 Women’s ice hockey was verbally marked as “women’s ice hockey” significantly more often than men’s ice hockey was marked as “men’s ice hockey.”

- H2.2 Male commentators used male-gendered hockey terms when referring to female players, officials, and rules (i.e., *defenseman*, center ice *man*, *linesman*, too many *men* on the ice, etc.) significantly more often than female commentators.
- H2.3 Female players were referred to as “girls” or “ladies” significantly more often than male players were referred to as “boys” or “gentlemen.”
- H2.4 Female players were referred to by inappropriate gender terms significantly more often than male players (i.e., women as “boys,” “guys,” or “men,” versus men as “girls,” “ladies,” or “women”).
- H2.5 Female players were referred to by just their first name significantly more often than male players.
- H2.6 Male players were referred to by just their last name significantly more often than female players.

Television Portrayals of Athletes

One area that feminist sports media critics have focused on is how sports media perpetuate gender stereotypes in sports (Daddario, 1998; Duncan & Brummett, 1991; Duncan & Hasbrook, 1988; Kane & Greendorfer, 1994). Sports media create and reinforce images of what it means to be masculine and feminine (Coakley, 2007). Sports media typically portray female athletes in ways that emphasize their femininity (attractive, vulnerable, and physically weak) as well as their personal interests, spouses, and children. Often, female athletes are sexualized by the media (Kane & Greendorfer, 1994). Camera angles often focus in on the female athletes’ curves while the commentary emphasizes their physical attractiveness instead of their athletic accomplishments.

Descriptions of successes and failures are telling of stereotypes assigned to both genders. Male athletic success is often attributed to an athlete’s physical conditioning, knowledge of the game, good judgment, courage, and natural talent. Female athletic

success, on the other hand, is often attributed to getting along with teammates, team chemistry, luck, patience, emotional preparation, playing with heart, and a sense of family within the team (Duncan et al., 1994). When providing descriptions of male athletes, members of the media often use words like: “powerful,” “smart,” “gutsy,” “quick” and “dominant” to denote strength. Likewise, media use many different words to describe female athletes’ weaknesses: “mental mistakes,” “frustration,” “indecision,” “panic,” “loss of concentration,” and “dejection” to name a few (Duncan et al., 1994).

Although there has been an increase in the amount of television coverage for women’s sports, this has not led to equitable coverage from a content standpoint. The use of stereotypical descriptors by the media continues to reinforce male hegemony in sports (Andrews, 1998; Billings & Eastman, 2002; Blinde et al., 1991; Jones et al., 1999; Lee, 1992; Messner et al., 1993). Through the use of specific male gendered-language in sports like ice hockey, media continue to perpetuate the notion that sports are part of the male domain in our society and that certain sports were created *by* and *for* men.

The following research question and corresponding hypotheses emerged from these prior studies.

- RQ3 Did the commentators portray women’s and men’s hockey players differently during the 2010 Winter Olympic Games on the NBC family of networks?
 - H3.1 Male hockey players’ physical strength (in positive connotations) was mentioned significantly more often than that of female hockey players.
 - H3.2 Female hockey players’ physical strength (in negative connotations) was mentioned significantly more often than that of male hockey players.

- H3.3 Female hockey players' emotions and personalities (in both positive and negative connotations) were mentioned significantly more often than those of male hockey players.
- H3.4 Male hockey players' technical skills (in positive connotations) were mentioned significantly more often than those of female hockey players.
- H3.5 Female hockey players' technical skills (in negative connotations) were mentioned significantly more often than those of male hockey players.
- H3.6 Strategies for success were suggested significantly more often for female hockey players than for male hockey players.

Methodology

In order to examine the media portrayals of the Olympic ice hockey players, content analysis was chosen as the methodological approach to analyze the television broadcasts. Holsti defined content analysis as: "any technique for making inferences by objectively and systematically identifying specified characteristics of messages" (1969, p. 14). It is an unobtrusive, non-reactive research technique in that the content (or data being studied) is produced prior to the study and without influence from the researcher. Content analysis is a multi-step methodology for collecting, coding, and analyzing media texts. In procedures outlined by Gall et al. (2007), there are five steps: (1) specify research questions, hypotheses, or objectives, (2) select a sample of documents to analyze, (3) develop a category-coding procedure, (4) code the data, and (5) analyze and interpret the results.

First, this current study focused on three research questions regarding: (1) the production value of the Olympic hockey broadcasts, (2) the use of specific gender-related language to differentiate female and male hockey players, and (3) the commentators'

portrayals of the hockey players through their informative, descriptive, and evaluative comments. Specific hypotheses were developed for the three main research questions.

Next, this study focused on the U.S. television broadcasts of women's and men's ice hockey during the 2010 Winter Olympic Games as aired on the NBC family of networks. Further description of the sampling frame and selection of games for the study is provided in the data collection section.

The third and fourth steps were the development of the coding procedures and the coding of data which Holsti (1969) defined as “the process whereby raw data are transformed and aggregated systematically into units which permit precise description of relevant content characteristics” (p. 94). One must determine the *categories*, the *unit* of content to be categorized, and which system of *enumeration* to use. First, *categories* need to be exhaustive, mutually exclusive, and independent. All data units need to fit into a category, a single category, so that the placement of one datum into a category does not impact the placement of the next datum. Next, the data need to be broken down into recording *units*. These units could be single words or symbols, themes, or larger grammatical units such as a sentence or a paragraph. Finally, one must choose a system of *enumeration* or a way of counting that might include frequency, length of time, percentage, intensity, space allocation, system scaling, and scoring.

Coding sheets were developed for collecting, counting, and coding data. In addition to the coding sheet, a coding procedure manual was developed to provide the necessary background information about the study, the step-by-step procedures, definitions of categories, and rules for applying categories. Three graduate students (two

male and one female) served as co-coders and assisted the primary researcher by coding one randomly chosen period from each of the four games in the sample.

The first measurement of inter-coder reliability for Research Questions #1 and #2 yielded a wide range of levels of agreement, some of which were unacceptable according to the levels suggested by Riffe et al., (1998). Levels of agreement for the production value categories ranged from 67%-100%; for gendered language categories, 11%-100%; and for the hierarchy of naming categories, 73%-92%. Interestingly the female coders' level of agreement on the use of gendered language was at a higher level than when the men's coding was factored in. There are many possible reasons for this difference. First, the female co-coder was a sociology student and perhaps more in tune than the male coders with watching and listening for gendered language like referring to women by gendered terms like "defensemen." Second, the code with the lowest level of agreement was the frequency of the term "lady/ladies" used to refer to female players (11% agreement). The male coders did not hear this term used as frequently as the female coders did. In a study examining differences based on the sex of players, coders may have been listening for what they deemed derogatory terms used to describe female players. On the surface, the term "ladies" does not seem to be a disrespectful way to describe adult, female players. Therefore, the male coders may not have listened as closely for this term if they were expecting and listening for other words.

For Research Question #3, the levels of agreement were below the suggested 80% level: Game 1, 56%; Game 2, 45%; Game 3, 49%; and Game 4, 53%. These unacceptable levels led to a discussion with co-coders about reasons for differential coding of the data. As a result, the researcher adjusted some of the directions, coding sheets, and code

definitions based on the feedback from the co-coders. The researcher and co-coders then coded a different period of play from each of the four games in the sample. The coding of the second set of data with the new classification scheme led to higher levels of inter-coder agreement: Game 1, 78%; Game 2, 76%; Game 3, 76%; and Game 4, 76%. These new inter-coder agreement levels led to Perreault and Leigh's (1989) estimated inter-coder reliability levels (I_r) of 87%.

In order to measure the researcher's consistency of coding over time, she coded the new periods of play a second time to test the intra-coder reliability. Intra-coder agreement levels exceeded the 80% desired level for each game: Game 1, 88%; Game 2, 82%; Game 3, 84%; and Game 4, 86%. These new intra-coder agreement levels led to a Perreault and Leigh's (1989) estimated intra-coder reliability level (I_r) of 92%.

Overall, these new measurements met a minimal level of 70% and many exceeded the 80% level suggested by Riffe et al., (1998). This was an indication that there were sufficient levels of reliability to proceed with the coding of all four games. Once the new instructions and classification scheme were finalized and reliability established, the researcher coded all four games in the sample and calculated the frequency of each category.

The final step was analyzing and interpreting the data. Since the data collected were nominal or non-parametric in nature, Chi-Square analysis was used to test the hypotheses from which interpretations were made regarding the research questions. The Data Analysis section provides specific information about the coding procedures, categories, units of analysis, and enumeration systems for each research question and hypothesis as well as the statistical analysis used to analyze and interpret the data.

Most content analyses are quantitative in nature while a few are purely qualitative. This current study was primarily quantitative in nature due to the questions being asked. Research Questions #1 and #2 built heavily upon prior studies of coverage of women's sports in mass media, and the specific categories to be used for these questions were formed *a priori*. However, the final research question regarding the media's portrayal of female and male hockey players was unique. To date there have been no published studies that have content analyzed televised ice hockey games. One could develop categories for analysis similar to those developed for collegiate basketball or other Olympic sports, but these categories may not be relevant or exhaustive when looking at women playing the non gender-conforming sport of ice hockey. In order to take a broader approach to understanding the phenomenon of media portrayals of hockey players, a qualitative approach was used to identify recurring themes and to form categories for subsequent quantitative analysis.

Data Collection

The data for this study included the 2010 Winter Olympic women's and men's ice hockey competitions as aired by the NBC "family of networks" including NBC and cable channels USA Network, MSNBC, and CNBC. The women's ice hockey competition began February 13, 2010, and the medal games took place on February 25, 2010, with Canada winning the gold medal, United States the silver, and Finland the bronze. The men's ice hockey competition began on February 16, 2010, and Canada beat the United States in overtime to win the gold medal on February 28, 2010. As with the women's competition, Canada won the gold medal, United States the silver, and Finland the bronze in the men's competition.

All of the televised games of the women's and men's ice hockey competitions constituted the target population. A census study of all broadcasts of all games from all television companies would not be possible due to the lack of access from all television companies and the need to reduce the data to a manageable size. Therefore, the researcher developed a sampling frame and a sampling scheme. As this study used the U.S. broadcasts to a U.S. audience, the sampling frame included all of Team USA's games.

Berelson (1952) discussed the role of "prominence devices" in selecting representative samples. Each communication medium has its own characteristics and sections that may be more prominent such as the front page of a newspaper, headlines with larger type face, the length of a broadcast, the order of stories, or the incorporation of graphics and music into a broadcast. He suggested that researchers create sampling schemes that take variations due to prominence devices into account.

