

CHALLENGING THE GENDER DICHOTOMY?: EXAMINING  
OLYMPIC CHANNEL CONTENT, PRODUCTION, AND  
AUDIENCES THROUGH A GENDERED LENS

By

QINGRU XU

ANDREW C. BILLINGS, COMMITTEE CHAIR  
SHUHUA ZHOU  
KIM BISSELL  
JAMES LEEPER  
KENON A. BROWN

A DISSERTATION

Submitted in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy  
in the College of Communication and Information Sciences  
in the Graduate School of  
The University of Alabama

TUSCALOOSA, ALABAMA

2019

Copyright Qingru Xu 2019  
ALL RIGHTS RESERVED

## ABSTRACT

The Olympic Channel is a digital-first, multiplatform site established to keep the Olympic spirit alive throughout each year and to promote the Olympic Movement throughout the world. Conducting a three-wave study, this project systematically analyzed—from a perspective of gender—the Olympic Channel's content, news production, and the audience's emotional responses to athletic images. To be specific, the first-wave study focused on how the Olympic Channel represented male and female athletes in cover pictures of news episodes; the second-wave study explored the gender-related tenets and regulations carried by the institution and the employees' personal beliefs in covering men and women's sports with interviewing 11 media professionals at the Olympic Channel; and the third wave-study measured individuals' emotional responses to athletic images featuring male and female athletes in a variety of sports contexts to explore the audience's potential gender differences in sports consumption. This study emerged as one of the first studies exploring the Olympic Channel via a lens of gender, with significant theoretical and practical implications outlined.

## LIST OF ABBREVIATIONS AND SYMBOLS

$a$	Cronbach's index of internal consistency
$\beta$	Beta: the slope as calculated in a regression
$\eta_p^2$	Partial eta-squared: a measure of effect size for use in Analysis of Variance
$\lambda$	Wilks' lambda: a probability distribution used in multivariate hypothesis testing
$df$	Degrees of freedom: number of values free to vary after certain restrictions have been placed on the data
$F$	F statistic as calculated for an Analysis of Variance
$M$	Mean: the sum of a set of measurements divided by the number of measurements in the set
$p$	Probability associated with the occurrence under the null hypothesis of a value as extreme as or more extreme than the observed value
$r$	Pearson product-moment correlation
$SD$	Standard deviation: the value of variation from a mean within a set of data
$t$	Computed value of $t$ test
$<$	Less than
$=$	Equal to

## ACKNOWLEDGMENTS

First and foremost, I am deeply indebted to Dr. Andrew C. Billings, my advisor and the chair of this dissertation committee, for his fundamental role in my doctoral work. During my three-year doctoral studies at the University of Alabama, Dr. Billings has provided me with every bit of guidance, assistance, and expertise that I needed as a doctoral student. I sincerely appreciate his responsive feedback, insightful advice, and immense encouragement throughout the entire doctoral journey.

I would like to thank my committee members, Dr. Shuhua Zhou, Dr. Kim Bissell, Dr. James Leeper, and Dr. Kenon A. Brown, for their time and valuable feedback on my dissertation. Also, I would particularly like to acknowledge Dr. Cory L. Armstrong and Dr. Kenon A. Brown, who have offered me substantial support and encouragement on my research projects and job hunting process.

Last, but certainly not least, my deepest gratitude to the University of Alabama, a place where I have spent three wonderful years. I am so lucky to receive my Ph.D. degree from the university that I am deeply in love with.

## CONTENTS

ABSTRACT.....	ii
LIST OF ABBREVIATIONS AND SYMBOLS.....	iii
ACKNOWLEDGMENTS.....	iv
LIST OF TABLES.....	vii
LIST OF FIGURES.....	viii
CHAPTER ONE: INTRODUCTION.....	1
CHAPTER TWO: LITERATURE REVIEW.....	9
PART 1. CONTENT.....	9
The Amount of Coverage Devoted to Male and Female Athletes.....	9
Framing Theory.....	12
Old Rules in Framing Male and Female Athletes.....	14
New Rules in Framing Male and Female Athletes.....	17
PART 2. PRODUCTION.....	21
Gatekeeping Theory.....	21
Gender Exclusion in Sports Journalism.....	23
The Influence of Biological Sex on Framing.....	26
Decision Making in Sports Newsrooms.....	28
PART 3. AUDIENCE.....	31
Social Dominance Theory.....	31
Sex Differences in Sports Spectatorship.....	32

Preferences in Watching Men and Women’s Sports.....	35
Preferences in Watching Different Types of Sports.....	38
Measuring Emotion.....	41
CHAPTER THREE: METHOD.....	43
PART 1. CONTENT.....	43
PART 2. PRODUCTION.....	46
PART 3. AUDIENCE .....	48
CHAPTER FOUR: RESULTS.....	53
PART 1. CONTENT.....	53
PART 2. PRODUCTION.....	58
PART 3. AUDIENCE .....	72
CHAPTER FIVE: DISCUSSION.....	82
PART 1. CONTENT.....	82
PART 2. PRODUCTION.....	88
PART 3. AUDIENCE.....	95
CONCLUSION AND IMPLICATIONS.....	100
REFERENCES.....	103
APPENDIX.....	115
Appendix A: Coding Book in Analyzing the Content.....	115
Appendix B: Semi-Structured Interview Outline.....	118
Appendix C: The Stimuli Applied in the Audience Study.....	122
Appendix D: The Applied 9-Point SAM Scales.....	134
Appendix E: IRB Certification.....	135

## LIST OF TABLES

Table 1. Top-10 Sports for Male and Female Athletes.....	54
Table 2. The Themes of Pictures by Biological Sex.....	55
Table 3. The Four Indicators of Subordination by Gender.....	57

## LIST OF FIGURES

Figure 1. Men and Women's Valence Responses in Viewing Pictures Featuring Male and Female Athletes.....	73
Figure 2. Men and Women's Valence Responses in Viewing Athletes Competing in Gender-appropriate, Neutral, and Gender-inappropriate Sports.....	74
Figure 3. Men and Women's Arousal Responses in Viewing Pictures Featuring Male and Female Athletes.....	76
Figure 4. Men and Women's Arousal Responses in Viewing Athletes Competing in Gender-appropriate, Neutral, and Gender-inappropriate Sports.....	77
Figure 5. Men and Women's Dominance Responses in Viewing Pictures Featuring Male and Female Athletes.....	79
Figure 6. Men and Women's Dominance Responses in Viewing Athletes Competing in Gender-appropriate, Neutral, and Gender-inappropriate Sports.....	80

## CHAPTER ONE

### INTRODUCTION

The Olympic Channel is a digital-first, multiplatform site established to keep the Olympic spirit alive throughout each year and to promote the Olympic Movement throughout the world (About the Olympic Channel, 2017). Following the 2016 Rio closing ceremony, the Olympic Channel was launched on August 21, 2016. As a free digital destination, the Olympic Channel provides a global audience with the International Olympic Committee's (IOC) patrimonial assets and archives, original series and shows, live sports events, and news pertaining to sports and athletes, enabling fans to experience the Olympics year-round, especially during the 2-year gap between the Winter Olympics and the Summer Olympics (About the Olympic Channel, 2017). Moreover, the Olympic Channel is designed as a multi-platform site with smart devices in mind, such that a global audience could access the Channel via mobile apps and at [olympicchannel.com](http://olympicchannel.com). The Olympic Channel also highly encourages the fans to follow and share content on its social media handles on Facebook, Instagram, Twitter, and YouTube (About the Olympic Channel, 2017). As of now, the Olympic Channel has more than 2.5 million followers on Facebook and nearly 2 million subscribers on YouTube, effectively engaging the fans to interact with the Channel. The foundation of the Olympic Channel is viewed as a ground-breaking landmark to promote the Olympic Movement in a dynamic media environment (Olympic Channel to Broadcast Flying Disc, 2017).

In sports communication, a large body of studies has been conducted to explore the topic of gender from a variety of perspectives, such as the media representation of gender and its

consequences (e.g., Arth, Hou, Rush, & Angelini, 2018; Xu, Fan, & Brown, 2018), the influence of gender in sports media production (e.g., Hardin & Shain, 2005; Sherwood, Osborne, Nicholson, & Sherry, 2017), and the gender differences in sports media consumption (e.g., Apostolou, Frantzides, & Pavlidou, 2014; Tang & Cooper, 2012). Although being conducted within different cultural contexts (e.g., US, Australia, China, Canada, Britain, Korea, Italy, and Denmark), within different media platforms (e.g., newspapers, magazines, televisions, blogs, web portals, social media), and during different sporting events (e.g., Olympic Games, World Cup, Asian Games, Australian Open, Super Bowl) with diverse methodologies employed (e.g., survey, content analysis, experiment, interview, textual analysis, and critical studies), this growing body of literature supports the view that sports media are constructed as a male preserve which is overwhelmingly by, for, and about men (e.g., Billing, Angelini, & MacArthur, 2018; Bruce, 2016; Coche & Tuggle, 2017; Cooky, Messner, & Hextrum, 2013; Cooky, Messner, & Musto, 2015; Frisby, 2017; Godoy-Pressland, 2016; Messner, 2013; Ponterotto, 2014; Tseng, 2016).

In examining gender in sports media, the most salient inequality uncovered is probably the underrepresentation of women's sports with regard to the amount of coverage. Sports media, over time, have been criticized for only allotting a small fraction of media attention to women's sports, while devoting the overwhelming majority of media coverage to men's sports (Cooky et al., 2015). In the United States, for instance, sports media only rendered a single-digit percentage of the total airtime to female athletes (Billings & Young, 2015; Cooky et al., 2015). In Australia, Lumby, Caple, and Greenwood (2010) also uncovered that women's sports only made up 9 percent of the total coverage, with horseracing receiving more cumulative airtime than female athletes. During the Olympics, although women often received more focus compared to the daily

practice, media are prone to cover female athletes in gender-appropriate sports—such as gymnastics and beach volleyball—rather than sports in which female athletes achieved athletic success (Coche & Tuggle, 2016; 2017). Moreover, in the limited coverage devoted to female athletes, sports media frequently employed a series of framing strategies to trivialize female athletes’ athletic accomplishments and achievements, such as sexualization (e.g., Billings, Xu, & Xu, 2018), infantilization (e.g., Jones, 2012), gender marking (e.g., Coche & Tuggle, 2017), highlighting compulsory heterosexuality (e.g., Xu, 2016), ambivalence (e.g., Tseng, 2016), and gender-bland sexism (e.g., Musto, Cooky, & Messner, 2017). Use of these strategies has been frequently criticized as marginalizing women’s participation in sport and reinforcing male hegemony in the sports domain.

In stark contrast to the underrepresentation of women in sports media, the 20<sup>th</sup> Century has witnessed a dramatic increase regarding women and girls’ participation in a variety of sports. In the United States, Title IX, issued in 1972, has greatly encouraged women and girls to participate in sports. Specifically, before Title IX, only one in 27 women were regularly involved in sports activities, and now the ratio is two in five, with an increase of more than 900 percent (Women’s Sports Foundation, 2017). Similarly, in France, only 9 percent of athletes were female in 1968, whereas the percentage increased to 48 percent in 2009, and it continues to grow (Ministère de la Santé et des Sports, cited in Gee & Leberman, 2011). Also, in some sports such as equestrianism, gymnastics, hiking, and swimming, women outnumber their male counterparts; moreover, in some conventionally “masculine” sports such as boxing and weightlifting, the number of female participants has steadily increased since 2001, making up 17.6 percent and 32.7 percent of the total participants, respectively (Ministère de la Santé et des Sports, 2009).

The gap between the increasing number of women and girls in sports participation and the minimal media coverage devoted to women's sports has emerged as a topic of interest in sports communication, inspiring scholars to explore further this gap from a production perspective (e.g., Sherwood et al., 2017). Aligning with the marginalization of women's sports in media coverage, researchers found that sports journalism, over time, has been constructed as a heavily skewed profession, in which female professionals only make up a small percentage of the total employees in sports newsrooms (Deuze, 2000, as cited in Claringbould, Knoppers, & Elling, 2004; Women's Media Center, 2017). Schmidt (2018), for instance, examined 2,242 sports news articles collected from Australia, the United States, and the United Kingdom, finding that 94.9% of the total articles were written by male journalists and only 5.1 percent were written by female journalists. Hardin (2013) pointed out that the proportion of women working in most sports news agencies is lower than the percentage of women serving in the U.S. army, which is identified as "a last bastion for hegemonic masculinity in American culture" (p. 242).

Moreover, in sports newsrooms entrenched with a male-dominated structure, female professionals tend to have limited access to professional sources and connections compared to their male counterparts, which could significantly undermine their journalistic performance and career enhancements (Claringbould, Knoppers, & Elling, 2004). Also, according to traditional gender norms, women are expected to take more work in the domestic sphere, making it more challenging for female sports professionals to maintain a balance between the irregular working schedule and their family responsibilities (Hardin & Shain, 2005). Additionally, sexual harassment and the glass ceiling in promotion also emerge as salient factors discouraging female sports professionals from building their life-long careers in sports journalism (Claringbould et al., 2004). Although many sports media agencies insist that objectivity is the core standard in hiring,

promotion, and topic selection in newsrooms, many researchers have criticized this so-called “objectivity” for lack of validity, especially considering that sports journalism has been historically constructed according to a male hegemony (Van Zoonen, 1994). Specifically, the ideology of objectivity and neutrality could effectively distance sports professionals from their content production, serving as an excuse to justify the underrepresentation of female athletes in sports media (Knoppers & Elling, 2004).

Another primary justification for the minimal media attention devoted to women’s sports lies in the assumption of readership (Hardin, 2005; Sherwood et al., 2017). That is, sports professionals often preconceive that their target audience is primarily male, which inevitably leads to a skewness of coverage toward men’s sports because male audiences tend to hold more interests in watching men’s competitions (Hardin, 2005; Jakubowska, 2015). However, conducting a survey with 285 sports editors recruited in the southeastern United States, Hardin (2005) uncovered that only around half of the sports media institutions applied formal methods to determine their readership demographics. According to the audience analysis of the industry, women currently make up a significant part of the sports spectator market. For instance, at the 2018 Super Bowl in the United States, women made up about 49 percent of the 108 million-plus individuals who watched the competition (Salkowitz, 2018), although American football is often typed as a highly masculine sport (Hardin & Greer, 2009). Also, women comprised 40 percent of the audience at the 2014 FIFA World Cup (Morris, 2018), while the number rose to 70 percent for the U.S. Figure Skating Championships (Van Riper, 2011). In this sense, there might be a “time lag” between the actual audience landscape and the gatekeepers’ perception of the audience demographics. Although the number of women participating and interested in sports

has been significantly increasing, the shift has not been efficiently reflected in media content production.

Moreover, although some sports media agencies acknowledge that female consumers make up a considerable proportion of their target audience, they still insist that men's sports are more desirable among both male and female audiences because men's events often involved a higher level of competitiveness and athletics (Apostolou et al., 2014). However, whether female spectators prefer to watch men's sports over women's sports is still in debate (e.g., Apostolou et al., 2014; Angelini, 2008). For instance, conducting focus-group interviews in Poland, Jakubowska (2015) found that both men and women favored men's sports, but he pointed out that women's preference toward men's competitions could be attributed to the preserved male hegemony in the sports territory. That is, female athletes frequently received a small fraction of media attention compared to their male counterparts, which—to a large extent—limited individuals' understandings of women's sports. Also, from childhood, female spectators' sports taste was more likely to be influenced and shaped by males (e.g., fathers, brothers, or husbands), and so it is not surprising that women would follow men's taste and appreciate men's sporting contests more (Jakubowska, 2015). In this sense, studies directly querying participants' sports viewing preferences fail to place men and women's sports on equal platforms for the participants to make their decisions. To solve this problem, Angelini (2008) applied another approach by directly measuring the participants' emotional responses in viewing sports clips, which—to some extent—could attenuate the influence of socialization in everyday practice (e.g., Angelini, 2008a; Angelini, 2008b). The findings suggested that women felt more positive, pleasant, and dominant when watching clips featuring female athletes.

Among prior studies examining gender in sports communication, nearly all research pertaining to media representation and production has focused on national or commercial media platforms within certain national contexts, in which commercial or national interests were inevitably entangled with gender in depicting men or women's sports. The International Olympic Committee (IOC), the authority responsible for organizing the Olympic Games, is a non-government and non-profit independent organization committed to promoting the Olympic Movement throughout the world (Olympic Charter, 2017). According to the Olympic Charter (2017), one of the IOC's roles is "to encourage and support the promotion of women in sport at all levels and in all structures with a view to implementing the principle of equality of men and women" (Rule 2, paragraph 7). In the history of the Olympics, women participated for the first time in the modern Olympics in 1900, in which 22 (2.2% of the all athletes) women athletes competed in five Olympic events: tennis, sailing, croquet, equestrian and golf (Women in the Olympic Movement, 2018). Compared to the 1964 Tokyo Olympics in which only 13% of the total athletes were women, female participation has been steadily increasing in the past decades (Women in the Olympic Movement, 2018). In the 2016 Rio Olympics, for instance, 47.4% of the total Olympic events were women's events, and around 45% of the total athletes were women (Women in the Olympic Movement, 2018). Although sports media are often accused of providing only a single-digit proportion of the total coverage to women's sports (Billings & Young, 2015), they are frequently applauded for their balanced gender representation during the Olympics in which women usually receive media attention comparable to what men receive (Xu et al., 2017). As the pioneer of gender equality in sport, whether IOC carries out its gender policies on its own media platform—the Olympic Channel—is worth exploring.

The establishment of the Olympic Channel provides researchers with a unique opportunity to examine gendered media practices and activities in an IOC media platform which—to a large extent—excludes the interventions of national or commercial interests. Conducting a three-wave study, this research systematically analyzed—from a perspective of gender—the Olympic Channel's content and news production, as well as the audience's emotional responses toward contents featuring male and female athletes. In particular, the first-wave study examined how the Olympic Channel represents men and women athletes in the profile pictures of news articles. Applying framing theory, this study examined the potential differences in depicting men and women regarding amount, theme, action level, sexualization, and subordination. The second-wave study was designed to explore the Olympic Channel's newsroom practices via a lens of gender. Interviewing the Olympic Channel's producers and broadcasters, the researcher examined the gender-related tenets and regulations carried out by the institution and the employees' personal beliefs in regard to covering men and women's sports. Employing a social dominance theory, the third-wave study explored the participants' emotional responses while viewing pictures collected from the Olympic Channel. This study not only provided practical suggestions for the Olympic Channel, but also contributed to the sports literature by examining the IOC's media platform from a gender perspective.

## CHAPTER TWO

### LITERATURE REVIEW

The next chapter will include a review of the relevant literature to provide a context for the research questions and hypotheses that this dissertation will explore. Considering this project is a three-wave study, the following chapter will be divided into three sections: content, production, and audience. For each section, the applied theoretical framework and related literature will be discussed, with the related research questions or hypotheses outlined.

#### **PART 1. CONTENT**

##### **The Amount of Coverage Devoted to Male and Female Athletes**

*The gendered clock time during non-Olympic periods.* The wide disparity of media attention devoted to men and women's sports has been pervasively uncovered in a variety of social contexts, with women athletes often receiving single-digit percentages of the total coverage in sports media (e.g., Cooky, Messner, & Hextrum, 2013; Hull, 2017). In the United States, ESPN's *SportsCenter* and Fox Sports 1's *Fox Sports Live* only rendered less than one percent of the total coverage to women's sports, with only modest gains during the Olympic month (Billings & Young, 2015). Cooky and her colleagues (2015) conducted a longitudinal study to explore the broadcast of ESPN's *SportsCenter* and three local Los Angeles networks in the United States, finding that the four networks offered women's sports less than nine percent of the total airtime between 1989 and 2014. Specifically, it was found that, in the 25-year broadcasting coverage examined, women's coverage in the four networks had significantly declined after 2004.

Outside the United States, the underrepresentation of women's sports was also frequently revealed. In Australia, for instance, Lumby, Caple, and Greenwood (2010) investigated the television news coverage of women's sports between October 2008 and July 2009, suggesting that the network only devoted 9 percent of focus to female athletes, with horseracing receiving more accumulative airtime than women's sports. More recently, Paterson and Matzelle (2014) uncovered a slight decline in women's sports coverage compared to the initial study conducted by Lumby and her colleagues, in which the coverage of women's sports only made up 7 percent of the non-news television programming, echoing Caple, Greenwood, and Lumby's (2011) findings that sports media in Australia were primarily for, by, and about men.

As opposed to the limited airtime on television, some scholars suggested that the unlimited space online would enable sports media to offer more coverage to marginalized groups, including female athletes (e.g., Eagleman, Burch, & Vooris, 2014). However, in the United States, Hull (2017) examined 201 local television sports broadcasters' posts on Twitter, uncovering that only five percent of the total amount of posts featured women's sports. In China, Billings, Xu, and Xu (2018) examined the gendered coverage on sports web portals, revealing that the state-owned web portals only devoted 7.8 percent of the total images to female athletic figures, and the commercial-sponsored sports web portals accounted for 10.2 percent of the total news stories on female athletic figures. Instead of challenging the underrepresentation of women's sports uncovered in traditional sports media, these findings indicated that the online sports media were still heavily skewed to men's sports.

***The gendered clock time during Olympic periods.*** The Olympic Games emerged as an anomalous case regarding the media representation of male and female athletes, in which women's sports usually received far more media attention compared to that in non-Olympic

periods (Billings, Angelini, & MacArthur, 2018). In the United States, for instance, Billings and his colleagues (2018) tracked 20 years of the National Broadcasting Company (NBC's) primetime coverage of the Olympics ranging from 1996 to 2016, revealing that the network devoted 45.8-54.8 percent of the total spotlight to women's sports at the Summer Olympics and rendered 35.3-47.7 percent of the total coverage to female athletes at the Winter Olympics. Arth, Hou, Rush, and Angelini (2018) clocked NBC's prime and non-prime coverage devoted to men and women's sports at the 2018 Pyeongchang Winter Olympics, suggesting that women's sports received 43.2 percent of the total primetime coverage and 37.4 percent of the total non-primetime coverage, far exceeding the media attention that women athletes received in daily practice.

Beyond the United States, studies conducted in other countries also uncovered that women's sports received more media attention during the Olympics. MacArthur, Angelini, Smith, and Billings (2017) examined the Canadian primetime coverage of the 2014 Sochi Winter Olympics and revealed that the network offered 39.6 percent of the total coverage to female athletes. In Australia at the 2016 Rio Olympics, the network—Seven Network—devoted 50.23 percent of the total primetime coverage to female athletes (Xu, Billings, Scott, Lewis, & Sharpe, 2017). Xu, Billings, and Fan (2018) examined the Chinese Central Television's (CCTV) gendered representation in the coverage of gymnastics at the 2016 Rio Olympics, suggesting that female athletes received 43.29 percent of the total clock time. Researchers primarily attributed the relatively equal media attention devoted to men and women's sports to the national nature of the Olympics, in which the audience tended to prioritize the medal winning of the home country over the biological sex of athletes (Billings et al., 2018).

Considering that little or no studies have been found exploring the gendered coverage of the Olympic Channel, the research question and hypotheses proposed in this study were based on the prior findings conducted in other sports media outlets. In this sense, one research question and one hypothesis pertaining to media coverage of male and female athletes at the Olympic Channel were proposed as follows:

**RQ<sub>1</sub>:** What are the top-10 most-covered sports in portraying male and female athletes in news episodes at the Olympic Channel?

**H<sub>1</sub>:** At the Olympic Channel website, the profile pictures of the news stories will feature more men than women.

### **Framing Theory**

Credited to Goffman's (1974) research related to primary frames, framing theory identified frames as interpretive schemas applied in information processing. In the book, *Frame analysis: An essay on the organization of experience*, Goffman (1974) asserted that an event could be constructed from multiple perspectives; however, media professionals—such as journalists, editors, and broadcasters—held the power to adopt specific frames in the news production process. In this sense, the media content that the audience was exposed to could be heavily influenced by gatekeepers' decision-making in framing the mediated events (Entman, 1993).

By selecting, highlighting, or omitting specific aspects, media professionals play an important role in constructing the social reality (Entman, 1993). Although individuals could employ a variety of perspectives to understand a news story, systematic framing could exert an influence on the individual's interpretation by maximizing the possibility of conveying the intended messages (Pan & Kosicki, 1993). That is, media—instead of simply mirroring the

reality—could assign meaning to an event to influence the audience’s interpretation (Eagleman, Glavio, & Kwak, 2011).

With the advent of mass media, millions more people experience sports competitions through media representations than do in person (Billings, 2007). Thus, media frames have become particularly important to the audience in experiencing and interpreting a sporting event. For instance, sports media, over time, have devoted an overwhelming majority of coverage to men’s sports, with women’s sports only receiving a small fraction of media attention (Cooky et al., 2015), which could potentially reinforce the stereotype of sport as a male territory. Moreover, highlighting women athletes’ non-sport-related aspects such as family roles and sexuality could lead the audience to perceive female athletes as second-rate players inferior to their male counterparts (Wensing & Bruce, 2003).

The Olympic Channel, the official sports media platform of the IOC, is established to keep the Olympic spirit alive and to promote the Olympic Movement, especially during the two-year gap between the Winter and the Summer Games (About the Olympic Channel, 2017). Also, the IOC is the exclusive owner of the broadcast rights for the Olympics (i.e., broadcasts on radio, television, mobile and internet platforms) (IOC Marketing, 2018), which provides the Olympic Channel access to an avalanche of media resources pertaining to the Olympics. In this sense, how the sports professionals at the Olympic Channel select and frame the media content directly determines what the audience consume. Applying framing theory, this study explored the gendered representation of the profile pictures attached to news stories produced by the Olympic Channel to explore how men and women were depicted and constructed at the IOC official media platform.

## Old Rules in Framing Male and Female Athletes

Female athletes not only received less media coverage compared to their male counterparts, but scholars also revealed that sports media employed a variety of framing strategies to marginalize and trivialize women's athletic achievements, such as *gender-marking* (e.g., Xu, Fan, & Brown, 2018), *sexualization* (e.g., Frisby, 2017), *infantilization* (e.g., Jones, 2012), and *emphasizing compulsory heterosexuality* (e.g., Cooky et al., 2015). These commonly applied framing practices have been widely criticized for reifying relations of power and privileging men's sports in the current sports context (Bruce, 2016).

The *gender marking of sports* on a continuum of masculinity and femininity has been widely uncovered across multiple cultural contexts, in which sports emphasizing direct body contact, aggressiveness, and violence—such as basketball, American football, and boxing—are usually typed as masculine sports, whereas sports emphasizing grace and elegance—such as gymnastics, beach volleyball, and figure skating—are often perceived as feminine sports (Hardin & Greer, 2009; Koivula, 2001; Xu, Fan, & Brown, 2018). Based on gender marking, media tend to cover male and female athletes in socially-accepted sports rather than the sports in which they achieve athletic success. For instance, Coche and Tuggle (2017) examined NBC's primetime coverage from the lens of gender, finding that more than 70 percent of the total airtime that women received came from beach volleyball and gymnastics, whereas the two sports only made up 32 percent of the total clock time that male athletes received. Similar findings were also uncovered in NBC's primetime coverage of the 2012 London Olympics (Coche & Tuggle, 2016). The gender marking of sports placed male and female athletes in socially-accepted sports, further reinforcing the gender stereotypes in the sports domain (Duncan, 1990; Weiller & Higgs, 1999). That is, although more and more women participate in sports, the media only cover their athletic

activities in gender-appropriate sports, conveying a message to the audience that sportswomen are only capable of “feminine” sports rather than “real” sports.

*Infantilization* is another framing strategy frequently uncovered in sports media to marginalize sportswomen. Specifically, sports media are apt to refer to female athletes using their first names, while men athletes’ full names and last names are more frequently mentioned (Jones, 2012). Another salient indicator of infantilization was that female athletes are often referred to as “girls” or “young girls,” whereas male athletes are rarely called as “boys” (Crolley & Teso, 2007; Daddario, 1994; Messner, Duncan, & Jensen, 1993; Wensing & Bruce, 2003). Although such language disparity seems to be subtle, it could convey a message to the audience that female athletes claim a lower reputation compared to their male counterparts, which would reinforce the existing, negative narrative applied in framing women’s sports (Messner et al., 1993).

Moreover, the framing strategy of *sexualization* has been identified as one of the most common forms in depicting female athletes in sports media (Bernstein & Kian, 2013). By presenting female athletes in sexually objectifying poses, in revealing clothing, and with seductive eye gazes, media shift the attention from athletes’ athletic performance to their bodies and appearances, which could substantially trivialize and depreciate their athletic achievements and accomplishments (Cranmer, Brann, & Bowman, 2014). For instance, Frisby (2017) examined the covers of *Sports Illustrated* and *ESPN the Magazine* between 2012 and 2016, uncovering that—compared to male athletes often being depicted in action with athletic uniforms—female athletes were more likely to be portrayed in objectifying ways. Billings, Xu, and Xu (2018) examined pictures posted on Chinese sports websites, uncovering that the commercial-sponsored web portals depicted female athletic figures in far more revealing ways

compared to the narrative applied in portraying male athletic figures. Moreover, Ponterotto (2014) conducted a corpus-assisted analysis to examine the media coverage of Maria Sharapova—a Russian female tennis player—in newspapers and suggested that the media tended to eroticize Maria Sharapova’s body by highlighting her sexual attractiveness.