In this study, *order*, in terms of when games were played, was factored into the sampling scheme. The commentary from the two rounds of competition could be different. For example, the preliminary round served as an introduction to the teams, but the games in the medal round probably were described differently because the skills and abilities of the top teams were on display. Choosing games from only one round of competition could have introduced sampling bias due to the games' order (Berelson, 1952). Therefore, a stratified sampling technique (Groves et al., 2004) was used to select the games in order to increase the representativeness of the sample and to partially validate the study (Holsti, 1969). For this study, two strata were used: 1) the order of competition (preliminary round and the medal round) and 2) the sex of the players.

When selecting a sample of games from the strata outlined above, one has a couple of options including random sampling and purposive selection. Because the stratum of “competition order” was chosen on purpose, this study examined games that best represented the specific characteristics of each stratum and selected the most *extreme* cases within each level of competition (Gratton & Jones, 2010).

During the first game of the preliminary round, the commentators introduced the teams and players for the first time. In subsequent games within the preliminary round, the commentary may have contained less introductory commentary since viewers would have been introduced to the team and players already in the first game. Likewise, the games in the medal round built to a crescendo of excitement in the final game. The gold medal game for both the women’s and men’s tournament featured the best teams in the tournament and just happened to be Teams USA and Canada. Border-country bragging rights were at stake as these two hockey rival countries faced each other in the women’s and men’s gold medal games. As such, the gold medal game best represented the excitement characteristic of the medal round stratum.

Therefore, Team USA’s first game in the preliminary round and the gold medal game from the medal round for both sexes were included in the sample. The sample included two games per sex for a total of four games in the sample. This sample size represented 36% of the games in the sampling frame and 9% of the entire population of games. See Table 13 for the games that were chosen to be included in this study.

Table 13

Ice Hockey Games Selected via Stratified, Purposive Selection

Round	Sex	Teams	Competition date	Channel
Preliminary	Women	USA vs. China	February 14, 2010	MSNBC
	Men	USA vs. Switzerland	February 16, 2010	USA Network
Medal	Women	USA vs. Canada	February 25, 2010	MSNBC
	Men	USA vs. Canada	February 28, 2010	NBC

Data Analysis

Content analysis deals with non-parametric data, and therefore, the primary form of analysis was Chi-Square analysis. It was assumed that there would be an equal distribution of data between women's and men's games during the primary analysis. Chi-Square goodness of fit tests were calculated to test the various hypotheses. It was assumed that there would be an equal distribution of data between the women's and men's games. Each of the analysis had one degree of freedom, and a Chi-Square statistic greater than 3.84 with a p value less than .05 would indicate that there was a statistically significant difference in the distribution of the data. Whenever the primary analysis of the commentary resulted in statistically significant results, post-hoc Chi-Square tests were run to determine whether or not the commentators' sex or professional background impacted the results. Analyses of the four games in the sample yielded the following results.

Results

Research Question #1

This research question focused on the production value of the NBC broadcast of the men's and women's Olympic ice hockey games. Coders watched the games and

tallied the number of commentators, on-screen statistics, slow-motion replays and angles, uses of the telestrator, player interviews, and pre-recorded player profiles. Only one of the hypotheses was fully supported (see Table 14).

Hypothesis 1.1. This hypothesis was not supported. Men's games did not have a significantly greater number of staff providing commentary than women's games did ($\chi^2(1) = 0.07, p > .05$). In fact, several of the commentators worked both the men's and women's games including one of the most recognizable play-by-play commentators in the U.S. However, there were no female commentators for the men's games.

Hypothesis 1.2. It was hypothesized that there would be a significant difference in the number of on-screen statistics between men's games and women's games. From the feminist sports media criticism perspective, it was predicted that men's games would feature more because men play the "true" form of the sport and are worthy of more analysis and use of statistics. A Chi-Square goodness of fit test was calculated, and this analysis revealed a statistically significant difference between the number of on-screen statistics for men's games and women's games ($\chi^2(1) = 8.34, p < .05$). However, the direction of the difference was not as hypothesized. There was a statistically significant greater number of on-screen statistics during the women's games. This may be more a result of the game outcomes and the number of goals scored during the women's games rather than any sociological phenomenon. When a player scored a goal or received a penalty, the NBC producers flashed the player's statistics on-screen. The women's teams in the sample had a total of 15 goals and 21 penalties whereas the men's teams had only 9 goals and 9 penalties.

Hypothesis 1.3. This hypothesis was not supported. Men's games did not use a significantly greater number of slow-motion replays than the women's games did ($\chi^2(1) = 1.89, p > .05$). The women's games featured several exciting, skilled goals in addition to other plays that were featured during the slow-motion replays.

Table 14

Chi-Square Analysis Results Regarding Production Value of NBC Broadcast

	Hypotheses	<i>N</i>	χ^2	<i>df</i>	<i>p</i> -value
H1.1	Men's games had a significantly greater number of staff providing commentary.	15	0.07	1	0.80
H1.2	Men's games provided significantly more on-screen statistics.	94	8.34	1	0.00*^
H1.3	Men's games used a significantly greater number of slow-motion replays.	119	1.89	1	0.17
H1.3a	Men's games featured significantly more slow-motion replays that contained multi-angle camera shots than women's games.	28	0.57	1	0.45
H1.3b	There were significantly more uses of the "telestrator" within replays during men's games.	14	14	1	0.00*
H1.4	Men's games had a significantly greater number of live interviews with players.	14	1.14	1	0.29
H1.5	Men's games featured significantly more pre-recorded player profiles.	37	0.68	1	0.41

* Significant at the .05 level. ^ Direction of the hypothesis not supported.

Hypothesis 1.3a. This hypothesis also was not supported. Men's games did not feature significantly more slow-motion replays that contained multi-angle camera shots than the women's games did ($\chi^2(1) = 0.57, p > .05$). The producers of the NBC broadcasts chose to replay several key plays from the women's games from multiple camera angles.

Hypothesis 1.3b. This hypothesis was fully supported. The on-air staff used the telestrator significantly more often during men's games to analyze slow-motion replays

($\chi^2(1) = 14.00, p < .05$). All 14 uses of the telestrator occurred during the two men's games in the sample. It was assumed that the broadcasters of the women's games had equal access to the telestrator technology. The lack of its usage during the women's games may have been due to a lack of training by those broadcasters for the women's games rather than an intentional slight.

Hypothesis 1.4 and 1.5. These hypotheses were not supported. Men's games did not have a significantly greater number of live interviews with players than the women's games did ($\chi^2(1) = 1.14, p > .05$). Men's games did not feature significantly more pre-recorded player profiles than women's games did ($\chi^2(1) = 0.68, p > .05$).

Research Question #2

This research question and its associated hypotheses examined the various uses of gendered language by the television commentators when describing the play of female and male hockey players. Chi-Square analyses were used to analyze the non-parametric data. Whenever statistically significant results were found, post-hoc tests were run to determine whether the commentator's sex or professional background impacted the use of gendered language. Expected frequencies for the post-hoc analyses were calculated based on the ratio of female to male commentators (2:9) and professional journalists to former athletes (5:6). Four of the six hypotheses were fully supported (see Table 15).

Hypothesis 2.1. It was hypothesized that the commentators would verbally mark the women's hockey competition as "women's ice hockey" significantly more often than they would "men's ice hockey." Chi-Square analysis revealed a statistically significant difference in the frequency of the specific phrases ($\chi^2(1) = 7.56, p < .05$). Commentators used a gender marker more often to distinguish the women's competition than the men's

competition. Post-hoc tests were run to determine whether or not the commentators' sex or professional background impacted their use of gender markers. There was not a significant difference based on the commentators' sex ($\chi^2(1) = 0.39, p > .05$), but there was a statistically significant difference based on the commentators' professional background ($\chi^2(1) = 7.75, p < .05$). Those commentators who were identified as professional journalists used gender marking more often than commentators who were former athletes.

Table 15

Chi-Square Analysis Results Regarding the Use of Gendered Language

	Hypotheses	<i>N</i>	χ^2	<i>df</i>	<i>p</i> -value
H2.1	Women's ice hockey was verbally marked as "women's ice hockey" significantly more frequently than men's ice hockey was marked as "men's ice hockey."	64	7.56	1	.006*
H2.2	Male commentators used male-gendered hockey terms when referring to female players, officials, and rules (i.e., <i>defenseman</i> , center ice <i>man</i> , <i>linesman</i> , too many <i>men</i> on the ice, etc.) significantly more often than female commentators.	23	17.5	1	0*^
H2.3	Female players were referred to as "girls" or "ladies" significantly more often than male players were referred to as "boys" or "gentlemen."	28	23	1	0*
H2.4	Female players were referred to by inappropriate gendered terms significantly more often than male players (i.e., women as "boys," "guys," "men," etc. versus men as "girls" or "ladies," etc.).	0	N/A		
H2.5	Female players were referred to by just their first name significantly more often than male players.	41	8.8	1	0.003*
H2.6	Male players were referred to by just their last name significantly more often than female players.	2,383	44.87	1	0*

* Significant at the .05 level. ^ Hypothesis' direction not supported.

Hypothesis 2.2. Male-gendered hockey terms (i.e., defenseman, center ice man, linesman, too many men on the ice, etc.) were used 28 times when referring to female hockey players during the two women's hockey games in the sample. Chi-Square analyses were run to see if the commentators' sex or professional background impacted their use of male-gendered hockey terms for the women's players. There was a statistically significant difference based on the commentators' sex ($\chi^2(1) = 17.50, p < .05$) however the direction of the hypothesis was not supported. Female commentators referred to female hockey players with male hockey terms significantly more often than male commentators. The two female commentators were former athletes who grew up at a time when most girls who wanted to play ice hockey had to play on boys' teams due to the lack of girls' teams. Therefore, these women grew up being called and referring to other female players by male-gendered hockey terms. There was no significant difference based on the professional background of the commentators ($\chi^2(1) = 2.00, p > .05$).

Hypothesis 2.3. It was hypothesized that female athletes would be referred to as "girls" and "ladies" significantly more often than male athletes were referred to as "boys" and "gentlemen." The analysis revealed a statistically significant difference in the frequency of these specific phrases ($\chi^2(1) = 23.00, p < .05$). Post-hoc analyses indicated that the commentators' sex did not impact their usage of these terms ($\chi^2(1) = 0.01, p > .05$), nor did the commentators' professional background ($\chi^2(1) = 3.48, p > .05$).

Hypothesis 2.4. In prior studies researchers found that female athletes were referred to by inappropriate gendered terms (i.e., women as "boys," "guys," "men," etc.) significantly more often than male players were referred to as "girls," "gals," or

“women.” During the content analysis of the four games in this sample, the on-air commentators did not use any inappropriate gendered terms for female or male athletes.