The sexualization of female athletes have been widely uncovered in a variety of countries, such as the United States (Cranmer et al., 2014), China (Billings et al., 2018), Germany (Kaelberer, 2018), Italy (Ponterotto, 2014), and the United Kingdom (Godoy-Pressland, 2016). Moreover, it also has been widely revealed on multiple media platforms such as print media (Ponterotto, 2014), magazines (Frisby, 2017), televisions (Billings et al., 2018), sports blogs (Clavio & Eagleman, 2011), and web portals (Billings et al., 2018). Interestingly, the sexualization of male athletes has also emerged in Olympic media coverage (Xu, Billings, & Fan, 2018), marking a topic of interest in sports communication. Although Cooky and her colleagues (2015) claim that the sexualizing of female athletes has been declining in sports media, many scholars still insist that sexualization is one of the most commonly applied strategies in depicting athletes, especially female athletes (e.g., Godoy-Pressland, 2016).

Sports, frequently emphasizing physical strength, competitiveness, and aggressiveness, are often perceived to be synonymous with the traditionally-defined masculine features while being incompatible with the conventionally-defined feminine characteristics (Xu et al., 2018). Carrying an identity paradox, female athletes’ heterosexual characteristics are often highlighted to reconcile their identity as athletes (Krane, Choi, Baird, Aimar, & Kauer, 2004; Messner et al., 2013). For instance, Wolter (2015) conducted a critical discourse analysis of the media coverage of *espnW* and suggested that non-sport-related aspects—such as physical and personal

attributes—were more likely to emerge in the dialogue of portraying female athletes; also, compared with male athletes, female athletes were found to be depicted as more emotional.

Furthermore, sports media tend to emphasize female athletes' family roles in covering sporting events, underscoring female athletes' heterosexuality in the sports context. Cooky and her colleagues (2013), for instance, examined six weeks of televised sports news coverage on four networks in the United States, revealing that—in the limited media attention devoted to women's sports—female athletes were often packaged as family members such as mothers, wives, and girlfriends. These messages—to some extent—indicate that although women athletes are physically strong and powerful, they are still “real” women who pose no threat to patriarchal principle (Kaelberer, 2018). Cooky et al. (2015) assert that highlighting female athletes' heterosexuality could possibly convey a message to the audience that, for female athletes, sports performance and success are secondary to their personal relationships, reinforcing gender stereotypes in the sports domain as a male preserve.

### **New Rules in Framing Male and Female Athletes**

Although *gender marking*, *sexualization*, *infantilization*, and *emphasizing the traditionally compulsory heterosexuality*, over time, have been frequently employed in representing female athletes in sports media, some new practices—such as *athletes in action* (e.g., Delorme & Testard, 2015), *ambivalence* (e.g., Tseng, 2016), and *gender-bland sexism* (Musto et al., 2017)—have been recently uncovered, which—at least partially—deviate from the common media construction of female athletes with overt marginalization and trivialization. Also, the athlete's self-representation emerges as a topic of interest, and researchers have revealed appealing findings regarding how athletes represent themselves on social media (e.g., Xu & Armstrong, in press).

*Constructing sportswomen as legitimate and serious athletes* emerges as a salient frame in portraying female athletes in recent years, in which sports media—instead of marginalizing and trivializing women’s sports—depict both male and female athletes in action with minimal sex differences involved (e.g., Buysse & Wolter, 2013; Ravel & Gareau, 2016). The frame of *athletes in action* has been frequently uncovered in the media coverage of the Olympics. For instance, Delorme and Testard (2015) examined the gendered photographic coverage of the 2012 London Olympics in a French sports daily newspaper, uncovering that—among the 1073 photographs examined—the media portrayals of male and female athletes did not significantly differ regarding photograph size, photograph position, and action. Also, no gender marking was found in covering men and women’s sports. Ayvazoglu (2017) examined the newspaper coverage of the 2012 London Olympics in Turkey, finding that female athletes’ athletic performance was covered in more than half of the news articles examined. Also, both male and female athletes were depicted as active players with adequate athletic capability and competence. Similar findings were also found in Britain (Godoy-Pressland & Griggs, 2014) and China (Xu, Billings, & Fan, 2018) when examining the media coverage of the Olympics.

Beyond the media coverage of the Olympic Games, the frame of *athletes in action* was also uncovered in daily sports reporting. Broch (2014), for instance, explored the gendered representation of the Norwegian national women’s handball team between 2009 and 2013. The results suggested that, although handball was often typed as a neutral sport, media constructed female athletes as successful and powerful sportswomen by highlighting their physicality and aggressiveness in competitions. In the United States, Buysse and Wolter (2013) investigated the gendered media coverage of the 2010 NCAA Division I Media Guides, finding that the media focus had shifted from the non-action frame of female athletes toward a frame that emphasized

sportswomen's athleticism, without significant sex differences uncovered between male and female athletes. Similar findings were also revealed in the Australian media coverage of women athletes (Caple, 2013).

Moreover, the form of *ambivalence* emerges as another important norm in depicting female athletes in sports media, in which women athletes' athleticism (e.g., skills, strength, and achievements) and conventionally heterofeminine characteristics (e.g., emotion, attractiveness, and weakness) are juxtaposed in the media portrayals (Poniatowski & Hardin 2012). With the acceptance of gender equality, the public has started to resist the overtly sexist and insulting portrayals of female athletes (Cooky, 2017). Instead of excessively highlighting heterosexual features, sports media choose to frame sportswomen ambivalently by juxtaposing their athleticism and heterosexuality (Wensing & Bruce, 2003). Although the frame of ambivalence makes some progress by abandoning the overtly sexist narrative, researchers still criticize the framing norm for obscuring the identity of sportswomen as legitimate athletes and reinforcing the male hegemony in the sports territory (Tseng, 2016).

Applying textual analysis, for instance, Tseng (2016) examined the gendered discourse of sports documentaries in Taiwan. The results suggested that sportswomen were represented as "physically masculine but emotionally feminine" (p.897) and the contribution of their male coaches was particularly highlighted in order to explain female athletes' athletic success. In Britain, Dashper (2017) analyzed the newspaper coverage of three female gold medalists at the Rio Olympics, revealing that the media framed the three female athletes in a highly ambivalent manner: although their athletic competence was applauded, the newspapers simultaneously questioned the competitive level of the sports that female athletes participated in. Similar

findings were also uncovered in studies conducted in the United States (e.g., Kearney, 2011; Poniatowski & Hardin, 2012).

More recently, Cooky et al. (2015) and Musto et al. (2017) examined 25-year longitudinal data of the television sports coverage between 1980 and 2014 in the United States, in which they found that, instead of overtly denigrating women's athleticism, sports media were prone to frame female athletes in an "ostensibly respectful but lackluster" pattern (Musto et al., 2017, p.573). That is, the media did not employ explicit sexist or ambivalent dialogues to portray women athletes; however, the commentary on women's sports lacked the "action-packed, humorous language, lavish compliments and dominant descriptors" that characterize commentary on men's sports (Musto et al., 2017, p.590). Musto and her colleagues (2017) named termed this frame as *gender-bland sexism* and asserted that the new strategy—harder to notice and challenge—exerted an influence on normalizing the perceived superiority of men's sports over women's in the sports context.

With the advent of social media, the athlete's self-representation has become an emerging area of interest in examining the gendered media representation of athletes. Instead of being portrayed by journalists or broadcasters, athletes gain agency and autonomy by presenting themselves online, which could potentially challenge the biased media representation in mass media (Gainor, 2017; Xu et al., 2018). For instance, Smith and Sanderson (2015) examined 27 professional athletes' Instagram profiles in the United States, suggesting that female athletes tended to highlight their breasts in their posts, which was identified as an indicator of self-sexualization. Shreffler, Hancock, and Schmidt (2016), however, investigated 207 female athletes' Twitter profiles and found that athletic performance was the most frequently mentioned theme in their self-representation, challenging the biased coverage of sportswomen in mass

media. Moreover, Xu and her colleagues (2018) investigated athletes' self-representation across China and the United States, in which they found minimal sex differences between American male and female athletes, whereas the pictures posted by Chinese athletes were heavily influenced by the traditional gender norms with a variety of sex differences revealed. The authors argued that self-representation was a continual negotiation among personal goals, social context, and perceived audience expectation.

Based on the old and new framing strategies applied in mass media regarding the portrayals of male and female athletes, four hypotheses were proposed as follows:

**H<sub>2</sub>:** The Olympic Channel will highlight different themes in representing male and female athletes.

**H<sub>3</sub>:** Compared to male athletes, female athletes will be represented in more sexualized ways at the Olympic Channel.

**H<sub>4</sub>:** Compared to male athletes, female athletes will be represented in more subordinate ways at the Olympic Channel.

**H<sub>5</sub>:** Compared to female athletes, male athletes will be represented in more active ways at the Olympic Channel.

## **PART 2. PRODUCTION**

### **Gatekeeping Theory**

Although content-oriented studies could shed light on how men and women's sports are portrayed in sports media, this type of research, to a large extent, offers little insight into the institutional structures and power relations that influence the media coverage of women's sports from a perspective of news production. In *Olympic media: Inside the biggest show on television*, Billings (2009) argues that sports news largely hinges on the professional practice in the

newsroom. In this sense, in-depth interviews with sports professionals (i.e., editors, broadcasters, and journalists) could provide insights in understanding the institutional structure that influences gendered news production from a gatekeeping perspective (Sherwood, Osborne, Nicholson, & Sherry, 2017).

Gatekeeping, defined as a process by which information is being selected, shaped, or rejected as it passes through media professionals, is established as a fundamental theory in mass communication to understand news production (McQuail, 2010; Shoemaker, Eichholz, Kim, & Wrigley, 2001). The gatekeeping theory was originally proposed by the social psychologist Kurt Lewin (1947) to explain how food choices in U.S. families changed after World War II. In 1950, David Manning White—for the first time—applied the concept of gatekeeping in the field of communication, uncovering that the editor’s subjective beliefs could exert a strong influence on news selection. Although White’s (1950) study was later criticized for overestimating the role that a gatekeeper’s personal experience played in the production process (e.g., Shoemaker & Reese, 2013), it stands as a cornerstone for the development of gatekeeping theory in communication.

The practice of gatekeeping, to a large extent, determines the mediated messages presented to the public, which could have a great impact on how the audience perceive and interpret the world (Shoemaker & Vos, 2009). An event that fails to pass through a gate might never be known unless people have experienced it in person (Shoemaker & Vos, 2009). In this sense, the gatekeeping practice directly influences the construction of social reality, which could potentially shape individuals’ cognitive perception and decision making, leading Bagdikian (1983) to assert that “the power to control the flow of information is a major level in the control

of society. Giving citizens a choice in ideas and information is as important as giving them a choice in politics” (p. 226).

In prior studies, gatekeeping theory has been applied in exploring sports news production from a gender perspective. For instance, Sherwood and her colleagues (2017) interviewed the editors and journalists in Australian sports media newsrooms, finding that sports media that devoted relatively more coverage to women’s sports usually had a higher proportion of female employees. The presence of female professionals—even only one—could exert an influence on altering the hegemonic environment in sports newsrooms. In the current study, the gatekeeping theory could provide a theoretical framework to explore how gatekeepers make decisions on the media coverage of men and women’s sports at the Olympic Channel—the IOC’s official sports media platform.

### **Gender Exclusion in Sports Journalism**

Journalism, historically, has been constructed as a skewed profession in which the majority of employees are males (Claringbould et al., 2004). In the United States, Columbia University had limited its enrollment of female students in the major of journalism below to 10 percent until the late 1960s (Lafky, 1993). In 2017, 62.3 percent of the news stories collected from the top-20 news outlets in the U.S. were written by male professionals, while only 37.7 percent were generated by female professionals; when it comes to sports media, only 11.0 percent of the content was produced by female sports journalists (Women’s Media Center, 2017). According to Associated Press Sports Editors (APSE), only 10.0 percent of the sports editors in the United States were women and sports media received the fifth consecutive F rating regarding gender hiring (Lapchick, 2018). In the Netherlands, a similar situation also occurred, in which 34

percent of journalists were women but only 7 percent of the total number of sports journalists were females (Deuze, 2000, as cited in Claringbould, Knoppers, & Elling, 2004).

Female professionals working in newsrooms not only make up a small proportion of the total employees—they also tend to be situated in marginal positions compared to their male counterparts. According to APSE, 30.1 percent of assistant sports editors were women, whereas the percentage of editors who were women was only 10.0 (Lapchick et al., 2018). In sports newsrooms, although only accounting for around 10.0 percent of the total employees, female professionals made up 54.2 percent of sports journalists who had less than five years of work experience (Weaver, as cited in Everbach & Flournoy, 2007). Considering that the average career span for female employees in sports newsrooms was only ten years, most of them never had a chance to reach management positions (Etling, as cited in Hardin & Shain, 2005). In this sense, women professionals in sports newsrooms—overall—are more skewed to marginal positions, making it hard for them to make a difference in the decision-making process.

Why women tend to avoid the profession of journalism has been explained through multiple reasons. First, the male-dominated newsroom inevitably leads to a male-dominated networking structure (Claringbould, Knoppers, & Elling, 2004). Considering that professional networking provides vitally important sources for news collection, female journalists often have less access to professional connections compared to their male counterparts, which could substantially undermine their professional performance and career enhancement (Claringbould, Knoppers, & Elling, 2004). Moreover, the so-called “glass ceiling” in sports newsrooms is still salient and only a few women could enter the management ranks (Hardin & Shain, 2005). In this sense, the lack of career potential in the working place—to a large extent—discourages female

professionals from further pursuing a life-long career in sports journalism (Hardin & Shain, 2005).

Beyond the male-dominated networking structure, the flight of women from the journalistic profession is also attributed to the routine of the journalistic work, which frequently requires irregular working hours in collecting and producing news (Sherwood et al., 2017). According to the traditional gendered labor, women usually take on more family responsibilities in the domestic sphere. Thus, the irregular working schedule in newsrooms is challenging for many female professionals to adopt (Lafky, 1993). For instance, Harin and Shain (2005) recruited 144 women who worked in sports media to explore their everyday work experience, finding that many female professionals faced a dilemma of balancing the irregular working schedule and family responsibilities, which emerged as an important reason for women to leave the profession.

Moreover, sexual discrimination and harassment appear as another reason to explain why women leave newsrooms. For instance, Claringbould and his colleagues (2004) pointed out that female journalists in the workplace suffered from gender discrimination by their male colleagues, at which they often felt they were being treated as “women” rather than as journalists. In another study, Swanson (2009) explored the challenges that women in sports newsrooms faced when entering a locker room, revealing that female professionals were frequently harassed by players, coaches, and fans in their journalistic practice. However, Hardin and Shain (2005) asserted that, although female professionals often encountered sexual discrimination and harassment, they still showed decent satisfaction with their jobs, indicating that sexual harassment was not the leading reason to push women out of this profession. In another word, women working in sports media

institutions got used to the environment and viewed sexual discrimination and harassment as a natural part of the “routine” of their working experience (Hardin & Shain, 2005).