Hypotheses 2.5 and 2.6. The hierarchy of naming theory led to the hypotheses that female athletes would be referred to by just their first names significantly more often than male athletes while male athletes would be referred to by just their last names significantly more often than female athletes. Both hypotheses were fully supported by Chi-Square analyses. Female athletes were referred to by just their first names significantly more often than male athletes ($\chi^2(1) = 8.80, p < .05$). Post-hoc analyses indicated that the commentators’ sex did not impact the use of just first names for female athletes ($\chi^2(1) = 1.06, p > .05$), nor did the commentators’ professional background ($\chi^2(1) = 1.11, p < .05$).

When examining the use of just the last name, male athletes were referred to by just their last names significantly more often than female athletes ($\chi^2(1) = 44.87, p < .05$). Since all of the commentators for the men’s games were male, no post-hoc tests were run on the impact of the commentators’ sex. However, it was found that the commentators’ professional background did influence the use of last names ($\chi^2(1) = 1784.54, p < .05$). Professional journalists were more likely to refer to male athletes by just their last names.

Research Question #3

This research question pertained to the description of the athletes by the on-air commentators. Categories used to describe athletes were developed from a qualitative analysis of the transcription of informative, descriptive, and evaluative comments made about the hockey players. From the summed frequency of each category, Chi-Square analyses were used to test the six hypotheses regarding the NBC broadcasters’ portrayals

of female and male ice hockey players. Whenever statistically significant results were found, post-hoc tests were run to determine whether the commentator's sex or professional background impacted the descriptions of the athletes. Expected frequencies for the post-hoc analyses were calculated based on the ratio of female to male commentators (2:9) and professional journalists to former athletes (5:6). Two of the six hypotheses were fully supported (see Table 16).

Table 16

Chi-Square Analysis Results Regarding the Portrayals of Hockey Players

	Hypotheses	<i>N</i>	χ^2	<i>df</i>	<i>p</i> -value
H3.1	Male hockey players' physical strength (in positive connotations) was mentioned significantly more often than that of female hockey players.	138	1.86	1	0.17
H3.2	Female hockey players' physical strength (in negative connotations) was mentioned significantly more often than that of male hockey players.	16	4.00	1	0.04*
H3.3	Female hockey players' emotions and personalities (in both positive and negative connotations) were mentioned significantly more often than those of male hockey players.	274	10.64	1	0.00*
H3.4	Male hockey players' technical skills (in positive connotations) were mentioned significantly more often than those of female hockey players.	947	2.14	1	0.14
H3.5	Female hockey players' technical skills (in negative connotations) were mentioned significantly more often than those of male hockey players.	244	10.25	1	0.00*^
H3.6	Strategies for success were suggested significantly more often for female hockey players than for male hockey players.	293	60.37	1	0.00*^

* Significant at the .05 level. ^ Hypothesis' direction not supported.

Hypothesis 3.1. This hypothesis was not supported. Male hockey players' physical strength (in positive connotations) was not mentioned significantly more often

than that of female hockey players ($\chi^2(1) = 1.86, p > .05$). Female players were portrayed as being physically strong during their games.

Hypothesis 3.2. Through the lens of feminist sport media criticism, male athletes are typically portrayed by the media as the physiological stronger sex. Therefore, it was hypothesized that female players' strength (in negative connotations) would be mentioned significantly more often than that of male players. The results of the Chi-Square analysis fully supported this hypothesis ($\chi^2(1) = 4.00, p < .05$). A post-hoc analysis based on the commentators' sex was not performed due to the fact that the expected frequencies based on the commentators' sex were less than five and thus insufficient to run Chi-Square analysis. The post-hoc analysis based on the commentator's profession background indicated a significant difference ($\chi^2(1) = 4.60, p < .05$). Former athletes were more likely to mention female athletes' strength in negative connotations.

Hypothesis 3.3. A common theme in previous studies was the description of female athletes based on their emotions, both positive and negative. It was hypothesized that female players' emotions (in both positive and negative connotations) would be mentioned significantly more often than those of male players. The results of the Chi-Square analysis fully supported this hypothesis ($\chi^2(1) = 10.64, p < .05$). The frequency of mentions of emotions was impacted by both the commentators' sex ($\chi^2(1) = 131.39, p < .05$) and professional background ($\chi^2(1) = 110.02, p < .05$). Female commentators and former athletes described female players by their emotions more frequently than their male and former athlete colleagues.

Hypotheses 3.4 and 3.5. Women's ice hockey is a relatively new Olympic sport. Along with greater physical strength, male athletes playing "masculine" sports are portrayed by the media with having a higher skill set in these sports compared to their fellow female athletes playing the same sport. Therefore, it was hypothesized that male hockey players' technical skills (in positive connotations) would be mentioned significantly more often than those of female hockey players while female hockey players' technical skills (in negative connotations) would be mentioned significantly more often than those of male hockey players.

As for mentions of positive technical skills, there was no significant difference in comments about players' technical skills (in positive connotations) between male and female players ($\chi^2(1) = 2.14, p > .05$). There was, however, a significant difference in the frequency of commentary regarding technical skills in negative connotations ($\chi^2(1) = 10.25, p > .05$), but the predicted direction of the difference was not supported. Male hockey players' skills in negative connotations were mentioned significantly more often. Post-hoc analyses showed that the commentators' professional background ($\chi^2(1) = 55.43, p < .05$) impacted the frequency. Former athletes were more likely to mention male hockey players' skills in negative connotations.

Hypothesis 3.6. This was only the fourth Olympiad for women's ice hockey. According to feminist sports media criticism, women playing typical masculine sports will be portrayed by the media with having a lower skill set and thus they need strategic advice for how to play the game. Therefore, it was hypothesized that the commentators would mention more frequently strategies that would help the female players be more successful. The Chi-Square analysis indicated a statistically significant difference

between the frequency of strategic comments directed toward female and male hockey players ($\chi^2(1) = 60.37, p < .05$). Once again, the direction of the hypothesis was not supported. Commentators provided strategic comments more frequently toward male players than female players. Post-hoc analyses indicated that the commentators' sex did impact their comments ($\chi^2(1) = 4.98, p < .05$), and the commentators' professional background did ($\chi^2(1) = 104.63, p < .05$). Female commentators and former athletes provided significantly more strategic comments. This makes sense in the fact that all of the female commentators were former athletes and that former athletes are hired primarily for their expertise in the nuances of the game.

Discussion

The purpose of this study was to analyze the television broadcasts of ice hockey on the NBC family of networks during the 2010 Winter Olympic Games in order to detect differences between the broadcasts of the women's and men's ice hockey games that could impact the mediated viewers' impressions. Using the theory of media logic, this study explored ways in which the grammar of television impacted the medium's portrayals of women's and men's Olympic ice hockey players. A feminist sports criticism framework was employed to detect variations based on the sex of the players. Differential portrayals *could* impact the viewing public's impressions of women's ice hockey as well as their decision making process when choosing which sporting events to watch or attend in the future.

The study addressed three main research questions regarding: (1) the production value of the broadcasts, (2) the use of specific gendered language, and (3) the descriptions of the female and male hockey players. Content analysis was the primary

methodology engaged in the detection of differential portrayals of the female and male hockey players.

Production Value

Did the production value of the Olympic broadcasts on the NBC family of networks differ significantly between women's and men's ice hockey during the 2010 Winter Games? The entertainment value of a television broadcast is crucial for building a television audience for a sporting event. Sports fans have witnessed an evolution of sports television from black-and-white to color broadcasts, the use of artistic graphics that increase the aesthetics of the broadcast, the ability to watch a crucial play over and over in slow motion from various angles, and the use of graphical tools such as the telestrator to visually examine and explain plays. Sports fans have developed what has been called a "media consciousness" or expectation of what a high-level television broadcast looks and sounds like. If the key production elements fall below the expected production value, then the fans may judge the broadcast as unsatisfactory and may be less likely to watch that sport on television again.

When examining NBC's broadcast of the 2010 Winter Olympic ice hockey tournament, the production grammar of the broadcasts was similar for the women's and men's hockey games except for two key areas: the use of on-screen statistics and the use of the telestrator to analyze slow-motion replays. There was a significant difference in the number of on-screen statistics, but it was the women's games rather than the men's games that contained a significantly higher amount. Overall, the NBC broadcasts of ice hockey games made minimal use of on-screen statistics and limited their use to visually documenting who scored goals and who assisted on the goals. Information about

penalties received some visual documentation but not consistently. Since the women's teams had 15 goals and 21 penalties and the men's teams only had 9 goals and 9 penalties in the four games in this study, this could easily explain the difference in the amount of graphical statistics.

Next, although there was no significant difference in the number of slow-motion replays, the use of the telestrator to visually explain the action in the slow-motion replays was unevenly used. The commentators for the women's games never made use of the telestrator. It is assumed that these commentators had equal access to the technology, but for some reason it was not used during the women's games. This may be due to several possible reasons including: lack of training for the commentators, commentators' lack of confidence in using the tool, or the personal preference of the commentators who may enjoy verbal rather than visual explanations of key plays. Likewise, the production editors of the NBC broadcasts may have decided not to use the telestrator due to a perceived notion of what the viewers of women's hockey expect in television coverage of women's sports. Additional research including interviews with NBC staff as well as a survey of mediated fans of women's ice hockey could reveal possible reasons for the absence of the telestrator during the women's games.

The television audience watching the women's Olympic ice hockey tournament was probably made up of die-hard hockey fans, but there was probably a good portion of the viewing audience who were first-time viewers of the sport and may not have been as familiar with the sport. The telestrator technology would have been a valuable tool for the commentators to better illustrate and explain the key plays of the game to a less knowledgeable television audience. To ensure more even production value and a greater

explanation of the game during future broadcasts, the network should provide training for all commentators on the use of the telestrator and other analytical graphical technologies.

Use of Specific Gendered Language

Did the NBC commentators use gender-related terms to denote differences between female and male hockey players during the 2010 Winter Olympic Games? In regards to the verbal grammar of the production of the broadcasts, there was a significant amount of gendered language. As with many prior studies (Blinde et al., 1991; Messner et al., 1993), the women's version of sporting events continues to be marked as "women's," and the men's version has no reference to the sex of the players. This is just one example of uneven language usage in this study.