### **The Influence of Biological Sex on Framing**

According to some scholars, the low proportion of female professionals in sports newsrooms, at least partially, could directly lead to the underrepresentation of female athletes in sports media (e.g., Craft & Wanta, 2004). That is, in media production, the biological sex of media professionals could still exert an influence on the media coverage of men and women’s sports (Powers & Fico, 1994; Armstrong, 2004). Many researchers have determined that, compared to male professionals, female professionals tended to devote more media attention to women’s sports and to depict female athletes in more positive ways (e.g., Schmidt, 2018), prompting Silver (1986) to argue that, in news production, articles featuring women were roughly in the same proportion with the percentage of female professionals in newsrooms.

In sports communication, Schmidt (2018) examined 2242 sports news articles collected from three countries (i.e., Australia, the United States, and the United Kingdom), suggesting that, compared to their male counterparts, female sports journalists were more likely to cover women’s sports and to portray female athletes in a more positive manner. Kian and Hardin (2009) examined the differences between male and female sports writers in covering intercollegiate basketball tournaments, uncovering that female writers were apt to focus on women’s basketball contests, whereas men were prone to write more stories about men’s basketball. Regarding framing strategies, in contrast to their male counterparts who were likely to reinforce the traditional gender stereotypes, female sportswriters tended to emphasize female athletes’ athleticism and prowess. The findings, at least partially, could explain why the male-dominated structure leads to the underrepresentation of women’s sports in sports newsrooms.

Although some scholars proposed that the increasing number of women in newsrooms could directly achieve gender equality in sports media, some researchers held different opinions, criticizing this view for lack of consideration of the ideological underpinnings (Hardin & Shain, 2005). Since too few women work at sports newsrooms which cannot reach a critical mass, instead of meaningfully influencing or altering the hegemonic culture in a sports agency, women have to adopt the professional practice routine to get accepted by their peers and the institution (Hardin, 2013). In short, the overarching ideology of male hegemony, to a large extent, emerged as a strong factor in preventing women from challenging the dominant doctrines in sports journalism (Hardin & Shain, 2005).

For instance, Everbach (2008) examined four U.S. newspaper sports sections—two edited by male professionals and two edited by female professionals—to explore how the biological sex of editors could influence the media content. The content analysis uncovered that the four sports sections all rendered the majority of coverage to men's sports, without significant differences revealed across sections. In another study, Schoch (2013) investigated female sports journalists' writing in the context of Swiss daily press. Based on an analysis of women journalists' working practices and written news stories, the author suggested that, instead of challenging the male hegemony, women journalists' writing practices actually reinforced the gender stereotypes existing in sports media. Thus, the authors asserted that, although the number of women sports journalists had been increasing in this field, the existing hegemonic discourse in sports newsrooms was still hard to alter.

Whether including more women in the decision-making process would make a difference in the gendered media coverage or not is in doubt not only in academia, but also in the industry itself. Hardin and Shain (2005) surveyed 144 female employees working in sports media,

uncovering that, although most of the respondents believed that women should receive more media attention, 58 percent of the respondents—more than half—insisted that the increasing number of women in sports media would not necessarily lead to more coverage devoted to women’s sports. Interestingly, 44 percent of the respondents showed that they would not intentionally increase women’s coverage in their media production practice. The authors attributed this phenomenon to a variety of reasons, including (a) the individual’s own powerlessness to change the system in which women’s sports were viewed as “a low-rung beat assignment” (p. 815); (b) unconscious socialization into hegemonic sports newsrooms; and (c) personal experience. Additionally, the authors uncovered that experienced female journalists and female journalists early in their careers showed more personal responsibility and willingness to cover women’s sports (Hardin & Shain, 2005).

### **Decision Making in Sports Newsrooms**

In sports newsrooms, the underrepresentation of female athletes was frequently “justified” by two reasons: (a) the ideology of objectivity and neutrality and (b) the ingrained assumption of readership. In interviews with sports professionals such as editors, broadcasters, and journalists, objectivity and neutrality have been frequently highlighted as the criteria of news selection (e.g., Gee & Leberman, 2011). That is, the content production is a gender-neutral process, in which men’s sports and women’s sports are equally evaluated in selecting and producing news (Scott-Chapman, 2012). Thus, the unbalanced media coverage of men and women’s sports should not be attributed to institutional or personal biases; instead, the overwhelming attention devoted to men’s sports is explained due to its competitive nature and audience preferences.

The criteria of neutrality and objectivity—presenting information as neutrally as possible to avoid personal interpretations—have been widely identified and accepted by sports media

institutions all over the world, such as in the Netherlands (Knoppers & Elling, 2004), New Zealand (Scott-Chapman, 2012), France (Gee & Leberman, 2011), Australia (Sherwood et al., 2017), and the United States (Hardin, 2005). Although different sports media platforms have different target audiences and serve different purposes (i.e., public interests vs. private interests), the criteria of neutrality and objectivity claim minimal differences in explaining their news selection process regarding gendered coverage (Knoppers & Elling, 2004). In this sense, the ideology of neutrality and objectivity have been identified as a circulation of commonsense in sports media's decision-making across countries.

However, whether the world could be accurately described without any disturbance of individual factors is still in doubt, and researchers have questioned the notion that journalists could erase their personal background and experience to promote an objective perspective as detached outsiders, especially considering that sports newsrooms are largely constructed as a male territory (Hardin & Shain, 2005; Shoemaker & Reese, 2013). Some scholars criticized the ideology of objectivity for distancing sports professionals from their production, serving as an defense to justify their decisions to underrepresent female athletes in sports media (e.g., Knoppers & Elling, 2004). By employing these strategies, sports professionals self-construct a positive self-image without taking responsibility for biased coverage, which, again, reinforces the male hegemony in the sports domain (Gee & Leberman, 2011).

In sports newsrooms, the assumption of readership has been identified as another primary reason to justify the underrepresentation of female athletes in sports media (e.g., Sherwood et al., 2017). Being consistent with the bipolar, dualistic definition of biological sex, women are often perceived as naturally less competitive, less athletic, and less passionate in sports than their male counterparts (Nelson, Artz & Murphy, as cited in Hardin, 2005). The assumption of women's

natural inferiority in sports is so prevailing that it has become a commonsense notion in sports newsrooms (Hargreaves, as cited in Hardin, 2005). Sports news plays a role of entertaining the audience; thus, market considerations are usually utilized as justifications for the preference of men's sports in coverage (Hardin, 2005). Also, considering that sports media professionals often assume that the majority of their audiences are male (Hardin, 2005), it is not surprising that the production is skewed to men's sports because researchers have frequently found that male audiences generally have more interest in watching men's competitions (e.g., Apostolou et al., 2014).

However, researchers have suggested that the editors or producers may not fully understand their audience, because the components of the audience are dynamic and ever-changing (Anderson, 1988). For instance, during the first six nights of the Rio Olympics, 55% of the adult viewers of NBC's Olympic broadcasts were women (Best, 2016). Also, women currently make up 45% of the National Football League (NFL) fan base in the United States (Hampton, 2017), although football is usually perceived as a highly masculine sport in American society. Hardin (2005) conducted a survey targeting sports editors to explore why women athletes were underrepresented in sports media, finding that, to a large extent, considerations of audience were based more on personal beliefs and hegemonic ideologies than on solid research.

Moreover, sports journalists do not simply follow the public's interests; instead, by gatekeeping the news agenda, sports media are able to create and shape the audience's interests (Hardin, 2005). In this sense, the underrepresentation of female athletes in sports media could potentially lead to the audiences' poor understandings and appreciation of women's sports (Jakubowska, 2015). For instance, in an experiment, women actually reported a higher level of arousal and happiness when watching sports clips featuring women rather than men (Angelini,

2008). However, the traditional family structure, gender stereotypes, and the limited media coverage of female athletes—to some extent—impede the public from becoming fans of women’s sports (Whiteside & Hardin, 2014). In this sense, applying the assumed gendered readership to justify the low coverage of women’s sports in media could be potentially unsound and self-reinforcing.

Based on the theoretical background of gatekeeping and the above review of literature related to news production, three research questions were proposed as follows:

**RQ1:** What are the unique characteristics of the Olympic Channel as a sports media platform?

**RQ2:** What are the criteria used in news selection at the Olympic Channel?

**RQ3:** Do male and female professionals differ in their news production practices at the Olympic Channel?

### **PART 3. AUDIENCE**

#### **Social Dominance Theory**

Group-based social hierarchies widely exist in human society—regardless of cultural, political, and economic structures—in which members from dominant groups tend to enjoy a higher social status and a disproportionate share of desirable materials than members from subordinate groups (Pratto, Sidanius, & Levin, 2006). Social dominance theory, aiming to understand how social hierarchy is constructed and maintained, was systematically proposed by Sidanius and Pratto (2001), in which they asserted that—to maintain personal gains from the existing social structure—members from dominant groups are more likely to accept and enhance the existed social hierarchy than individuals from subordinate groups.

According to social dominance theory, the hierarchy of gender serves as a vitally important system to construct and operate a patriarchal society, in which men claim disproportionate political, economic, and military powers compared to their female counterparts (Pratto et al., 2006). To maximize personal gain from the social system, individuals in positions of power tend to favor the dominance of their own in-group over out-groups. In this sense, it not surprising that men—as members of the dominant group—are more apt to accept and enhance the gender hierarchy, whereas women—as members of the subordinate group—are more likely to favor gender equality and progressive policy changes (Parker & Chusmir, 1991; Pratto, Stallworth, Sidanius, & Siers, 1997; Pratto et al., 2006).

In sports communication, social dominance theory has been applied to explain and predict men and women's attitude toward sports. For instance, Xu and her colleagues (2018) examined Chinese individuals' gendered attitude toward 16 sports, uncovering that male participants tended to rate traditionally-defined masculine sports as more masculine and to rate feminine sports rated as more feminine; women, however, were apt to rate masculine sports as less masculine and to rate feminine sports as less feminine. The authors asserted that women—as members of the subordinate group—were prone to challenge the male hegemony in sport to legitimate their participation and involvement in the traditionally-defined masculine domain. In the current study, social dominance theory will be applied as the theoretical framework to explore men and women's emotional responses to sports images featuring male and female athletes collected from the Olympics, which could provide insights in understanding sex differences in sports preferences and consumption.

## **Sex Differences in Sports Spectatorship**

With the increasing number of women participating in sports (e.g., Women's Sports Foundation, 2017), women currently make up a significant part of the sports spectator market (Hoeber & Kerwin 2013). Thus, examining sex differences in sports spectatorship between men and women has become an emerging topic of interest in sports communication (e.g., McDonald, Leckie, Karg, & Zubcevic-Basic, 2018). For instance, Cooper and Tang (2013) examined sports viewers' multiplatform media use during the 2012 Super Bowl from a lens of gender, revealing that male viewers appreciated athletic competitions more, while female viewers were more likely to enjoy non-athletic elements such as the halftime show. In terms of motivation, scholars found that men's sports consumption was more likely to be driven by entertainment seeking, whereas women's was more apt to be motivated by information seeking and networking with family members (Schallhorn, Knoll, & Schramm, 2017; Whiteside & Hardin, 2011). Moreover, in contrast to male tickets holders' satisfaction being primarily derived from involvements with teams, customer services and home ground facilities were more important for female tickets holders' satisfaction (McDonald et al., 2018). These findings, overall, pointed out that, although a large number of women consume sports contents, their spectatorship is not primarily driven by sport-related elements.

Instead of exclusively focusing on men and women's differences in sports consumption, some scholars move a step forward to further explore the reasons for the sex differences that occur in the current social context. For instance, Whiteside and Hardin (2011) examined heterosexual, married women's sports media consumption from a gender roles perspective. Applying focus-group discussions, the authors revealed that women usually took more responsibilities on domestic work, which left them limited time for watching sports TV programs.

Instead of choosing specific sports competitions, their viewing habits were more dictated by their availabilities, and their viewing experience was often discontinuous, with a series of interruptions. Moreover, women's viewing preferences were largely influenced and shaped by their husbands because women tended to use sports as a tool to connect with their family members (Whiteside & Hardin, 2011). Examining sports media consumption within the domestic structure, Whiteside and Hardin's (2011) study provided valuable insights into how the traditional gender roles within the dominant social structure have influenced women's sports spectatorship.

Unlike Whiteside and Hardin (2011), who investigated men and women's differences in sports spectatorship from micro-level with a domestic power perspective, Lagaert and Roose (2018) examined the gap between men and women in sporting events attendance via a lens of societal, macro-level gender equality. Employing a cross-national comparative approach, Lagaert and Roose (2018) evaluated the relationship between a country's societal gender equality index and its sex gap in sporting events attendance in the European Union, uncovering that, although male spectators outnumbered their female counterparts in every single country examined, countries with a higher level of gender equality tended to show smaller sex gaps regarding sporting events attendance. This study indicated that differences in sports spectatorship were significantly influenced by the gender equality process. Although applying different perspectives, the two studies mentioned above all suggested that sex differences in sports consumption are closely tied with socialization in everyday life.

However, not all studies reported salient sex differences in sports spectatorship; instead, some researchers found that, in certain cases, men and women were highly similar regarding sports consumption. For instance, Mehus (2005) examined 399 spectators watching competitions

of ski jumping and soccer, finding that biological sex only played a marginal role in affecting sports consumption, especially compared to other factors such as age and education. Schallhorn, Knoll, Schramm (2017) investigated men and women's motivations for watching three mega sporting events—FIFA World Cup 2006, the UEFA European Championship 2008 and FIFA World Cup 2010—suggesting that sex differences decreased as men and women's sports interest increased. That is, for highly-identified sports fans, differences regarding motivation between men and women were minimal, which echoes Gantz and Wenner's (1991) studies uncovering that, with a similar level of sports interest and fandom, men and women's sports viewing experience could be highly similar.

### **Preferences in Watching Men and Women's Sports**

Among studies exploring sex differences in sports spectatorship, one agenda—men and women's preferences in watching competitions featuring male and female athletes—has been in doubt over time. To reiterate, the assumption that both men and women viewers prefer to watch men's sports over women's is prevailing in sports newsrooms, which emerges as an important defense to justify the underrepresentation of women's sports in media (Sherwood et al., 2017). However, the assumed readership is criticized for lack of empirical evidence (Hardin, 2005), especially when it comes to women's preference (e.g., Apostolou et al., 2014; Angelini, 2008). In this sense, the sex differences in watching men and women's sports will directly influence sports professionals' decisions on news selections, considering that the majority of sports media institutions are audience-oriented (Billings, 2009).

In prior studies, researchers have reached a wide consensus that male spectators are interested in watching men's competitions in particular sports, except for some highly "feminine" sports such as figure skating and gymnastics. For instance, Apostolou and his colleagues (2014)

recruited 30 participants to explore whether individuals preferred to watch men's sports over women's sports. By surveying participants' willingness to watch 19 sports, researchers asserted that individuals—overall—were more interested in viewing men's competitions. In another study, Jakubowska (2015) conducted interviews in Polish, uncovering that men, again, preferred to consume sporting events featuring male athletes.