Next, women were referred to as "girls" and "ladies" while men were never referred to by the parallel terms of "boys" and "gentlemen." In prior sports media analyses (Blinde et al., 1991; Messner et al., 1993; Nelson, 1996), women were also called "boys" and "guys," and men performing at sub-par levels were described as "playing like girls." This use of inappropriate gendered terms was not present in this current study. However, male-gendered hockey terms were used during the women's games like "defenseman," "linesman," "too many *men* on the ice," and "one *man* short." Interestingly, several of these words were used by the female commentators. The two female commentators were former athletes who had grown up at a time when there were very few female-only hockey teams so they grew up playing hockey with boys and came to accept these male-gendered hockey terms even when applied to them. During one of the player interviews, a female player referred to herself as "the first *man* in the zone." As new generations of girls play on female-only hockey teams, it will be interesting to see

how many of them will push for a change in the hockey terms used to refer to female players and whether or not this will trickle up to the media. While the female commentators used some gendered hockey terms, one of the male, professional journalists made an effort to use terms like “defender” and “too many *players* on the ice” and “one *player* short.” Perhaps there will be a shift in terminology as women’s ice hockey continues to grow and receives greater television coverage.

Finally, a hierarchy of naming was present in these broadcasts as references to female players by just their first name (a sign of lower societal position) and male players by just their last name (a sign of higher societal position) were observed as hypothesized and found in earlier studies (Higgs & Weiller, 1994; Messner et al., 1993; Krist, 2006). Feminist sports media critics (Daddario, 1998; Duncan & Brummett, 1991; Duncan & Hasbrook, 1988; Kane & Greendorfer, 1994) would suggest that the use of only first names for female players by the media is a way to infantilize women in sports, to portray them as lower-class athletes, and to diminish their athletic skills. By making commentators more aware of the hierarchy of naming, future broadcasts may have more balanced use of full names or last names only.

Overall, the women’s version of the hockey competition was portrayed as “another” version of the sport through the use of gender marking. Through the commentators’ use of non-parallel words and phrases as well as the use of just their first names, female athletes were portrayed as being lower-class athletes. A greater awareness and conscious choice of words and names in future broadcasts is needed to put televised women’s and men’s sports on an even playing field.

Descriptions of Female and Male Hockey Players

Did the commentators portray women's and men's hockey players differently during the 2010 Winter Olympic Games on the NBC family of networks? When examining televised sports, one must keep in mind that the verbal grammar of television is driven by stories. Although most televised sporting events these days are aired live and appear unscripted, on-air commentators prepare for each broadcast with informational notes about the teams, players, and coaches so that they can weave interesting stories into the broadcast along with colorful descriptions of the action on the ice (Billings, 2008). But how much of the informal script is followed? How much of the broadcasters' personalities and biases come through? According to Billing's 2008 qualitative study, NBC personnel indicated that Editorial Director Joe Gesue hired a research team to seek out and evaluate storylines about specific athletes:

Leading up to the Olympics, I manage a team of researchers who travel around the world interviewing athletes and coaches and officials to learn their stories and help prepare our production team for the Games. We work hand in hand with the Olympic Profiles department, which produces the athlete stories that appear in our coverage (p. 26).

One of the personal stories that stood out during the broadcast of the women's hockey tournament was Julie Chu and her ancestry. The first game in the tournament for the US women's team was against Team China. The game just happened to have taken place on Chinese New Year. Much attention was given to Julie Chu's Chinese heritage and her father who emigrated from China to North America. The camera operators focused in on her family to show how many of them had come to the Games to support her. Her family's level of support goes beyond the surface, as it was told several times how members of her family had gotten tattoos of the Olympic rings and her uniform

number when she was named to the 2002 Olympic team. The commentators also frequently mentioned the support of the Chinese-Canadians in the crowd. Vancouver has the second largest Chinatown, and many local fans were in the stands to cheer for Team Canada as well as Julie Chu of Team USA.

Beyond background stories though, the commentators used words and phrases to describe and evaluate the players' performances on the ice. Past studies (Billings, 2008; Duncan & Hasbrook, 1988) have shown that commentators often focused on the superior strength and skills for men while they focused on the women's attractiveness, lack of experience or skills, and their families. When looking at the top commentary categories for both sexes (Table 17), technical skills (in positive connotations) was the top-ranking comment followed closely by strategies and technical skills (in negative connotations).

Although there were some significant differences when looking at specific commentary categories, overall female players were not portrayed by their attractiveness or their family roles as they were in earlier studies (Duncan & Hasbrook, 1988; Kane & Greendorfer, 1994), but rather as athletes. Female players were portrayed as having positive technical skills (35% of commentary), areas to improve technically (7%), and strategies to improve their game (6%) – not unlike the comments made about the male athletes whose technical skills ranked first (37% of commentary), suggested strategies for improvement (16%), and areas to improve technically (11%).

Table 17

Top Ten Frequently Mentioned Categories of Commentary by Sex of Player

Rank	Female players	<i>n</i>	%	Male players	<i>n</i>	%
1	Technical skills (positive connotation)	451	35%	Technical skills (positive connotation)	496	37%
2	Emotions/personality (positive connotation)	116	9%	Suggested strategies	213	16%
3	Technical skills (negative connotation)	97	7%	Technical skills (negative connotation)	147	11%
4	Suggested strategies	80	6%	Other playing experience	121	9%
5	Physical strength (positive connotation)	77	6%	Physical strength (positive connotation)	61	5%
6	Olympic outcomes	49	4%	Emotions/personality (positive connotation)	60	4%
7	Emotions/personality (negative connotation)	48	4%	Olympic outcomes	50	4%
8	Age	40	3%	Emotions/personality (negative connotation)	32	2%
9	Olympic experience	33	3%	Other playing outcomes	27	2%
10	College Attended	32	2%	Hometown, home state, high school	16	1%

This is encouraging to see that television broadcasters appear to be focusing on women's athletic achievements and not just their physical attractiveness. However, one must ponder the nature of the sport when comparing this study to past studies. In other sports like tennis, golf, and gymnastics, female athletes wear skirts and leotards that are form-fitting or more revealing of the feminine physic. Due to the physical nature of ice hockey, players are required to wear protective equipment as well as warm clothing in the cold arena. Very little of the women's skin or shapeliness is readily visible. Oftentimes it is difficult to determine from a distance the sex of a hockey player on the ice unless a woman is wearing her hair in a ponytail. Perhaps there was less descriptive commentary

regarding the women's attractiveness because of the less-revealing clothing and equipment that female hockey players wear.

One theme of the commentary, however, remains associated with female athletes, and that was the contributions of their emotions and personalities to their success (in positive connotations) as Duncan et al. (1994) found in their study. This category ranked second for women at 9% but only sixth for men at 4%. Emotional and personality-related comments included words and phrases like: excited, loves to be involved, loyal, poised, dynamic, composed, creative, and so on. The female players also were portrayed as having good team chemistry, a function of their personalities and compassion for their teammates. Some of the commentary regarding male players, on the other hand, focused on controlling their emotions, as if emotions were a bad thing. Although the number one descriptor of female athletes was their technical skills, it was still evident that commentators believed that the female players' emotions and personalities were still part of their success as athletes.

Practical Implications

For those viewers who observed women's ice hockey for the first time during the NBC broadcast of the 2010 Winter Olympic Games, they watched the American women win every single game except the gold-medal game. They consistently out-scored their opponents throughout the tournament. Several of their goals showcased their high technical skills in the sport of ice hockey. However, the replays during the tournament were often limited to single-camera angles and did not feature any use of the telestrator graphic tool that the commentators could have used to further dissect and analyze these goals scored by the American women. This was the only glaring difference in how

mediated viewers experienced the women's and men's games from a production value standpoint. Television sports fans have come to expect this type of graphical analysis as part of a common media consciousness. In the future, Olympic television broadcast companies need to make sure that all commentators have equal access and training so that they can all make use of the telestrator and other technologies to equally analyze the broadcasts.

Next, the use of gendered language continues in televised sports. However, most of the categories of specific language had few if any occurrences during these broadcasts. For example, none of the athletes were referred to by the wrong gender such as female players being called "guys." Gender-marking of events as "women's" while not marking events as "men's" is a common theme throughout most sports media analyses. On-air personalities, producers, and directors need to consistently use gender marking for both genders in order to identify the sex of the athletes but more importantly to provide graphical and visual clues that each sex's version of the sport is just as legitimate as the other. As this study showed, this practice needs to be worked on by those on-air personalities who are former athletes. Female athletes are still being referred to as "girls" or "ladies" but only 23 times in this study. The use of male-gendered hockey terms will continue but there was an attempt by some commentators to use the terms "too many *players* on the ice" or "one *player* short" instead of using "*men/man*."

Finally, female athletes were called by just their first name significantly more often than male athletes. Of all of the usages of gendered language, this is probably the least noticeable by mediated viewers. When the male journalist interviewed players in between periods, he addressed the players by their first names. Likewise, both of the

female on-air personalities were former athletes who personally knew most of the current female athletes on Team USA. As such, they were used to referring to their friends by just their first names. A final factor in the number of times the women were called by their first name was the presence of twin sisters on Team USA who had to be differentiated by their first names. Most commentators would refer to an athlete by her/his full name, followed by just their last name in subsequent commentary. The play-by-play commentators had less time to say complete names whereas the color analysts had more time to break down the play and provide the players' full names. Although feminists and sociologists (Daddario, 1998; Graddol & Swann, 1989; McConnell-Ginet, 2011) would see that this differentiation in use of first name only or last name only means something significant about our society, in the mind of the mediated sports viewer there may not be a noticeable difference in how they perceive athletes.

As for the verbal descriptions of the athletes, there were some common areas of emphasis. The female hockey players were most frequently described by their high level of technical skill. However, a high skill set was not the only factor for their success. The commentators of the women's games also focused on the role of the women's emotions and personalities, as has been documented in past studies. The mediated viewers must decide for themselves whether or not these women were outstanding athletes or stereotypical women whose lives were wrapped up in emotions. Can one be an outstanding athlete and still be an emotional being? Do viewers want to watch such athletes and hear about their emotions? Does this portrayal of female athletes diminish their athletic skills and success? Given that 35% of the commentary about the female players focused on their technical skills in positive connotations and emotions ran a

distant second place ranking at 9%, it is hoped that viewers retained an impression that both female and male hockey players during the Olympics were seen as highly-skilled athletes. Thus, when they have an opportunity to choose a televised sport, they would consider watching another women's ice hockey game. Sports media companies are encouraged to continue to portray female athletes in ways that emphasize their athleticism on an equal footing with male athletes.