From a perspective of social dominance theory, individuals tend to favor the group to which they belong to build a positive self-image (Angelini, 2008). In sport, a domain penetrated with the ideology of masculinity, it is not surprising that men—as in-group members—are apt to watch men's sports because the media coverage of male athletes “reinforces the societal beliefs that men are more physically powerful and capable than women, therefore reinforcing the societal hierarchy of gender” (Angelini, 2008, p.19). On the other hand, women's involvement in sports—especially in masculine sports—challenges the dominant gender hierarchy (Nixon, Maresca, & Silverman, 1979), which could explain why men tend to find women's sports less interesting.

The evolutionary framework is also employed to explain men's preference toward men's sports. According to the evolutionary theory, the evolution of athletic behavior is primarily driven by intersexual selection (Miller, 2000). Carrying more parental investment such as nine-month gestation and breastfeeding, women appear as scarce resources to which men strive to gain reproductive access (Apostolou et al., 2014). To maximize their mating access, men tend to exclude their same-sex competitors to monopolize the interest of women (Anderson, 1984). Thus, involving in intrasexual competitions enables men to communicate qualities (e.g., physical strength and good health) and develop skills, which also provides them an opportunity to forge potential alliances and to avoid dangerous rivals, leading Lombardo (2012) to assert that male on

male competition is “the primary driving force shaping the characteristics of male sports and athletes” (p.18).

However, regarding women’s preference of men’s competitions or women’s competitions, there have frequently been conflicting outcomes. On the other hand, scholars detected that, like men, women also tended to favor men’s sports (Apostolou et al., 2014; Jakubowska, 2015), which could be explained by the evolutionary framework. That is, the reproduction resources that women possess grant them a favorable position, with more choices available from which to select a mate (Buss, 2003). To maximize benefits for the offspring, women are apt to prefer men with athletic qualities, which leads to their preference toward men’s sports. However, women’s preference toward men’s competitions contradicts the prediction of the social dominance theory, which asserts that social inferior groups tend to favor their own groups in order to elevate their social status (Angelini, 2008).

Some scholars explain women’s preference toward men’s sports as due to socialization in the everyday practice. That is, sport, to a large extent, has been constructed as a male territory and women’s sports usually receive a single-digit percentage of the total media coverage (Billing & Young, 2015), which offers the audience—both men and women—limited opportunities to watch and enjoy women’s games (Jakubowska, 2015). Also, from childhood, female spectators’ sports taste tends to be influenced and shaped by males—fathers, brothers, or husbands; it is not surprising, then, that women follow men’s tastes and appreciate men’s sporting contests more (Jakubowska, 2015). Moreover, to reiterate, female spectators’ motives for watching sports tend to relate to their social demands of connecting with males rather than pleasure seeking (Whiteside & Hardin, 2011). Considering that men usually watch men’s sports, it is not

surprising that women tend to follow men's tastes to consume more men's competitions (Jakubowska, 2015).

However, some studies uncovered different patterns in which female spectators did not show preferences toward men's sports over women's. For instance, Greenwell, Hancock, Simmons, and Thorn (2015) examined whether the biological sex of fighters in mixed martial arts would influence the audience's perception, finding that female participants rated the advertisements similarly regardless of the biological sex of fighters involved in advertisements. Likewise, Pope (2018) examined female football fans' attitude toward women's soccer in England via semi-structured interviews, uncovering that many women felt positively toward women's football and had the intention to give women's football an opportunity in choosing sports competitions to watch, although the coverage of women's football was lacking in sports media.

Moreover, Angelini (2008), instead of examining participants' hypothetical choices, directly examined female participants' emotional responses after watching sports clips featuring male and female athletes. The findings suggested that, compared to watching sports clips featuring male athletes, female participants felt more positive, excited, and dominant when watching sports competitions with female athletes involved, echoing James and Ridinguer's (2002) findings that women perceived women's basketball competitions as more appealing than men's. Angelini (2008) applied social dominance theory to explain the sex differences: women, as members of a minority group in the sports domain, strived to legitimate their participation in sports by favoring women's sports. The findings in Angelini's (2008) research directly contradicted the statement that women prefer men's sports over women's, which also challenged explanations from the perspective of evolution.

## **Preferences in Watching Different Types of Sports**

To reiterate, sports are widely categorized according to the traditional gender norms, in which sports involving violence and direct body contact—such as boxing and basketball—are usually typed as masculine sports, whereas sports emphasizing aesthetics and grace—such as gymnastics—are often identified as feminine sports (Hardin & Greer, 2009; Xu et al., 2018). Closely tied with aggressiveness and violence, masculine sports align well with the ideology of masculinity and tend to be perceived as “real” sports (Antunovic & Hardin, 2015). Although women’s participation in sports has been dramatically increasing in the last decades, the male hegemony has rarely been challenged; instead, sports that women frequently watch and participate in—such as figure skating, volleyball, and gymnastics—tend to be excluded from the mainstream, “real” sports as the “other” (Antunovic & Hardin 2015). Antunovic and Hardin (2015) pointed out that sports gender typing indirectly communicates the inferiority of feminine sports, reinforcing the ideology of masculinity in the current sports context.

Regarding sex differences in sports spectatorship, researchers uncovered that men and women tended to hold different preferences toward different types of sports. Specifically, Apostolou et al. (2014) explored participants’ hypothetical choices in sports consumption, revealing that, among the 19 sports examined, individuals preferred to watch women competing in highly feminine sports (i.e., gymnastics and aerobics); when it came to the other 17 sports, however, respondents generally held more interest in watching men’s sports. Moreover, compared to their female counterparts, men showed more interest in watching masculine sports such as football and less interest in watching feminine sports. The findings indicated that individuals’ viewing preferences were highly consistent with the traditional gender role beliefs in daily practice.

However, not all scholars uncovered findings that agree precisely with the research conducted by Apostolou and his colleagues. Angelini (2008) examined the interaction between spectators' biological sex and their preferences toward different types of sports, by which he revealed that female participants reported higher levels of arousal and positivity when they watched clips featuring female athletes who participated in traditionally masculine sports and clips featuring men who competed in traditionally feminine sports. The author, again, explained the findings via a perspective of social dominance: as members of the marginalized social group in the sports domain, women tended to favor sports clips that surpassed the traditional, stereotyped gender expectations because the gender transgressions were beneficial for women to legitimate and elevate their status in sport, a domain overwhelmingly typed with masculinity (Angelini, 2008).

The discrepancies regarding men and women's sports preferences toward different types of sports between Angelini (2008) and Apostolou et al. (2014) could be largely attributed to the research design. First, Apostolou et al. (2014) examined individuals' hypothetical preferences in sports consumption, in which the participants could be heavily influenced by socialization, especially considering that sport was constructed as a male preserve within the current social context. For instance, the lack of media coverage of women's sports (Billings & Young, 2015) and the unequal domestic power structure (Whiteside & Hardin, 2011)—to a large extent—could impede men and women from becoming fans of women's sports. In this sense, although participants had the agency to prefer either competitions featuring female athletes or those featuring male athletes in the survey, men's sports and women's sports were not granted an equal opportunity for individuals to consume in daily practice. Angelini's (2008) study, however, by directly measuring participants' emotional responses to sports clips featuring male and female

athletes, attenuated the influence of socialization, at least partially, providing a more accurate scenario of women's reactions to sports media contents. However, Angelini's (2008) study exclusively investigated women's emotional responses, without including male spectators into the examination. Also, the sample size of 43 undergraduate students was relatively small, making it hard to generalize the findings to a larger population.

### **Measuring Emotion**

The Self-Assessment Manikin (SAM)—a non-verbal, picture-oriented instrument—is one of the most widely employed self-reporting tools to measure individuals' valence, arousal, and dominance in response to an object (Betella & Verschure, 2016). The measure of valence spans from a happy, smiling figure to an unhappy, frowning figure; the measure of arousal ranges from a wide-eyed, exciting figure to a sleepy, relaxed figure; and the measure of dominance spreads from a huge figure indicating maximum control and independence to a small figure indicating minimum control and independence (Bradley & Lang, 1994). Being language- and cultural-free to respondents, the SAM is easy to implement in multiple disciplines (Costa Fernandes & Arriaga, 2010). Since the scale was initially established in 1994, the original paper has been cited over 5,000 times, serving as one of the most effective tools in measuring self-reported emotions in a variety of contexts, including emotional responses to images (Libkuman et al., 2007), advertisements (Morris, 1995), movie clips (Fernández-Aguilar, Ricarte, Ros, & Latorre-Postigo, 2018; Soleymani, Chanel, Kierkels, & Pun, 200), and beyond.

Based on the literature pertaining to men and women's attitudes toward male and female athletes in different types of sports, six research questions were proposed:

**RQ<sub>1</sub>:** In terms of valence, how will male and female subjects respond to sports images featuring same-sex athletes and sports images featuring opposite-sex athletes?

**RQ<sub>2</sub>:** In terms of valence, how will male and female subjects respond to images featuring athletes in “gender-appropriate,” “neutral,” and “gender-inappropriate” sports?

**RQ<sub>3</sub>:** In terms of arousal, how will male and female subjects respond to sports images featuring same-sex athletes and sports images featuring opposite-sex athletes?

**RQ<sub>4</sub>:** In terms of arousal, how will male and female subjects respond to images featuring athletes in “gender-appropriate,” “neutral,” and “gender-inappropriate” sports?

**RQ<sub>5</sub>:** In terms of dominance, how will male and female subjects respond to sports images featuring same-sex athletes and sports images featuring opposite-sex athletes?

**RQ<sub>6</sub>:** In terms of dominance, how will male and female subjects respond to images featuring athletes in “gender-appropriate,” “neutral,” and “gender-inappropriate” sports?

## CHAPTER THREE

### METHOD

As a three-wave project, this dissertation has applied a mixed-method approach to explore the proposed research questions and hypotheses. First, this chapter will cover the procedure of content analysis in analyzing how male and female athletes were depicted at the Olympic Channel. Then, this chapter will discuss how interviews were conducted in this study to explore how media professionals at the Olympic Channel perceived gender issues in their media practices. Finally, this chapter will explain how the experiment was designed to examine how individuals reacted to athletic images featuring male and female athletes in different types of sports.

#### **PART 1. CONTENT**

To explore the gendered content of the Olympic Channel, the current study applied content analysis to examine the cover pictures of news stories produced by the News Department at the Olympic Channel. After the Olympic Channel was established on August 21, 2016, it has produced 1,229 news episodes, which could be retrieved from the official website:

<https://www.olympicchannel.com/en/stories/news/>. Unlike the news articles produced by traditional sports media, which are primarily text-oriented, the news produced by the Olympic Channel prioritizes videos and pictures. On the official website, each episode of news obtains a cover picture to highlight the theme of the news. According to Ashlee Tulloch:

“All the small images...are called thumbnails. We select an image for each story which is relevant to the story and represents/illustrates the story best. Sometimes that image is a

screen shot from the video or it is from an agency or sourced elsewhere from our own archives etc. These images are always specifically chosen and are never random.”

In this sense, analyzing the cover pictures of the news episodes at the Olympic Channel could be an effective way to understand the gendered coverage of the news produced by the Olympic Channel.

The cover pictures of the news episodes collected in this study were produced between August 21, 2016 and September 9, 2018. In total, 1,229 cover pictures were collected from the official website of the Olympic Channel. Only cover pictures figuring athletic figures were included into the analysis. If one picture appeared multiple times, it was only coded once in this study. Thus, a sample of 1,013 cover pictures were examined in this study, with cover pictures being the units of analysis.

Using a coding scheme adapted from Billings, Xu, and Xu (2018), Emmons and MocarSKI (2014), Smith and Sanderson (2015), Geurin-Eagleman and Burch (2016), and Gainor (2017), the researcher coded the collected photographs in two stages. In the first stage, all photographs were coded using five variables: (a) athlete’s biological sex (i.e., male or female); (b) athlete’s home nation; (c) athlete’s race; (d) athlete’s sport; (e) theme of the photograph (i.e., personal life (e.g., hanging out with friends and family) ( $N = 38, 3.8\%$ ), athletic life (e.g., training and competitions) ( $N = 947, 93.5\%$ ), business life (e.g., promoting products) ( $N = 28, 2.8\%$ ), or other ( $N = 0, 0.0\%$ )).

The second stage of coding included two indexes: (a) sexualization index; and (b) subordination index. The sexualization index contained three indicators: (a) clothing, including type (i.e., in uniform ( $N = 823, 81.2\%$ ), not in uniform ( $N = 160, 15.8\%$ , or other ( $N = 30, 3.0\%$ )), level of reveal (i.e., 5-item Likert-type scale, 1 = *not revealing* and 5 = *highly revealing*) ( $M =$

1.61,  $SD = .94$ ), and (b) facial expression (i.e., 5-item Likert-type scale, 1 = *not revealing* and 5 = *highly revealing*) ( $M = 1.03$ ,  $SD = .20$ ). The subordination index included four indicators: (a) emotion level (i.e., showing emotion ( $N = 472$ , 46.6%), not showing emotion ( $N = 412$ , 40.7%), or no face shown ( $N = 129$ , 12.7%)), (b) smiling (i.e., yes ( $N = 376$ , 37.1%), no ( $N = 97$ , 9.6%), or no face shown ( $N = 540$ , 53.3%)), (c) presence of others (i.e., solo ( $N = 705$ , 69.6%), with others ( $N = 308$ , 30.4%), or other ( $N = 0$ , 0.0%)); (d) camera angle (1-below eye angle ( $N = 270$ , 26.7%); 2-high eye angle ( $N = 80$ , 7.9%); 0-normal ( $N = 663$ , 65.4%)). Then, the pictures were coded regarding the level of action (i.e., 5-item Likert-type scale, 1 = *not active* and 5 = *highly active*) ( $M = 3.08$ ,  $SD = 1.36$ ). Appendix A provides detailed definitions and criteria of the coding categories.

Using Krippendorff's (2018) formula, the reliability check was completed by two mass communication doctoral students. After initial training, the two coders were given 80 athletic pictures. Based on discussion and resolution of disagreement, an additional 100 athletic photographs were coded. Final reliability was determined using all 180 photographs (17.77% of the final sample). Reliabilities were calculated for the following variables: (a) biological sex ( $\alpha = 1.00$ ), (b) the race of the athlete [ $\alpha = .98$ ], (c) the nationality of the athlete [ $\alpha = 1.00$ ], (d) sport ( $\alpha = 1.00$ ), (e) theme of the photograph ( $\alpha = .94$ ), (f) wearing uniform or not ( $\alpha = .89$ ); (g) level of reveal in the clothing ( $\alpha = .95$ ); (h) facial expression ( $\alpha = .99$ ); (i) showing emotion or not ( $\alpha = .97$ ); (j) smiling or not ( $\alpha = .95$ ); (k) presence of others ( $\alpha = .99$ ); (l) camera angle ( $\alpha = .93$ ); and (m) activity level ( $\alpha = .95$ ). These scores indicate adequate reliability between coders in content analysis (Riffe, Lacy & Fico, 2014). Once the reliability check was completed, one coder coded all of the athletic pictures collected from the Olympic Channel.