Significance of the Study

First, this study adds to the overall study of the intersections of gender, media, and sport by adding a study focused on a team sport that has been traditionally seen as a masculine sport. The media portrayals of women playing a “masculine” sport like ice hockey could possibly work against sport marketers’ efforts to promote women’s ice hockey. Lasting impressions by viewers of the Olympic broadcasts could impact the viewers’ evaluation of women’s ice hockey and subsequent decisions whether or not to watch or attend women’s ice hockey games. Second, this study focused on the Winter Olympic Games. Until now, the majority of Olympic media studies have focused on the Summer Olympics with only a couple of studies focused exclusively on the Winter Games. Finally, most of the studies regarding televised coverage of the Olympics have looked at the primetime coverage of multiple sports on the primary broadcast network. During the 2010 Winter Olympics, the majority of ice hockey games appeared on stations within the NBC “family of networks” including NBC, USA Network, MSNBC, and CNBC. Therefore, this study involved Olympic broadcasts on the main broadcast channel as well as affiliated cable channels. On many fronts this study built on prior research, and

in other ways it extended the scope of analysis of televised sports, media portrayals of athletes, and marketing implications.

Limitations

This study focused on the U.S. broadcast of Olympic hockey games that involved Team USA in both the women's and men's tournaments. From this sampling frame, only four games were selected for analysis. This smaller sample may limit the generalizations that can be applied to the entire 2010 Winter Olympic hockey tournament. Another limitation is the low inter-coder reliability levels. Additional training, the use of different coders, and a refinement of the classification scheme could lead to a more consistent coding of the data and a greater level of reliability. Finally, this study focused on just the U.S. broadcasts and cannot be applied to the Canadian or Swedish or Finnish national broadcasts, for example. Other media covered the tournament as well, and these media may have provided different descriptions of the athletes in the form of photographs, interviews, live commentary, or post-game articles.

Future Directions

First, a cross-cultural study could be undertaken to compare the Canadian and U.S. broadcasts of the same tournament, especially since these two teams battled for the gold medal. Hockey is Canada's national winter sport, and the audience tuned in to watch hockey on television would presumably have a different level of knowledge about the sport than casual sports fans watching the U.S. broadcast. The Canadian women's team has won the last three Olympic gold medals. All of this may lead to different portrayals of the Canadian women's ice hockey team.

Next, one could examine other media platforms to look for commonalities or differences. Newspaper, magazine, and Internet coverage would be interesting, but so would various social media in which fans help generate or react to media content generated by others. One particular aspect of future research would be the media's coverage of the Canadian women's hockey team's celebration following the gold medal game where they were photographed smoking cigars and drinking champagne straight out of the bottle at center ice after they thought everyone had left. The publishing of these photos and the accompanying stories in newspapers and on newspaper web sites generated a lot of critical commentary directed at the women's ice hockey team. Fans and readers posted thousands of responses on the newspapers' web sites in reaction to what some thought was less than ideal feminine behavior and less than ideal Olympic athlete behavior (especially since one of the players was Hayley Wickenheiser who had taken the athlete's oath during the Opening Ceremonies).

Third, this study could be the basis of a longitudinal study. Data could be collected every four years regarding production value, use of gendered language, and the description of female and male Olympic hockey players. The results of the 2010 Olympics would serve as a baseline for comparison for future Olympiads. It is hoped that there would be improvements over time regarding the production value, use of gendered language, and the portrayals of hockey players.

Finally, this study has looked at ways in which the NBC family of networks covered the 2010 Winter Olympic hockey competition. Key areas of analysis were production value, use of gendered language, and the ways in which the players were described. It was assumed that mediated fans would be less interested in watching

additional women's hockey games if the NBC coverage had a lower production value, if the commentators used gendered language, and if the commentators portrayed female players in ways that did not focus on their athleticism. This was assumed because as Altheide and Snow (1979) suggested, television viewers have a shared media consciousness of what makes a good television program. It would be interesting to know whether or not mediated fans notice the presence or absence of various production elements. For example, do mediated fans expect to see slow-motion replays analyzed with the use of the telestrator? If televised sporting events do not use the telestrator, do mediated fans feel that these broadcasts are not worth watching? Likewise, do mediated fans notice gender-marking of women's sporting events? Does this impact the way they view the value of the women's broadcast? Do they see the women's version of the game as a lesser version? Finally, do the mediated fans even notice that female athletes are referred to by just their first names while male athletes are referred to by just their last names? In other words, do they notice the hierarchy of naming? Does it really matter to the mediated fans and their perception of female athletes? A survey of mediated sports fans would be one way in order to ascertain whether or not these differential portrayals of athletes based on their sex truly make a difference when fans make decisions about which sports to watch on television.

REFERENCES

- Acosta, R. V., & Carpenter, L. J. (2010). Women in intercollegiate sport: A longitudinal, national study: Thirty three year update: 1977-2010 [Web page]. Retrieved from: <http://www.acostacarpenter.org/2010pdf%20combined%20final.pdf>
- Alaszkievicz, R. K., & McPhail, T. L. (1986). Olympic television rights. *International Review for the Sociology of Sport*, 21, 211-228. doi: 10.1177/101269028602100210
- Altheide, D. L., & Snow, R. P. (1979). *Media logic*. Beverly Hills, CA: Sage Publications.
- Andrews, D. L. (1998). Feminizing Olympic reality: Preliminary dispatches from Baudrillard's Atlanta. *International Review for the Sociology of Sport*, 33, 5-18. doi: 10.1177/101269098033001001
- Avery, J., & Stevens, J. (1997). *Too many men on the ice: Women's hockey in North America*. Custer, WA: Polestar Book Publishers.
- Beijing Organizing Committee for the Games of the XXIX Olympiad. (2008). Olympic sports [Web page]. Retrieved from: <http://en.beijing2008.cn/sports/>
- Bellamy, R. V. (1998). The evolving television sports marketplace. In L. A. Wenner, (Ed.), *MediaSport* (pp. 73-87). New York, NY: Routledge.
- Berelson, B. (1952). *Content analysis in communication research*. Glencoe, IL: The Free Press.

- Billings, A. C. (2008). *Olympic media: Inside the biggest show on television*. New York, NY: Routledge.
- Billings, A. C., & Eastman, S. T. (2002). Selective representation of gender, ethnicity, and nationality in American television coverage of the 2000 Summer Olympics. *International Review for the Sociology of Sport*, 37, 351-370. doi: 10.1177/101269020203700302
- Blinde, E. M., Greendorfer, S. L., & Shanker, R. J. (1991). Differential media coverage of women's and men's intercollegiate basketball: Reflection of gender ideology. *Journal of Sport & Social Issues*, 15, 98-114. doi: 10.1177/019372359101500201
- Boutilier, M. A., & SanGiovanni, L. (1983). *The sporting woman*. Champaign, IL: Human Kinetics.
- Brown, J. A. (2006). Media literacy perspectives. *Journal of Communication*, 48, 44-57. doi: 10.1111/j.1460-2466.1998.tb02736.x
- Cahn, S. K., & O'Reilly, J. (2007). Timeline: 125 years of U.S. women in sports. In J. O'Reilly & S. K. Cahn (Eds.), *Women and Sports in the United States: A documentary reader*, (pp. xxiii-xxx). Boston: Northeastern University Press.
- Carpenter, L. J., & Acosta, R. V. (2005). *Title IX*. Champaign, IL: Human Kinetics.
- Chepko, S., & Couturier, L. (2001). From intersection to collision: Women's sports from 1920-1980. In G. L. Cohen (Ed.), *Women in sport: Issues and controversies* (pp. 79-111). Oxon Hill, MD: National Association for Girls and Women in Sport.
- Coakley, J. (2007). *Sports in society: Issues & controversies* (9th ed.). Boston: McGraw Hill.

- Colles, C. M. (1997). *The Office for Civil Rights' investigation and interpretation of Title IX's three-part test: A question of consistency*. Unpublished doctoral dissertation. University of Northern Colorado, Greeley, CO.
- Comcast. (2010). Sports on Comcast [Web page]. Retrieved from:
<http://www.comcast.com/Corporate/Programming/Sports/>
- Cooper, C. G. (2007). *NCAA website coverage: An analysis of gender and individual sport team coverage on intercollegiate athletic home web pages across multiple divisions*. Unpublished doctoral dissertation. Indiana University, Bloomington, IN.
- Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Crosby, M. J. (2009). *Viewing the world through Oprah's eyes: A framing analysis of the spiritual views of Oprah Winfrey*. Unpublished master's thesis. Liberty University, Lynchburg, VA.
- Csizma, K. A., Wittig, A. F., & Schurr, K. T. (1988). Sport stereotypes and gender. *Journal of Sport and Exercise Psychology*, 10, 62-74.
- Daddario, G. (1997). Gendered sports programming: 1992 Summer Olympic coverage and the feminine narrative form. *Sociology of Sport Journal*, 14, 103-120.
- Daddario, G. (1998). *Women's sport and spectacle: Gendered television coverage and the Olympic Games*. Westport, CT: Praeger.
- Duncan, M. C. (1986). A hermeneutic of spectator sport: The 1976 and 1984 Olympic Games. *Quest*, 38, 50-77.

- Duncan, M. C., & Brummett, B. (1991). The mediation of spectator sport. In L. R. Vande Berg & L. A. Wenner, (Eds.), *Television criticism: Approaches and applications* (pp. 367-387). New York, NY: Longman.
- Duncan, M. C., & Hasbrook, C. A. (1988). Denial of power in televised women's sports. *Sociology of Sport Journal*, 5, 1-21.
- Duncan, M. C., & Messner, M. A. (1998). The media image of sport and gender. In L.A. Wenner (Ed.), *MediaSport*, (pp. 170-185). London: Routledge.
- Duncan, M. C., Messner, M. A., Williams, L., Jensen, K., & Wilson, W. (1994). Gender stereotyping in televised sports. In S. Birrell & C. L. Cole, (Eds.), *Women, sport, and culture* (pp. 249-272). Champaign, IL: Human Kinetics.
- Eastman, S. T., & Billings, A. C. (1999). Gender parity in the Olympics: Hying women athletes, favoring men athletes. *Journal of Sport & Social Issues*, 23, 140-170.
doi: 10.1177/0193723599232003
- Etue, E., & Williams, M. K. (1996). *On the edge: Women making hockey history*. Toronto: Second Story Press.
- Farrell, T. B. (1989). Media rhetoric as social drama: The Winter Olympics of 1984. *Critical Studies in Mass Communication*, 6, 158-182.
- Frye, C. D. (2003). *Sponsorship evaluation: A case study of theory and application*. Unpublished doctoral dissertation. University of Northern Colorado, Greeley, CO.
- Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Education research: An introduction* (8th ed.). Boston: Pearson Education.
- Graddol, D., & Swann, J. (1989). *Gender voices*. Cambridge, MA: Basil Blackwell.

- Gratton, C., & Jones, I. (2010). *Research methods for sports studies* (2nd ed.). New York: Routledge.
- Groves, R. M., Fowler, F. J., Jr., Couper, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2004). *Survey methodology*. Hoboken, NJ: John Wiley & Sons.
- Halbert, C., & Latimer, M. (1994). "Battling" gendered language: An analysis of the language used by sports commentators in a televised coed tennis competition. *Sociology of Sport Journal*, 11, 298-308.
- Hargreaves, J. (1994). *Sporting females: Critical issues in the history and sociology of women's sports*. New York: Routledge.
- Hargreaves, J. (2007). Olympic women: A struggle for recognition. In J. O'Reilly & S. K. Cahn, (Eds.), *Women and sports in the United States: A documentary reader* (pp. 3-14). Boston: Northeastern University Press.
- Hesse-Biber, S. (2010). Qualitative approaches to mixed methods practice. *Qualitative Inquiry*, 16, 455-468. doi: 10.1177/1077800410364611
- Hiestand, M. (2010, February 9). Super Bowl sets record for viewers. *USA Today*, p. 1C.
- Higgs, C. T., & Weiller, K. H. (1994). Gender bias and the 1992 Summer Olympic Games: An analysis of television coverage. *Journal of Sport & Social Issues*, 18, 234-246. doi: 10.1177/019372394018003004
- Higgs, C. T., Weiller, K. H., & Martin, S. B. (2003). Gender bias in the 1996 Olympic Games: A comparative analysis. *Journal of Sport & Social Issues*, 27, 52-64. doi: 10.1177/0193732502239585
- Holsti, O. R. (1969). *Content analysis for the social sciences and humanities*. Reading, MA: Addison-Wesley Publishing Company.

- Huang, Y. (1999). *An investigation of the current practice of relationship marketing programs within professional baseball clubs in Major League Baseball through a content analysis*. Unpublished doctoral dissertation. University of Northern Colorado, Greeley, CO.
- International Ice Hockey Federation. (2010). Olympic ice hockey tournaments, women [Web page]. Retrieved from <http://www.iihf.com/iihf-home/history/all-medallists/olympics/women.html>
- Jones, R., Murrell, A. J., & Jackson, J. (1999). Pretty versus powerful in the sports pages: Print media coverage of U.S. women's Olympic gold medal winning teams. *Journal of Sport & Social Issues*, 23, 183-192. doi: 10.1177/0193723599232005
- Journalism & Mass Communication Quarterly*. (2003). Index Volumes 71-80 (1994-2003): Subject index: Content Analysis [Web page]. Retrieved from http://aejmc.org/_scholarship/_publications/_journals/_jmcq/cumulativeindex/vol71_80/subject/content_analysis.php
- Kane, M. J., & Greendorfer, S. L. (1994). The media's role in accommodating the resisting stereotypes images of women in sport. In P. J. Creedon (Ed.), *Women, media and sport: Challenging gender values* (pp. 28-44). Thousand Oaks, CA: Sage Publications.
- Keveney, B. (2008, August 27). NBC wears gold; Beyond the numbers: The news behind the ratings. *USA Today*, p. 3D.
- Kim, K. (2005). *Developing a stereotype index of gender role stereotypes in television advertising*. Unpublished doctoral dissertation. Southern Illinois University at Carbondale.

- Krippendorff, K. (1980). *Content analysis: An introduction to its methodology*. Beverly Hills, CA: Sage Publications.
- Krist, K. (2002). *Media coverage of women's events during the 2000 Summer Olympics: A qualitative and quantitative analysis*. Unpublished master's thesis, Springfield College, Springfield, MA.
- Lee, J. (1992). Media portrayals of male and female Olympic athletes: Analyses of newspaper accounts of the 1984 and 1988 Summer Games. *International Review for the Sociology of Sport*, 27, 197-222. doi: 10.1177/101269029202700301
- Lombard, M., Snyder-Duch, J., & Bracken, C. C. (2002). Content analysis in mass communication: Assessment and reporting of intercoder reliability. *Human Communication Research*, 28, 587-604. doi: 10.1111/j.1468-2958.2002.tb00826.x
- McCarthy, M. (2010, March 2). Vancouver drama sets up NHL to score; 27.6 million watched Canada-USA thriller. *USA Today*, p. 1C.
- McChesney, R. W. (1989). Media made sport: A history of sports coverage in the United States. In L. A. Wenner, (Ed.), *Media, sports, & society* (pp. 49-69). Newbury Park, CA: Sage Publications.
- McConnell-Ginet, S. (2011). *Gender, sexuality, and meaning: Linguistic practice and politics*. New York: Oxford University Press.
- Matteo, S. (1984). The effect of gender-schematic processing on decisions about sex-inappropriate sport behavior. *Sex Roles*, 18, 41-58. doi: 10.1007/BF00288016
- Maxwell, H. D. (2009). *Women's and men's intercollegiate basketball media coverage on ESPN.com: A mixed methods analysis of a complete season*. Unpublished doctoral dissertation. University of Minnesota, Minneapolis, MN.

- Mayring, P. (2000). Qualitative content analysis. *Forum: Qualitative Social Research*, 1(2). Retrieved from <http://www.qualitative-research.net/fqstexte/2-00/2-00mayring-e.htm>
- Messner, M. A., Duncan, M. C., & Jensen, K. (1993). Separating the men from the girls: The gendered language of televised sports. *Gender & Society*, 7, 121-137.
doi: 10.1177/089124393007001007
- Metheny, E. (1965). *Connotations of movement in sport and dance: A collection of speeches about sport and dance as significant forms of human behavior*. Dubuque, IA: W. C. Brown Co.
- Mullin, B. J., Hardy, S., & Sutton, W. A. (2000). *Sport marketing* (2nd ed.) Champaign, IL: Human Kinetics.
- National Collegiate Athletic Association. (2005). Official 2005 NCAA women's ice hockey records [Web page]. Retrieved from http://web1.ncaa.org/web_files/stats/w_icehockey_rb/2005/2005_w_ice_hockey_records.pdf
- National Collegiate Athletic Association. (2008). Participation: 1981-1982 – 2005-2006: NCAA sports sponsorship and participation rates report [Web page]. Retrieved from: <http://www.ncaapublications.com/productdownloads/PR2008.pdf>
- National Collegiate Athletic Association. (2009a). Ice hockey: 2009 women's conference standings [Web page]. Retrieved from: http://web1.ncaa.org/web_files/stats/w_icehockey_rb/2010/Standings.pdf
- National Collegiate Athletic Association. (2009b). National collegiate women's ice hockey championship [Web page]. Retrieved from: http://web1.ncaa.org/web_files/stats/w_icehockey_rb/2010/champs.pdf

- National Federation of State High School Associations. (2009). Participation statistics [Web page]. Retrieved from: <http://www.nfhs.org/Participation/Default.aspx>
- Nailog, C. M. (2009). *A content analysis of Asian stereotypes on prime-time television programs*. Unpublished master's thesis. California State University, Fullerton.
- Nelson, W. L. (1996). *A content analysis of the language used by NBC commentators during the 1996 Summer Olympic Games*. Unpublished master's thesis, San Diego State University, San Diego, CA.
- Perks, L. G. (2008). *A sketch comedy of errors: "Chappelle's Show", stereotypes, and viewers*. Unpublished dissertation. University of Texas at Austin.
- Perreault, W. D., & Leigh, L. E. (1989). Reliability of nominal data based on qualitative judgments. *Journal of Marketing Research*, 26, 135-148.
- Pirinen, R. M. (1997). The construction of women's positions in sport: A textual analysis of articles on female athletes in Finnish women's magazines. *Sociology of Sport Journal*, 14, 290-301.
- Potter, W. J., & Levine-Donnerstein, D. (1999). Rethinking validity and reliability in content analysis. *Journal of Applied Communication Research*, 27, 258-284.
doi: 10.1080/00909889909365539
- Pucin, D. (1998, February 23). It's women who put the fun in the games: By competing with obvious joy, as well as with success, female athletes stole America's Olympic show – again. *Philadelphia Inquirer*, p. A1.
- Pucin, D. (2010, March 2). Olympics draw large audience. *Los Angeles Times*, p. C6.

- Riffe, D., & Freitag, A. (1997). A content analysis of content analyses: Twenty-five years of journalism quarterly. *Journalism and Mass Communication Quarterly*, 74, 515-524.
- Riffe, D., Lacy, S., & Fico, F. G. (1998). *Analyzing media messages: Using quantitative content analysis in research*. Mahway, NJ: Lawrence Erlbaum Associates.
- Schmalz, D. L., & Kerstetter, D. L. (2006). Girlie girls and manly men: Children's stigma consciousness of gender in sports and physical activities. *Journal of Leisure Research*, 38, 536-557.
- Shontz, L. (1998, January 18). Ice breakers; Women hockey players get their chance for glory in Nagano. *Pittsburgh Post-Gazette*, p. D3.
- Simmons Market Research Bureau. (2008). # Cable/television/radio | TV – special sports events & sport show [Web page]. Retrieved from: www.simplymap.com
- Theberge, N. (1997). "It's part of the game": Physicality and the production of gender in women's hockey. *Gender & Society*, 11, 69-87. doi: 10.1177/089124397011001005
- Title IX of the Education Amendments of 1972, 20 USCS § 1681.
- Tuggle, C. A. (1997). Differences in television sports reporting of men's and women's athletics: ESPN *SportsCenter* and CNN *Sports Tonight*. *Journal of Broadcasting & Electronic Media*, 41, 14-24. doi: 10.1080/08838159709364387
- Tuggle, C. A., Huffman, S., & Rosengard, D. (2007). A descriptive analysis of NBC's coverage of the 2004 Summer Olympics. *Journal of Sports Media*, 2, 53-75.