For the data analyses, one-way ANOVAs were applied to compare sex differences regarding the level of sexualization and the level of action; chi-square analyses were employed to explore sex differences in terms of the number of pictures, theme, sports type, emotion, smile, camera angle, and clothing type.

## **PART 2. PRODUCTION**

Eleven media professionals at the Olympic Channel were involved in semi-structured interviews in this study to explore the content production process and choices therein at the Olympic Channel. Six interviews were conducted face-to-face and five via conference call. The eleven professionals interviewed were: (a) Ashlee Tulloch, the journalist in the news department; (b) Badih Chayban, the commissioning editor at the Olympic Channel; (c) Catherine Philbin, the communication manager at the Olympic Channel; (d) Ed Knowles, the podcast host and producer at Olympic Channel; (e) Federico De Mojana, the head of programming; (f) Fiona Shadbolt, the planning producer at Olympic Channel; (g) Nuria Ruano, the production coordinator at the Olympic Channel; (h) Rebekka Ahlstrom, the director of production at the Olympic Channel; (i) Stephen Nannon, the head of news; (j) Tom Kirkland, the broadcaster at the Olympic Channel; (k) and Tommy O'Hare, the head of digital strategy at the Olympic Channel.

A set of questions was prepared for each interviewee consisting of (a) standard questions that could be asked of any person [e.g., asking someone how she/he broadcasted men and women athletes in the professional practice; what were her/his criteria in selecting a topic in the production process; who was the target audience when she/he produced the content.] and (b) specialized questions given a person's specific role [e.g., asking Rebekka Ahlstrom about how she felt working at the Olympic Channel Services as one of the female professionals; asking Stephen Nannon what the overarching philosophy was regarding gender in the Department of

News at the Olympic Channel]. Appendix B provided the semi-structured interview outline. However, many additional questions evolved off-script, as the conversation was allowed to naturally flow to unanticipated areas of discussion. All interviews were 30 minutes to 60 minutes in length. With the interviewees' permission, the interviews were audio-taped and then transcribed by hired research assistants.

Following Billings, Angelini, and MacArthur's (2018) procedure of analyzing the interview data with the sports media professionals at NBC, the transcriptions were analyzed for consistency and accuracy with the goals being to (a) examine the Olympic Channel's overarching policies in covering men and women's sports; (b) identify the criteria that interviewees mention in the content production process regarding the identity of gender; (c) uncover patterns/common themes between and among the Olympic Channel's producers, sportscasters, and journalists; (d) explore how the target audience influence the Olympic Channel's gendered coverage in the production process.

The interview data was further examined with Braun and Clarke's (2006) six steps in conducting a thematic analysis, in which the researcher made multiple passes through the data to define and refine the themes emerged. Specifically, in the first step, the researcher went through the transcripts and gained an overview of the data collected. Then, the researcher systematically analyzed the transcripts and tried to come up with patterns or codes that emerged from the data as many as possible. Third, the researcher revisited and collated the identified patterns or codes into potential themes, with an initial thematic map outlined. At the fourth step, the researcher refined the thematic map to ensure the themes were cohered in a meaningful manner, in which the patterns or codes proposed in the prior step might be eliminated, collapsed, or split into more distinct categorizations. Then, each proposed theme was defined and named based on the

inferred meaning. Finally, the researcher selected identifiable, vivid examples from the interview data set to help readers understand each theme.

The opinions of the interviews quoted in this study were sent to the interviewee to confirm whether they agree with texts as transcribed. With the interviewee's permission, his/her statements were quoted in this project. The qualitative, exploratory nature of the semi-structured interviews and its small sample size limit the study's generalizability to a larger population. The findings of this study, however, provided valuable insights into how the professionals at the Olympic Channel understand their working practice and how their beliefs translate into the ways in which contents are constructed and produced.

### **PART 3. AUDIENCE**

A within-subjects experiment was conducted using a national convenience sample of 236 subjects recruited from Amazon Mechanical Turk (MTurk), a crowdsourcing web service that uses a labor force of self-registered employees (called "workers") to complete jobs (called "Human Intelligence Tasks" or "HITs") in exchange for a wage (called a "reward") (Paolacci, Chandler & Ipeirotis, 2010). Although the population of workers in the United States is more educated, younger, and predominately female than the general population, the MTurk sample is considered a more reliable platform for collecting survey and experimental data than other Internet sources (Paolacci, Chandler & Ipeirotis, 2010). In addition, scholars also found that, compared to typical student populations, MTurk samples are usually more diverse (Buhrmester, Kwang & Gosling, 2011). The average time of completing the questionnaire was about 17 minutes, with a monetary incentive of 50 cents awarded to subjects—Master workers on MTurk—who completed the experiment. The data were collected between February 14 and February 21, 2019.

**Subjects.** Data were collected from 236 subjects: 149 males (63.14%) and 87 females (36.86%). The sample was predominately White (111 subjects, 47.03%) and Asian (103 subjects, 43.64%). Hispanic or Latino (10 subjects) and Black or African American (7 subjects) made up 7.20% (17 subjects) of the total sample. The mean age of subjects was 38.01 years ( $SD = 11.65$  years). The majority of subjects held a bachelor's degree or higher (176 subjects, 74.58%). Regarding household income, 21.61% (51) of the subjects earned less than 20,000 dollars per year, 44.92% (106) of the total subjects earned more than 20,000 dollars but less than 50,000 dollars per year, and 27.12% (64) of the subjects earned more than 50,000 dollars but less than 100,000 dollars per year.

**Research Design.** A 2 (*Athlete Sex*) X 3 (*Gender-Typing of Sports*) factorial experiment was conducted in this study to explore male and female subjects' emotional responses to sports images featuring male and female athletes. Subjects were assigned 12 manipulated sports images, and the data were analyzed with repeated measure ANOVAs. The factor of *Athlete Sex* has two levels (male and female). The factor of *Gender-Typing of Sports* has three levels: "masculine," "neutral," and "feminine" sports. For each masculine, feminine, and gender-neutral sport, one sport was chosen to be presented, with four images—including two pictures featuring male athletes and two pictures featuring female athletes—selected in each sport. To control a possible order effect, subjects were presented the 12 selected images in a random order. Also, subjects' age, education, biological sex, race, income, and fanship were measured as control variables.

**Independent Variables.** The three independent variables included in this study are: *Athlete Sex*, *Subject Sex*, and *Gender-Typing of Sports*. The *Gender-Typing of Sports* is conceptualized as individuals' perception of sports on the continuum of masculinity or femininity in this study. The concept has been constantly measured in prior studies, in which

researchers found that sports are pervasively perceived as falling under three major categories on the continuum of masculinity and femininity: masculine sports, neutral sports, and feminine sports (e.g., Angelini, 2008; Hardin & Greer, 2009; Xu, Fan, & Brown, 2018). Based on the literature, the masculine sport that was represented in the images was boxing; the gender-neutral sport that was represented in the images was tennis; and the feminine sport that was represented in the images was figure skating (Angelini, 2008; Xu, Fan, & Brown, 2018).

***Dependent Variables.*** Valence, arousal, and dominance were measured via the use of the self-assessment manikin (Bradley & Lang, 1994; Russell & Mehrabian, 1977; Wundt, 1896). The SAM scales use a single pictorial scale for each dimension and each scale consists of nine figures. A nine-point scale was applied to measure each dimension, in which subjects could place a mark on any of the nine figures.

The SAM scales for valence ranged from a figure with a smile to a figure with a frown. Subjects were instructed that the figure with the smile represented their feeling completely happy, pleased, or satisfied while viewing and that the figure with the frown represented their feeling completely unhappy, annoyed, or unsatisfied. For arousal, the SAM scales spanned from an excited, wide-eyed figure with an explosion in its middle to a relaxed, sleepy figure. The excited, wide-eyed figure represented that the subject felt completely aroused, stimulated, or excited while viewing; the relaxed, sleepy figure was used when the subject felt completely unaroused, calm, or relaxed while viewing. For dominance, the SAM scales applied the size of figures to indicate the level of control. The large figure represented the subject felt completely in control, independence, and influential while viewing and the small figure represented the subject's feeling as completely under control, dependence, and submissive.

**Procedure.** Once the researchers received IRB approval from a Research 1 University in the United States, a pretest was conducted on the Amazon MTurk with 25 subjects recruited. In the pretest, 38 athletic images were showed to the subjects to test the perceived age, physical fitness, and active level of the athletes presented. Eventually, 12 pictures were selected, including two pictures featuring male athletes and two pictures featuring female athletes from each sport, respectively (i.e., tennis, figure skating, and boxing). For the 12 selected pictures, the perceived age of athletes ranged between 25.38 and 30.50 years old; the perceived physical fitness ranged between 8.08 and 9.00 (measured by a 11-point semantic differential scale); and the perceived active level ranged between 8.58 and 9.54 (measured by a 11-point semantic differential scale). In this sense, although the 12 selected pictures featured athletes in different athletic contexts, they were roughly equivalent regarding age, physical fitness, and active level.

The questionnaire of the main test consisted of five sections. The first section consisted of the informed consent statement, which provided a description of the research and guaranteed subjects confidentiality and anonymity. Then, instructions were presented about how to respond to the SAM scales, with examples were given so that the subjects could further understand how to use them. In the next step, subjects were exposed to the 12 randomly ordered pictures using Qualtrics, an online survey management website. Also, the three SAM measures used to evaluate each athletic picture were randomly presented to the subjects to avoid potential order effects. Once the subject completed the scale-items, subjects were asked to answer a series of demographic questions (i.e., age, sex, education, race, income) and their fanship level. Billings and Ruihley's (2013) three-item 7-point scale was adopted to measure the general fanship ( $M = 5.02$ ,  $SD = 1.71$ ). Also, considering that the three selected sports in this study—tennis, figure skating, and boxing—are popular Olympic sports, subjects' fanship of the Olympic Games ( $M =$

5.15,  $SD = 1.83$ ) was also measured by a 7-point Likert scale in this study. The higher the score, the more that subject intended to show support for their favorite team or the Olympic Games.

The last section thanked the subjects for completing the questionnaire.

***Data Analysis.*** For the SAM scales, an average score was calculated for each of the dimensions. For each dimension, a global repeated measure ANOVA was conducted first to check whether the interaction among the three variables was significant. Then, post hoc analyses were conducted to explore the relationships between certain variables. Statistical analyses of the data were computed using IBM SPSS Statistics, version 25.

## CHAPTER FOUR

### RESULTS

This chapter will include three sections to report the findings of this dissertation. The first section will discuss how the Olympic Channel portrayed male and female athletes in thumbnails of news episodes. The second section will cover how media professionals at the Olympic Channel perceived gender issues in practices. The final section will report individuals' emotional responses toward athletic pictures featuring male and female athletes in "gender-appropriate," "neutral," and "gender-inappropriate" sports.

#### **PART 1. CONTENT**

Content analysis of the Olympic Channel's news thumbnails resulted in 1,013 photographs. Hypothesis 1 predicted that the Olympic Channel would feature more men than women. The descriptive analysis of 1,013 pictures suggested that the Olympic Channel rendered 583 (57.6%) pictures featuring male athletes, 376 (37.1%) pictures covering female athletes, and 54 (5.3%) depicting both male and female athletes. Excluding pictures featuring both men and women, 60.1% of the thumbnails were rendered to male athletes and 39.9% of the pictures were devoted to female athletes. Thus, Hypothesis 1 was supported.

Research Question 1 addressed the top-10 most-covered sports for both male and female athletes at the Olympic Channel. Table 1 reports the top-10 most covered sports, with the frequency of each sport noted.

Table 1.

*Top-10 Sports for Male and Female Athletes*

	Men		Women	
	Sport	Frequency	Sport	Frequency
<b>1</b>	Track and field	94	Track and field	37
<b>2</b>	Cycling	35	Gymnastics	32
<b>3</b>	Figure skating	34	Figure skating	22
<b>4</b>	Surfing	33	Swimming	21
<b>5</b>	Snowboarding	24	Alpine ski	20
<b>6</b>	Basketball	22	Climbing	20
<b>7</b>	Swimming	20	Tennis	19
<b>8</b>	Alpine ski	19	Snowboarding	18
<b>9</b>	Soccer	19	Surfing	13
<b>10</b>	Ice hockey	15	Badminton	10

As outlined in Table 1, for male athletes, the top-10 most-covered sports were track and field (94), cycling (35), figure skating (34), surfing (33), snowboarding (24), basketball (22), swimming (20), alpine ski (19), soccer (19), and ice hockey (15); for female athletes, the top-10 most-covered sports were track and field (37), gymnastics (32), figure skating (22), swimming (21), alpine ski (20), climbing (20), tennis (19), snowboarding (18), surfing (13), and badminton (10).

Hypothesis 2 predicted that the Olympic Channel would highlight different themes in representing male and female athletes. Among the 1,013 pictures analyzed, 947 (93.5%)

photographs featured athletes' athletic life. Table 2 reports the themes of pictures by biological sex.

Table 2.

*The Themes of Pictures by Biological Sex*

	<b>Men</b>	<b>Women</b>	<b>Total</b>
Athletic Life	549 (94.2%)	352 (93.6%)	901 (94.0%)
Personal Life	18 (3.1%)	17 (4.5%)	35 (3.6%)
Business Life	16 (2.7%)	7 (1.9%)	23 (2.4%)
Total	583 (100.0%)	376 (100.0%)	959 (100.0%)

Chi-square analysis was applied to explore whether significant differences existed in themes regarding biological sex. However, statistical tests did not yield any significant differences. Thus, Hypothesis 2 was not supported.

Hypothesis 3 predicted that, compared to male athletes, female athletes would be represented in more sexualizing/revealing ways at the Olympic Channel. Two indicators—clothing and facial expression were employed to assess the hypothesis.

Among the 1,013 pictures analyzed, 823 (81.2%) photographs depicted athletes in uniform and 160 (15.8%) photographs featured athletes not in uniform. Considering that uniforms of sports substantially vary and athletes cannot determine how their uniforms are designed, this study considered uniforms as not intrinsically sexualizing. Thus, the level of sexualization was examined within pictures featuring athletes not in uniform. Excluding 13 pictures featuring both men and women, 147 pictures were included in the analysis. The one-way ANOVA suggested that male athletes ( $N = 98$ ,  $M = 1.50$ ,  $SD = 1.11$ ) and female athletes ( $N = 49$ ,

$M = 1.57, SD = .91$ ) did not significantly differ regarding the level of reveal in terms of clothing. In terms of facial expression, a one-way ANOVA was conducted to explore the gender differences between men and women, again, finding that male athletes ( $N = 520, M = 1.02, SD = .17$ ) and female athletes ( $N = 339, M = 1.04, SD = .24$ ) did not significantly differ regarding the revealing level of facial expression. Thus, Hypothesis 3 was not supported.

Hypothesis 4 proposed that, compared to male athletes, female athletes would be represented in more subordinate ways at the Olympic Channel. Four indicators—emotion, smile, presence of others, and camera angle—were employed to measure the level of subordination, along with a series of Chi-square tests. Table 3 reports the frequencies of each indicator and notes significant differences.

A total of four Chi-square tests were conducted to examine sex differences regarding emotion, smile, presence of other(s), and camera angle, with two significant differences detected. Namely, female athletes were more likely to show emotion ( $\chi^2 = 16.39, df = 2, p < .001$ ) compared to male athletes; meanwhile, female athletes tended to smile more frequently ( $\chi^2 = 22.07, df = 1, p < .001$ ) in the profile pictures represented at the Olympic Channel than their male counterparts. Thus, Hypothesis 4 was partially supported.

Hypothesis 5 predicted that, compared to female athletes, male athletes would be depicted in more active ways at the Olympic Channel. A one-way ANOVA was conducted, with no significant difference detected between male athletes ( $N = 583, M = 3.10, SD = 1.41$ ) and female athletes ( $N = 376, M = 3.05, SD = 1.30$ ). Hypothesis 5, therefore, was not supported.

Table 3.

*The Four Indicators of Subordination by Gender*

	<b>Men</b>	<b>Women</b>	<b>Total</b>
Showing emotion	236 <sup>a</sup>	202 <sup>a</sup>	438
Not showing emotion	270 <sup>a</sup>	132 <sup>a</sup>	402
Others	77 <sup>a</sup>	42 <sup>a</sup>	119
<b>Total</b>	583	376	959
Smile	164 <sup>b</sup>	178 <sup>b</sup>	342
Not smile	72 <sup>b</sup>	24 <sup>b</sup>	96
<b>Total</b>	236	202	438
Solo	422	282	704
With others	161	94	255
<b>Total</b>	583	376	959
Below eye angle	168	91	259
Above eye angle	46	29	75
Horizontal eye angle	369	256	625
<b>Total</b>	583	376	959

<sup>a</sup> $\chi^2 = 16.39, df = 2, p < .001$ ; <sup>b</sup> $\chi^2 = 22.07, df = 1, p < .001$ .

## **PART 2. PRODUCTION**

Closely examining the transcripts of the 11 interviews conducted with the Olympic Channel employees, this study found that the IOC exerts substantial influence on the Olympic Channel. In terms of content production, two primary criteria have emerged: (a) appealing to the target audience; and (b) aligning with Olympic values. Moreover, this study revealed that sports media professionals' journalism practice is heavily influenced by her/his personal characteristics, challenging the prevalent ideology of "gender neutrality" in the sports media industry.

**What Makes the Olympic Channel Unique?** Based on the interviews with the Olympic Channel professionals, the uniqueness of the Olympic Channel as a global sports media platform primarily lies in two aspects: (a) its relationship to the IOC; and (b) its embracing of diversity.

*The influence of the IOC.* The Olympic Channel, directly under the umbrella of the IOC, is a digital-first, multiplatform site established to keep the Olympic spirit alive throughout each year (Olympic Channel Commission, 2019). Regarding content production, the Olympic Channel is devoted to covering "stories about Olympians," "facts about Olympics," and "key stories about Olympics" to "communicate the values of the Olympics Movement" (Nuria Ruano, Production coordinator at the Olympic Channel). During his interview, Badih Chayban—the commissioning editor at the Olympic Channel—specified the influence that the IOC has had on the Channel:

Badih Chayban: I think it's the Olympic Movement that makes the Olympic Channel a different clique than any other broadcasters, sports platforms, TV networks, or whatever media outlets that we are talking about. We are not only a channel, we kind of represent the Movement that has been there for a hundred years, the Movement that has values, and the Movement has a very rich library of historical events... The Olympic Movement

mission is about making the world a better place through sports and being part of such a movement it makes us more than a media company. That is the added value when you compare us to other media companies that are more profit-oriented, or politically-oriented, or that are less value-oriented and more-business oriented.

As a value-oriented sports media company, the Olympic Channel is committed to promoting the Olympic Movement, including one of its key values of gender equality in sport. Stephen Nannon—the head of News at the Olympic Channel—pointed out in his interview that, although the Olympic Channel does not have a written policy pertaining to the promotion of gender equality, the value has been ingrained into the Channel naturally:

Stephen Nannon: No one ever advocates me and says, “This is what we're looking for, we'd like to have this number,” or a set criteria or guidance were really given to us. For me, this [gender equality] was set up as part of the [Olympic] Agenda 2020. Agenda 2020 is all about bringing balance, equality, making the Olympic Movement more environmentally-friendly, more female-friendly. Basically, make it more inclusive and more open. All those things that essentially make it more progressive... And that’s what we should build towards and strive towards... It's really important that those values should, at least in some part, be imbued.

In this sense, as a sports media platform established by the IOC, the Olympic Channel is inevitably influenced by the Olympic Movement, striving to “mirror the Olympic values—openness, respectfulness, and friendliness” to “ensure an equal platform” (Stephen Nannon).

The IOC values not only influence the Olympic Channel on an institutional level, but also on an individual level. As Badih Chayban stated, the Olympic Channel employees have been molded by the IOC values and become “the human product of the Olympic Movement”:

Badih Chayban: There is a big difference between the Olympic Channel as a sports broadcaster and *ESPN* or *NBC Sports* or *VN Sports* because what drives us are the values and these become who we are at the end... These values become part of how you think... And day by day, the thoughts or the philosophy or the way of thinking of people who work here become more and more molded by the values that surround us. So, we are also the product. We become the human product of the Olympic Movement... We are molded by what it means. At the end, people look like their organizations and organizations look like their people.

A more representative example of how the IOC influences the Olympic Channel's employees is illustrated by Ashlee Tulloch, a young female reporter and producer in the News Department at the Olympic Channel. Her career in sports journalism is greatly influenced by the Young Reporters Program—a sports journalism training program founded by the IOC in 2010 to include young reporters (aged 18-24) from five continents to participate in covering the Youth Olympics:

Ashlee Tulloch: My journey with the Olympics started back in 2013. There was an email sent out from the IOC saying that there was a Young Reporter Program. It was essentially like a scholarship which was recommended for people who were interested in journalism, photography, and social media. I applied for the scholarship, and ... somehow, I was able to be selected for that. And then I got to go to Nanjing for the 2014 Youth Olympic Games.

The Young Reporters Program recruits equal numbers of male and female reporters into the training camp. At the Buenos Aires 2018 Youth Olympics, for instance, the program included two male reporters and two female reporters from each continent. According to Ashlee Tulloch,

the experience of being a young reporter at the Nanjing 2014 Youth Olympic Games paved the path for her to work at the Olympic Channel:

Ashlee Tulloch: For me, the Youth Olympics Games is a really amazing opportunity for young athletes, young journalists, young timekeepers, young referees, and young umpires... We did print, we did photography, we did television, we did social media using Google Glass, and we wrote stories and edited them... Then the top students were selected to go to Lillehammer for the Winter Youth Olympic Games in 2016. Because I was selected to go to Lillehammer in Norway, then it was there that I was able to talk to the right people, and then I came and had an interview here [the Olympic Channel in Spain] ... and then later in the year I moved to Spain.

The personal connection with the IOC's Young Reporters Program has made a far-reaching impact on Ashlee Tulloch's journalism career. In her own words, "The Youth Olympics is really close to my heart." Also, Ashlee Tulloch highlighted the positive effect that the IOC's Young Reporters Program has on encouraging women to enter the sports media industry, a domain conventionally constructed as a male territory:

Ashlee Tulloch: It's a program that the IOC created and it was an interesting opportunity because as a female coming from New Zealand, there are not many sports reporters. In my previous network, there were only two of us, two females. And I worked there for six years. Sometimes, you know, you don't believe that you can achieve things; so, when you start to do things and people believe in you, it's really special. I think what is being nice is that the IOC created a program which allowed for me to take some further steps. You could say they nurtured me because I got to a part of one program and that allowed me to

end up here. I think that's something really good, not just from me, but from a youth side of things, an age things nurturing younger people.

In sum, the IOC's values make a substantial impact on the Olympic Channel. On an institutional level, Olympic values, including gender equality, have been naturally imbued into the Channel, leading to a pursuit of gender balance in its content production; on an individual level, the Olympic Movement has nurtured a sense of inclusion among the Olympic Channel employees via its daily working practice, activities, and programs, which further benefits the promotion of gender equality in its media coverage.

*A global platform's embrace of diversity.* As a global sports media platform trying to appeal to a global audience, the employees recruited at the Olympic Channel accordingly show great diversity regarding nationality. According to Ashlee Tulloch, for instance, the 13 professionals working in the news team come from all over the world, such as Kenya, Singapore, South Africa, Italy, and New Zealand, and beyond. The diverse background of the Olympic Channel employees has brought a global perspective into the newsroom, making the Channel a unique platform compared to many other sports networks, such as *ESPN*, *CCTV Sports*, and *Fox Sports*:

Ashlee Tulloch: I think that we look at everything as if this table is the globe. So, we're looking at everything from above and we're trying to reach a lot of different types of people from different parts of the world... Where I was working before was quite localized; and I think—at the Olympic Channel—what we are trying to do is really to cater to a large amount of people. We're not necessarily going “just these people, just those people.” Our eyes are open very wide, and I think because we all come from different places, so when we look over our “maps,” we're trying to reach the differences,

we all see it differently, and so we all come from a different perspective. I think we do a really good job of utilizing the different experiences and perspectives that people have.

The diversity of employees at the Olympic Channel—including their gender diversity—not only provides different angles and perspectives in producing content, but also facilitates an open, inclusive environment at the Olympic Channel:

Ashlee Tulloch: I think we all come from different perspectives and different backgrounds, so I think sometimes, we do stories from different angles. The good thing is that there are open conversations. I could see a story in a certain way and a male colleague might see it differently, and we will discuss it. Even if we're not doing a story, we will discuss images and the way that things are portrayed, particularly if we disagree or don't agree with things. I think people here are vocal about that.

Badih Chayban further explained why diversity is of great importance at the Olympic Channel. That is, the Channel tries to be diverse not because of related policies, but to make high-quality content:

Badih Chayban: We try to be diverse in geography, we try to be diverse in age, we try to be diverse in gender. Why? It's not only because we want to diverse, because it's better. It makes better content. It gives a better picture of the world discover different angles and stories. There is always more, it's the rich, it's richer to widen your horizons and tell stories from different parts of the world, different types of people, different social level, different gender, different religion, different diversity in making content and when you mix it with our value "expand rather than win."

Federico De Mojana—the head of programming—highlighted the importance of gender diversity at the Olympic Channel in making high-quality content: the Olympic Channel aims to appeal to

both men and women all over the world, and a gender-diverse environment is better able to fulfill this goal:

Federico De Mojana: Again, my content is for men and women so I need to have men and women in order to have their own opinion and their feeling... So that's why we needed to have this representative [demographics]—men, women, Asian, European, American etc.—because we need to really get input from all around the world. This is the only policy we have.

In this sense, the IOC's impact on the Olympic Channel and its global perspective has made the Olympic Channel unique on a worldwide scale. Considering that promoting women's participation in sport stands as a key principle of the Olympic Movement, the employees at the Olympic Channel—overall—share a consensus of portraying both male and female athletes from an athletic-oriented perspective in their media practice, although no written policy to this effect has been issued within the organization.

**The Criteria of News Selection.** In terms of criteria in producing content, two leading concerns have emerged from the 11 interviews with the Olympic Channel professionals: (a) appealing to the target audience; and (b) aligning with the Olympic values.

*Appealing to the target audience.* Although the Olympic Channel is a non-profit sports media company established to promote the Olympic Movement, generating revenues is still “the primary obligation” for the company. Federico De Mojana clarified the definition of “non-profit” in the case of the Olympic Channel:

Federico De Mojana: First of all, it's [the Olympic Channel] a non-profit. Let's also be very strict on this. Non-profit doesn't mean throw money away. Non-profit means that all the benefit needs to be reinvested into the Olympic Movement. So, non-profit means that

you need to generate benefit. The difference is that the benefit is not redistributed to the shareholders but are redistributed to the stakeholders. But the primary obligation, even if it is a non-profit, is to generate benefit. People try to confuse the concept of non-profit as a company that revenues are not important. No, revenues are absolutely important. Profit is absolutely important. It's the way you use the profit which is different. In a profit organization, this profit goes in my pocket. In a non-profit organization, the profit is redistributed into the business, or into the stakeholders, into the athletes, into the Olympic movement in general. But we need to generate profit.

To generate profit, the Olympic Channel needs to produce engaging content to reach its target audience. According to Ashlee Tulloch, whether a story is interesting and engaging is her primary concern in selecting a topic to cover:

Ashlee Tulloch: I think it comes down to news value: Is the story interesting? Why is the story interesting? For me, I mean, I use myself, I use my sisters, I use my family and my friends as an example. If we're trying to decide whether we should write a story or make a video, I would question, "Would I want to watch this?" "Why would someone want to watch this?" "Would my sisters want to read this?" The stories I like are the ones with the human interests. I find sports very emotional. I'm an emotional person. For me, if you can find your emotional connection to something that someone says, if there's a message and a story behind it, then I think that's the value.

The importance of touching the emotional point of the audience was also highlighted by Federico De Mojana, an Olympic Channel professional in the management rank:

Federico De Mojana: We speak about the deep involvement, emotional involvement in sports. We really cover everything at 360 degrees. The important thing is that the story

you tell needs to be emotional, needs to go into you and give you something and move something that you have inside...At the end of the day, we need to think how we can touch this emotional point of the people.

Moreover, Badih Chayban explained the criterion of “appealing to the target audience” from a commercial perspective. That is, the Olympic Channel has numbers to reach, which stands as the primary consideration in its content production:

Badih Chayban: At the end, we are a channel with a primary target audience of young people around the world, what we call millennials who are between the age of 14 and 30. From a commercial point of view, we want this audience to watch our content. So, our primary motive for what makes us say “that’s okay” is that this content may work for us. We need to have data and common sense that says that this content will be interesting to our target audience because at the end we have numbers that we need to reach and we need this number of millennials to be consuming our content.

Fiona Shadbolt, the planning producer at Olympic Channel, also stated that producing engaging content to attract the target audience is of great importance. To reach this end, the Olympic Channel has adjusted its production strategies over the last three years:

Fiona Shadbolt: I think you want to make sure that the content you are bringing in and able to create is the most engaging content for your targeted audience. I think we’ve gone through processes over the last three years, where we have realized certain types of content weren’t working for us, and we’ve had to rethink how we create more engaging content. We want people to engage with the stories and content we create and return to [olympicchannel.com](http://olympicchannel.com) over and over.