- Tuggle, C. A., & Owen, A. (1999). A descriptive analysis of NBC's coverage of the centennial Olympics: The "games of the woman"? *Journal of Sport & Social Issues*, 23, 171-182.
- Turco, M. (1999). *Crashing the net: The U.S. women's Olympic ice hockey team and the road to gold*. New York: HarperCollins Publishers.
- Urquhart, J., & Crossman, J. (1999). The *Globe and Mail* coverage of the Winter Olympic Games: A cold place for women athletes. *Journal of Sport & Social Issues*, 23, 193-202. doi: 10.1177/0193723599232006
- USA Hockey. (2003). 2002-2003 season final registration reports [Web page]. Retrieved from: http://www.usahockey.com/uploadedFiles/USAHockey/Menu_Membership/Menu_Membership_Statistics/0203final.pdf
- USA Hockey. (2009). 2008-2009 season final registration reports [Web page]. Retrieved from: http://www.usahockey.com/uploadedFiles/USAHockey/Menu_Membership/Menu_Membership_Statistics/0809%20Final%20Reports.pdf
- Vancouver Organizing Committee for the 2010 Olympic and Paralympic Winter Games. (2010). Olympic schedule and results [Web page]. Retrieved from: <http://www.vancouver2010.com/olympic-schedule-results/>
- Vincent, J., Imwold, C., Masemann, V., & Nelson, J. T. (2002). A comparison of selected 'serious' and 'popular' British, Canadian, and United States newspaper coverage of female and male athletes competing in the Centennial Olympic Games: Did female athletes receive equitable coverage in the 'Games of the Woman'? *International Review for the Sociology of Sport*, 37, 319-335. doi: 10.1177/101269020203700312

Weiller, K., & Higgs, C. T. (1993). Gender differentials in televised sport: The 1980's and beyond. *Pennsylvania Journal for Health, Physical Education, Recreation and Dance*, 63(3), 22-25.

Wenner, L. A. (Ed.). (1998a). *MediaSport*. New York: Routledge.

Wenner, L. A. (1998b). Playing the MediaSport game. In L. A. Wenner, (Ed.), *MediaSport* (pp. 3-13). New York: Routledge.

WSJ. (2010). Let women ski jump in 2010 [Web page]. Retrieved from:
<http://www.wsj2010.com/>

APPENDIX
CODING PROCEDURES AND TALLY SHEETS

APPENDIX

CODING PROCEDURES AND TALLY SHEETS

Introduction to the Study

The purpose of this study is to analyze the television broadcasts of ice hockey on the NBC family of networks during the 2010 Winter Olympic Games in order to determine how the network portrayed female and male hockey players. A feministic sports criticism framework will be employed. If the players were portrayed differently based on the athletes' sex, the researcher will explore possible sources of variation including the sex and the professional backgrounds of the commentators. Differential portrayals could impact the viewing public's impressions of women's ice hockey as well as their decision making process when choosing which sporting events to watch or attend in the future.

In order to examine the media portrayals, quantitative and qualitative content analysis will be used to look at three elements that may impact viewers' impressions of ice hockey: (1) the production value of the broadcasts; (2) the use of gender-related terms; and (3) recurring themes in the descriptive, evaluative, and informational color commentary about the hockey players spoken by the on-air broadcasters.

Coding Procedures 1. Procedures for coding frequencies of specific items.

Overview:

During the first viewing of the games, co-coders will tally the number of times several items occur during the broadcasts.

Directions:

1. Familiarize yourself with the content you will be listening and watching for during the broadcasts as well as the definition of terms and applicable examples. Familiarize yourself with the names of the broadcasters, coaches, and players for the designated games (rosters will be provided). You will need to fill out multiple sheets simultaneously as you watch the game.
2. Visual Coding: (Research Question #1)
 - a. For Coding Sheet #1, write down the code number of each commentator (see table below) under the appropriate heading for non-game segments (pre-game, intermission, and post-game segments) and in-game commentators by sex.
 - b. For Tally Sheets #2 and #3, make one tally mark for every time the specific items appear during the broadcast.

3. Commentary Coding: (Research Question #2)
 - a. For Tally Sheets #4 and #5, be sure to mark the tallies under the numbers of the commentators who spoke the items under investigation.
4. Feel free to pause the recording and rewind as necessary to make sure you capture every item.

Definitions/Examples:

- *Non-game commentators:* Television commentators who report during pre-game, intermission, and post-game segments (and not during the game itself). These commentators may work from a desk in a television studio or on-site (also known as “Desk Reporters” or “Desk Analysts”). Also fitting this description would be on-site reporters who provide commentary during pre-game, intermission, and post-game segments.
- *In-game commentators:* On-air commentators who comment during the progress of the game (including the 1st, 2nd, and 3rd periods of play) but not during the pre-game, intermission, and post-game segments. These commentators would include what are commonly called “Play-by-Play” and “Color” analysts, as well as reporters who provide commentary in between plays during the 1st, 2nd, and 3rd periods of the game.
- *Player interviews:* This is a televised segment where an on-site reporter speaks to a player. These interviews are “live” and may occur during the game or during pre-game, intermission, and post-game segments.
- *On-screen player & team statistics:* These are graphics that appear on the screen during the broadcast (during non-game and in-game segments) that provide information about the players’ and teams’ performances. These graphics could provide statistical information about the player’s size, biographical information, number of shots, number of points, number of goals, number of assists, +/- rating, blocked shots, saves, power-play success, shots on goal, minutes played, team standings in the tournament, and so on. (Does not include graphics with the commentators’ names, the score, or the time clock.)
- *Pre-recorded player profiles & highlight reels:* These are televised segments that provide information about specific players such as biographical sketches and highlight “reels”, for example. Usually these segments are pre-recorded in advance of the game or highlights of the current game that are packaged to highlight a particular player. These may occur during non-game and in-game segments.
- *Slow-motion replays:* This is a segment that shows a portion of this game for a second time. The segment is shown in a slower than normal speed so that commentators and viewers can better see various aspects of the play that they could not see the first time or at regular speed. These slow-motion replays may occur during the game or non-game segments. This does *not* include flashbacks from previous games, nor does it include highlight reels played back at normal speed.
- *Camera angles:* Various television cameras are positioned around the arena to record the game from a variety of vantage points. The television directors determine which camera angles are used during a broadcast. Because only one camera’s viewpoint can be used at a time, live action during the game is only seen by viewers from one camera angle at a time. However, during replays, the directors can replay a particular segment of a game in a series of images from multiple camera angles.

- *Telestrator*: This is an electronic drawing device that creates images on screen that appear on top of the video replay. Broadcasters use this device to further illustrate replays like explaining defensive positioning, puck handling, or penalties, to mention a few uses.
- *Gender-marking*: This refers to the commentators naming a sporting event with the sex of the players to differentiate between the women's and men's version of a sport. For example, this might include the "Women's Olympic Hockey" or the "Men's Olympic Hockey" tournaments. Count only gender-marking when it occurs *verbally* and not graphically.
- *Male-gendered hockey terms for female players, officials and rules*: Historically, the sport of ice hockey was developed for male players and many of the terms and rules refer to men. This would include *defenseman*, *center*, *iceman*, *linesman*, *man-to-man* defense, and too many *men* on the ice. Often these male-gendered terms are used during women's games even though the players are not men. Count only when it occurs verbally and not graphically.

Commentator Code Numbers:

You will use the following commentator code numbers on various tally sheets.

#	Name	Sex	Pro or Athlete
1	Mike "Doc" Emerick	Male	Professional
2	Kenny Albert	Male	Professional
3	Bill Patrick	Male	Professional
4	Eddie Olczyk	Male	Athlete
5	Pierre McGuire	Male	Athlete
6	Joe Micheletti	Male	Professional
7	AJ Mleczko	Female	Athlete
8	Al Michaels	Male	Professional
9	Jeremy Roenick	Male	Athlete
10	Cammi Granato	Female	Athlete
11	Mike Milbury	Male	Professional

Game Details

Date of Game:_____ Countries:_____ Sex:_____

Coding Sheet 1. Code Number for Each Commentator (by Game Segment and Sex)

Coding Number of Male Non-Game Commentators (desk & reporters)	Coding Number of Female Non-Game Commentators (desk & reporters)	Coding Number of Male In- Game Commentators (play- by-play, color analyst, reporter)	Coding Number of Female In-Game Commentators (play-by-play, color analyst, reporter)

Coding Sheet 2. Tally Sheet for Items that Appear in Each Game Broadcast

Number of Player Interviews	Number of On-screen Player & Team Statistics	Number of Pre-recorded Player Profiles & Highlight Reels

Coding Sheet 3. Tally Sheet for Slow-Motion Replays in Each Game Broadcast

Replay #	# of Angles	Use of Telestrator?	Replay #	# of Angles	Use of Telestrator?	Replay #	# of Angles	Use of Telestrator?
1		Yes / No	22		Yes / No	22		Yes / No
2		Yes / No	23		Yes / No	23		Yes / No
3		Yes / No	24		Yes / No	24		Yes / No
4		Yes / No	25		Yes / No	25		Yes / No
5		Yes / No	26		Yes / No	26		Yes / No
6		Yes / No	27		Yes / No	27		Yes / No
7		Yes / No	28		Yes / No	28		Yes / No
8		Yes / No	29		Yes / No	29		Yes / No
9		Yes / No	30		Yes / No	30		Yes / No
10		Yes / No	31		Yes / No	31		Yes / No
11		Yes / No	32		Yes / No	32		Yes / No
12		Yes / No	33		Yes / No	33		Yes / No
13		Yes / No	34		Yes / No	34		Yes / No
14		Yes / No	35		Yes / No	35		Yes / No
15		Yes / No	36		Yes / No	36		Yes / No
16		Yes / No	37		Yes / No	37		Yes / No
17		Yes / No	38		Yes / No	38		Yes / No
18		Yes / No	39		Yes / No	39		Yes / No
19		Yes / No	40		Yes / No	40		Yes / No
20		Yes / No	41		Yes / No	41		Yes / No
21		Yes / No	42		Yes / No	42		Yes / No

Coding Sheet 4. Tally Sheet for Frequencies of Gender-Related Terms (Non-Game Commentary).

Gender-Specific Comments	Commentator #_____	Commentator #_____	Commentator #_____
“Women’s <u>hockey</u> ” (Gender-marking)			
“Men’s <u>hockey</u> ” (Gender-marking)			
Women referred to as “Girls”			
Women referred to as “Ladies”			
Women referred to as “guys,” “men,” etc. (but not including use of male-gendered hockey terms such as <i>linesmen</i> , <i>center icemen</i> , or <i>defensemen</i>)			
Male-gendered hockey terms for female players, officials and rules such as <i>linesmen</i> , <i>center icemen</i> , <i>defensemen</i> or <i>too many men on the ice</i>			
Men referred to as “Boys”			
Men referred to as “Gentlemen”			
Men referred to as “girls,” “ladies,” etc.			

Continued

Frequencies of Gender-Related Terms (Non-Game Commentary) – *Continued*

Gender-Specific Comments	Commentator #_____	Commentator #_____	Commentator #_____
First Name Only to refer to player			
Last Name Only to refer to player			
Both Names to refer to player			

Coding Sheet 5. Tally Sheet for Frequencies of Gender-Related Terms (In-Game Commentary).

Gender-Specific Comments	Commentator #_____	Commentator #_____	Commentator #_____
“Women’s <u>hockey</u> ” (Gender-marking)			
“Men’s <u>hockey</u> ” (Gender-marking)			
Women referred to as “Girls”			
Women referred to as “Ladies”			
Women referred to as “guys,” “men,” etc. (but not including use of male-gendered hockey terms such as linesmen, center icemen, or defensemen)			
Male-gendered hockey terms for female players, officials and rules such as <i>linesmen</i> , <i>center icemen</i> , <i>defensemen</i> or <i>too many men on the ice</i>			
Men referred to as “Boys”			
Men referred to as “Gentlemen”			
Men referred to as “girls,” “ladies,” etc.			

Continued

Frequencies of Gender-Related Terms (In-Game Commentary) – *Continued*

Gender-Specific Comments	Commentator #_____	Commentator #_____	Commentator #_____
First Name Only to refer to player			
Last Name Only to refer to player			
Both Names to refer to player			

Coding Procedures 2. Procedures for coding assertions spoken by on-air commentators.

Overview:

During the final viewing of the games the researcher will transcribe word-for-word the *assertions* (see definition below) made by each of the on-air commentators about the players' and teams' performance. From these assertions a classification scheme will be developed, and then each assertion will be coded from this list.

Directions for Coding Sheets #6 and #7

1. Use the Coding Sheet #6 for non-game portions of the broadcast (pre-game, intermissions, post-game) and Coding Sheet #7 for in-game portions of the broadcast (periods 1, 2, and 3).
2. In column 1 indicate who spoke the comment (using the codes listed above for each commentator) and transcribe verbatim each assertion.
3. Feel free to pause the recording and rewind as necessary to make sure she captures every assertion word-for-word.
4. After watching each period of each game she will read through all of the assertions and identify recurring themes. Then, she will combine themes into a classification scheme. At the completion of each period she will compare the list of categories in the classification scheme with the themes identified in the most recent period. If necessary, she will add or adjust the list of categories so that the final classification scheme contains a complete list of categories contained within all of the assertions.
5. Next, she will take the final list of categories, write an operational definition for each category, provide a few examples, and assign a unique number to each code.
6. The researcher will then categorize each assertion by assigning a single code to each of the assertions for all of the games. The final list of categories follows the coding sheets.
7. One period from each sample game will be randomly selected. Co-coders will take the classification scheme and assign a category code to each assertion from each of the periods.

Definitions and examples:

- A. *Assertions*: are comments spoken by the on-air personalities that are descriptive, evaluative, or informational about hockey players (individually or collectively as a team) and their performances. The commentators may mention specific players or players collectively as a team. The assertions must be about the players' appearance, skills, physical play, emotions, background, experience, biographical information, etc. Assertions do *not* include play-by-play comments like "Player A passed the puck to Player B who shot it on net, and Goalie C made a great save." Assertions do *not* include information about other games, history of the team, coaches, location, weather, or other extraneous information. Assertions may be expressed in one or two words, an entire sentence, or several sentences.

Examples include:

- “Kim Martin, she just may not be having her best game.”
- She carries a lot of weight of that team on her shoulders, and
- she’s happy with that.”
- “She’s a very, very skilled goaltender.
- “She’s just sort of the Patrick Roy of women’s hockey.”

- B. *Commentators*: are the persons employed by the network to provide narrative descriptions and analysis of events and athletes during the coverage of the athletic competition to the television audience.

Examples include:

1. *Studio/desk commentators* who appear before and after games as well as during the intermissions,
2. *Play-by-play commentators* who narrate the plays during the game and may also make assertions about the players,
3. *Color analysts* hired primarily to evaluate the games, and
4. *Reporters* who may be positioned throughout the arena who interview players and provide additional analysis of the games.

Coding Sheet 6. Code Sheet for Assertions (during non-game portions)

Commentator #	Player(s) or Team(s)	Assertion	Code

Coding Sheet 7. Code Sheet for Assertions (during in-game portions)

Commentator #	Player(s) or Team(s)	Assertion	Code

Final List of Categories including Definitions and Examples

Code #	Category	Definition	Examples
1	Facial expression	A player's emotional response expressed on his/her face.	Smile, smirk, grin, frown, wink, etc.
2	Hair	Comments about a players' hair or facial hair	color, length, curls, hairstyles, pony tail, beard, mustache, bald
3	Age	Comments about a player's age either specific or broad, or in comparison to others	Age in years, young(er), old(er), age when player joined Olympic team
4	Height	Comments about a player's height either specific or broad, or in comparison to others	Height in feet & inches, tall(er), short(er)
5	Weight	Comments about a player's weight either specific or broad, or in comparison to others	Weight in pounds, big(ger), heavy(ier), small(er), light(er)
6	Uniform	Reference to a player's uniform	Number, color
7	Nickname	An alternative name used for a player or a group of players	"Sid the Kid," "The Baby Line", "Waterbug"
8	Hometown, home state, high school	Reference to a player's place of origin	Danbury, IL; Minnesota; Cushing Academy, Lincoln High School
9	Family	Any reference to a player's family life or family members	Marital status, role as mother, role as father, role as son, role as daughter; or player's parents, siblings, children, family support

Final Category List (continued)			
Code #	Category	Definition	Examples
10	Relationships to others	Reference to players' non-familial relationships	Players' friends, teammates, roommates
11	Personal stories	Stories about a player's life not related to their family life or Olympic hockey. Very broad and all-encompassing. Stories that do not fit in any other category.	Liked to play boys' hockey, coaching experience, wounded warrior program, childhood dreams
12	Crowd pleasing performance	Reference to a player's playing or being that brings smiles and cheers from the spectators	"crowd favorite" for: aesthetics, beauty, playing skills, personality, "entertaining"
13	Female player compared to male player	The commentator compares a current female player to any male player.	She reminds me of Bobby Orr.
14	Male player compared to female player	The commentator compares a current male player to any female player.	He reminds me of the great Cammi Granato.
15	Female player compared to female player	The commentator compares a current female player to any other female player.	She reminds me a lot of Cammi Granato.
16	Male player compared to male player	The commentator compares a current male player to any male player.	He reminds me of Patrick Roy in net.
17	Physical strength (positive connotation)	Reference to a player's physical strength, fitness level, amount of weight training – as a strength to the game	Athleticism, physically fit, energy, tough, body check, scrum, power, hard-nosed, hard-hitting, black & blue hockey, collision, make a hit, battling

Final Category List (continued)			
Code #	Category	Definition	Examples
18	Emotions/ personality (positive connotation)	Reference to a player's emotions or personality – as a strength to the game	Persistent, aggressive, confident, leadership, calm, loyal, teamwork, team chemistry, excited, gritty, intense, feisty, great teammate, disciplined, maturity, work ethic, comfortable, creative, loves to _____
19	Technical skills (positive connotation)	Reference to a player's technical skills – as a strength to the game	Speed, skating ability, puck handling, shooting, poke-check, passing, consistent, gain momentum, active defensemen, praise for any ability not covered by physical strength or emotions (good, great, etc.); for goalies: glove work, positioning, saves, hot goalie
20	Physical weakness (negative connotation)	Reference to a player's physical strength, fitness level, amount of training – as a weakness to the game – OR – lack of physical strength, poor fitness level	Too strong, too big to skate, can't keep up with opponent, out of gas, out- muscled by opponent, weak, over-powered by opponent, out-worked by opponent
21	Emotions/ personality (negative connotation)	Reference to a player's emotions or personality – as a weakness to the game – OR – lack of emotion, lack of personality	Too aggressive, overly aggressive, nervous, feeling pressured, lackadaisical, docile, too excited, disappointed, loss of spirit, helpless, hopeless, feeling out process

Final Category List (continued)			
Code #	Category	Definition	Examples
22	Technical skills (negative connotation)	Reference to a player's technical skills – as a weakness to the game – OR – lack of technical skills	Holding stick too tightly, weak passing, inconsistent, lose momentum, challenge to team, embellishment/take a dive, take a lot of penalties, failed to score, mishandle puck, poor goalie positioning, criticism for any ability not covered by physical strength or emotions (poor, bad, etc.)
23	Suggested strategies	Commentators suggest things that players/teams should or shouldn't do in order to win	Ought to ____; should ____; shouldn't ____; need to ____; can't ____; don't ____, gotta ____, key to the game, trying to ____, make adjustments, working on ____, would like to see ____
24	Olympic experience	Reference to a player's Olympic experience	Participated in specific previous Olympiads, number of times chosen for Olympic team, team veteran
25	Lack of Olympic experience	Reference to a player's lack of experience in the Olympics	First-time Olympian, rookie, newcomer
26	Olympic outcomes	Reference to a player's or team's Olympic achievements or outcomes	Number of medals, type of medals, games won/lost in prior Olympics, Olympic records, MVP awards, team qualification for Olympics
27	Olympic leadership roles	Reference to a player's role as a leader on his/her Olympic team	Captain, Assistant Captain

Final Category List (continued)			
Code #	Category	Definition	Examples
28	Rivalry	Reference to a rivalry between teams or players	Big rivalry, at each other's throats, playing for keeps, heavyweight/top teams in sport
29	College attended	Reference to the college that a player attended	University of Minnesota, University of Wisconsin
30	College experience	Reference to a player's collegiate playing experience in terms of years played	4 years at UMN; in her sophomore year at UW
31	College outcomes	Reference to a player's achievements or outcomes while a collegiate player	Number of NCAA Championships, played in Frozen Four, MVP in Frozen Four, won the Hobey Baker or Patty Kazmaier Awards, All-American honors
32	Other playing experience	Reference to a player's experience playing on teams or in leagues other than college or Olympics; games played in preparation for current Olympics; may include other sports played	Number of years played on team or in league, teammates on other team, leadership role on other team, name of team or league (NHL, AHL, OHL, Junior Hockey, World Juniors, World Championships, National Team Development Program, European teams, Four Nations Cup, etc.)
33	Other playing outcomes	Reference to a player's achievements or outcomes while playing on teams or in leagues other than college or Olympics; may include other sports	Wins, losses, championships, Stanley Cup, records, professional draft selection, MVP, other awards
34	Respect for/from opponent	Reference to a team seeking respect from opponent or others for their playing ability, development, or improvement	Give team credit, give team respect, no respect from opponent

Final Category List (continued)			
Code #	Category	Definition	Examples
35	Inspiration	Reference to a player who inspires others OR who was inspired by someone. Someone helping the growth of the sport.	Inspired by someone, inspiring to others, role models, help sport grow, ambassador for sport, tribute to sport, what tournament means for hockey
36	National Pride	Reference to a player who is the pride of his/her country	National hero, national icon
37	Non-classifiable	Any assertion that does not correspond to one of the categories listed above	