Tom Kirkland—the broadcaster at the Olympic Channel—provided an example of how the Olympic Channel adjusted its coverage of cheerleading to appeal to a wider audience:

Tom Kirkland: We want to do more events that have a popular run. We did international cheer leading competitions last month in Orlando, which I did some of that and that wasn't much of a deal in the first year. But then, they saw that they have good numbers so we decided to do more. If we get a reaction over some period of time where they see our numbers going up, then they will try to move pieces more into that area.

The target audience of the Olympic Channel is defined as millennials aged between 14 and 30 (Olympic Channel Commissioning Brief, 2018), with no gender ratio specified. During the interview with Stephen Nannon, he noted that he perceived the target audience as “50 percent male, 50 percent female”:

Stephen Nannon: In terms of the target audience, our fundamental aim is to try and attract a young audience. It's essentially under 35 and as gender balanced as possible. So, the idea would be that our audience is 50 percent male, 50 percent female.

What is interesting is that Ashlee Tulloch mentioned that there might be more females consuming the Olympic Channel content. Although she was not 100 percent sure whether her perception was right, she did not assume her audience as overwhelmingly male:

Ashlee Tulloch: I mean, I think there is a perception that men are more into sport than women, but I don't think that's true... Maybe I'm biased, but sometimes I think maybe our audience is more female. To be honest, I hadn't thought too hard about whether it's more female or male, but in a way, I do wonder if it could be more female...I also think women have a wonderful way of being accepting that humans are emotional. So I feel that we're [women] very good at connecting with people...they [women] would relate to

that really well. So to be honest, I'm not 100% sure, but part of me feels like it may be a stronger female audience. I don't know why. Maybe I'm being biased.

*Aligning with the Olympic values.* As the IOC's official sports media platform, it is not surprising that the Olympic Channel's content is produced within the values of the IOC. In his interview, Badih Chayban highlighted how the IOC's values influence his content selection in his journalism practice, which echoed Stephen Nannon's words of "being relatable to the Olympics":

Badih Chayban: The second [criterion] is our values: "friendship, excellence, and respect."

These are the Olympic values. Does this content meet these values? Does this content respect these values?

In summary, although the Olympic Channel is a non-profit sports media company, appealing to the audience emerges as its primary criterion in content production. To this end, the Olympic Channel has adjusted its production strategies over the last three years to appeal to a wider audience. Meanwhile, aligning content with Olympic values emerges as another key principle in content production, which is not surprising considering that the Olympic Channel is operated under the umbrella of the IOC.

**Do Male and Female Professionals Differ in Covering Sports?** In sports communication, whether the increasing number of female employees in sports institutions would lead to a more gender-equal coverage in sports media has been in debate for years (e.g., Schmidt, 2018; Schoch, 2013). In this study, several interviewees shared their insights regarding this controversy. First, Stephen Nannon noted that each professional, whether male or female, has his/her own style in producing news episodes or videos in practice. In other words, the content production is heavily marked by a journalist's or a producer's personal characteristics:

Stephen Nannon: But ultimately, how a producer or a journalist works it out, there is a matter of their own personal choice and their own personality that comes through to it. So, I can tell who's done what story, normally, 80 percent of the time... just from one view... [from] the words they use, or the pictures they use, or the treatments they use. So, even though you've given them a framework, at the end of the day, they still have an interpretation.

The strong personal impact on content production was also highlighted by Ashlee Tulloch in her observation that male and female professionals have different perspectives in observing the world, and her “female angle” greatly matters in her journalism practice:

Ashlee Tulloch: I think as a female, I see things differently. We come from a different angle. Sometimes, it's hard to vocalize how you feel about something because other people might see it differently. But I think it's important to say: “Well, no, that's not okay.” or “No, that's not the way I would do it.” Because if you don't speak up, then people are going to think the way that they think. Culturally, the society is constructed like this. There's a lot happening in these days. I think that as women, we can feel confident and strong about our opinions and not be afraid to speak up. This is a great environment for doing it [at the Olympic Channel].

Ashlee Tulloch was clearly aware that she gravitates toward female athletes in covering stories. Although she does not intentionally highlight women's sports, her identity as “a proud woman” exerts a substantial impact on her journalism practice:

Ashlee Tulloch: I think as a proud female, I'd like to make an effort to do that [highlight women's sports and female athletes]. I definitely think that I do; but I honestly think I just automatically write it in that way...I just think it's so ingrained in who I am and what

I believe in. I would not hesitate to say that I gravitate towards female stories. We did a story about a woman surfer and the rise of women in surfing just recently. So any opportunity to promote women's sports, I will definitely try to. Why not? This is my job. That's what we should do. These women athletes are working so hard to be the best that they can be. So I should be able to be the best I can be in promoting them in this way. That is just how justice works.

At the Olympic Channel, moreover, the presence of female sports media veterans emerges as a great inspiration for young female sports professionals, such as Ashlee Tulloch. In her words, her female colleagues in the News Department have "forged a path" for her in this male-centric profession; also, she hopes that she could pave a path for future female professionals:

Ashlee Tulloch: My colleague, Evelyn has been working in sports for twenty years... It's a real inspiration to have someone of her caliber working with us because she has such an abundance of knowledge. As a female working in this industry for such a long time, she's really forged a path. I think the reality is that so few females are able to crack through sometimes, but there were some people before me who were able to make the difference. I guess the hope is that we can continue to make a difference so that people behind me can continue to follow and forge their own paths. So hopefully, I've paved the way for some people behind me.

Also, Ashlee Tulloch particularly highlighted the tremendous support and guidance that she receives from her female managers at the Channel:

Ashlee Tulloch: I work with some incredible females and in particular, in management roles. Because I think that's also something that how do you come by, not only females working in sports but females working in management roles in sport... Rebecca's

fantastic and she's been super supportive and been able to give me some real guidance and opportunities. I think that's the thing, females look after females here, which is perfect... I think something that happens sometimes is that people are so focused on trying to achieve something by themselves, that you can all be working in solos and working quite separately; but the energy here and the teamwork here, particularly amongst the females, the support is really phenomenal.

Tom Kirkland also illustrated how personal characteristics influence an individual's journalism practice from a broadcaster's perspective. That is, even apart from holding any personal biases, the broadcaster's familiarity or interest in different sports would inevitably influence the broadcasting practice:

Tom Kirkland: I did fencing the other day. I don't know the actual event, or the discipline, or what it is; but I can talk with the audience. I have done many, many sports and I understand the psychology of sports. So sometimes that can get you through even if I don't know the technical... I've learned, I just try to be generic. If I don't know a particular event, I just sit back and let the scoring happen. I've learned that "less is more." When you're doing commentary note, if I don't know, I'm quiet... Families, parenting, all those things are universal in life. So, I tried to bring that if I don't know the technical pieces of answer.

To summarize, individual characteristics—including personal identity and interest—could play an important role in affecting sports media professionals' journalism practice. Also, the considerable number of female professionals has nurtured a sense of belonging among female employees, facilitating a female-friendly environment at the Olympic Channel.

### **PART 3. AUDIENCE**

Repeated measure ANOVAs were employed to explore the six research questions proposed in this study. Regarding valence, a three-way mixed repeated measure ANOVA was conducted including two within-subject variables—gender-typing of sports (3) and athlete sex (2)—and one between-subject variable—subject sex (2)—into the analyses. Controlling for the subjects' age, education, income, race, and fanship, the mixed repeated measure ANOVA generated a significant interaction among the three variables, Wilks's  $\lambda = .94$ ,  $F(2, 227) = 7.78$ ,  $p = .001$ ,  $\eta_p^2 = .064$ . Post hoc tests were further conducted to answer the two research questions pertaining to valence.

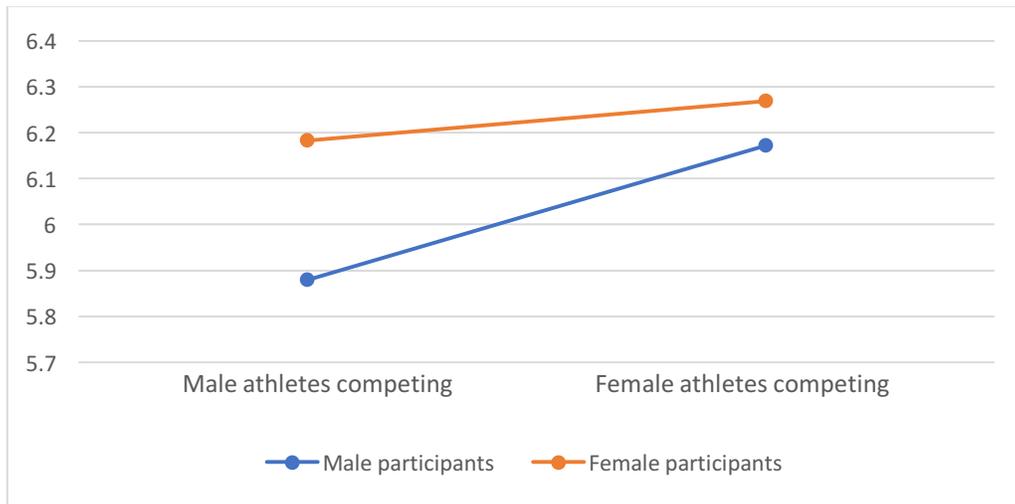
Research Question 1 queried how male and female subjects responded to sports images featuring same-sex athletes and opposite-sex athletes regarding valence. This question was assessed according to two dimensions: (a) examining potential differences between male and female subjects in viewing pictures featuring male (or female) athletes; and (b) examining potential differences among male (or female) subjects in viewing pictures featuring male and female athletes. Figure 1 reports how male and female subjects reacted to athletic images featuring sportsmen and sportswomen regarding valence.

As shown in Figure 1, in viewing pictures featuring male athletes, female subjects ( $M = 6.18$ ,  $SD = 1.09$ ) showed a significantly higher level of valence than their male counterparts ( $M = 5.88$ ,  $SD = 1.06$ ),  $F(1, 228) = 6.34$ ,  $p < .05$ . However, in viewing pictures featuring female athletes, no significant difference was revealed between male ( $M = 6.17$ ;  $SD = 1.06$ ) and female ( $M = 6.27$ ,  $SD = 1.09$ ) subjects. In terms of the second dimension, male subjects showed a significantly higher level of valence in watching female athletes competing ( $M = 6.17$ ;  $SD = 1.06$ ) than in watching male athletes competing ( $M = 5.88$ ,  $SD = 1.06$ ),  $F(1, 228) = 7.98$ ,  $p < .05$ ;

whereas no significant difference was uncovered among female subjects in viewing athletic pictures featuring male athletes ( $M = 6.18, SD = 1.09$ ) and female athletes ( $M = 6.27, SD = 1.09$ ).

Figure 1.

*Men and Women's Valence Responses in Viewing Pictures Featuring Male and Female Athletes*



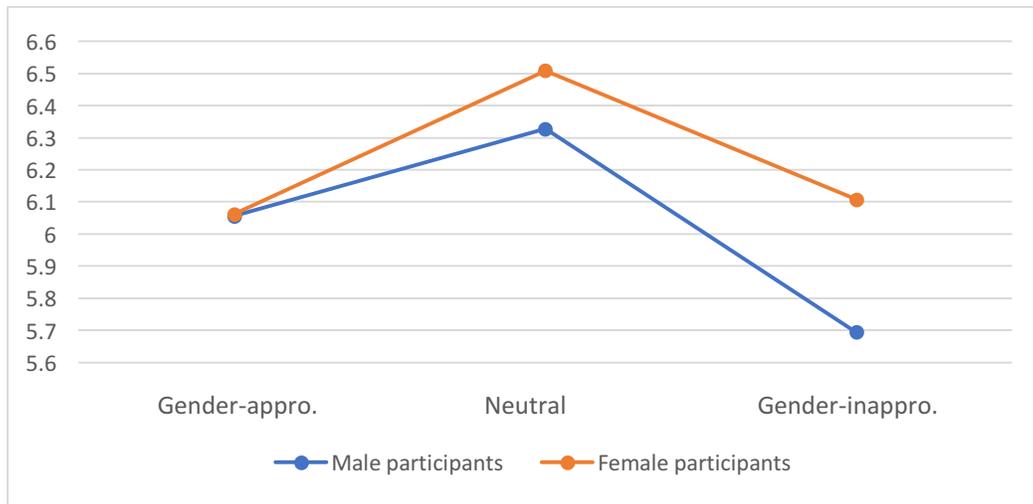
Research Question 2 addressed how male and female subjects responded to images featuring athletes in the three types of sports regarding valence. Again, this question was assessed according to two dimensions: (a) examining potential differences between male and female subjects in viewing pictures featuring athletes in “gender-appropriate,” “neutral,” or “gender-inappropriate” sports; and (b) examining potential differences among male (or female) subjects in viewing athletes competing in “gender-appropriate,” “neutral,” and “gender-inappropriate” sports. Figure 2 reports how male and female subjects reacted to the three types of sports.

As suggested in Figure 2, when viewing pictures featuring athletes competing in “gender-appropriate” and “neutral” sports, male and female subjects did not show any significant differences regarding valence; however, when watching athletes competing in “gender-

inappropriate” sports, female subjects ( $M = 6.11$ ,  $SD = 1.25$ ) showed a significantly higher level of valence compared to their male counterparts ( $M = 5.69$ ,  $SD = 1.22$ ),  $F(1, 435) = 8.06$ ,  $p < .05$ .

Figure 2.

*Men and Women’s Valence Responses in Viewing Athletes Competing in Gender-appropriate, Neutral, and Gender-inappropriate Sports*



In terms of the second dimension, male subjects reported the highest level of valence when viewing pictures featuring athletes in “neutral” sports ( $M = 6.33$ ,  $SD = 1.20$ ), which was significantly higher than when watching athletes competing in “gender-appropriate sports” ( $M = 6.06$ ,  $SD = 1.12$ ,  $F(1, 435) = 4.71$ ,  $p < .05$ ) and in “gender-inappropriate sports” ( $M = 5.69$ ,  $SD = 1.22$ ,  $F(1, 435) = 25.69$ ,  $p < .05$ ); meanwhile, male subjects claimed the lowest level of valence when watching athletes competing in “gender-inappropriate sports” sports ( $M = 5.69$ ,  $SD = 1.22$ ), which was significantly lower than when watching athletes competing in “gender-appropriate” sports ( $M = 6.06$ ,  $SD = 1.12$ ,  $F(1, 435) = 8.40$ ,  $p < .05$ ) and in “neutral” sports ( $M = 6.33$ ,  $SD = 1.20$ ,  $F(1, 435) = 25.69$ ,  $p < .05$ ).

Female subjects also reported the highest level of valence when viewing pictures featuring athletes in “neutral” sports ( $M = 6.51$ ,  $SD = 1.23$ ), which was significantly higher than when watching athletes competing in “gender-appropriate” sports ( $M = 6.06$ ,  $SD = 1.15$ ,  $F(1,$

435) = 7.48,  $p < .05$ ) and in “gender-inappropriate” sports ( $M = 6.11$ ,  $SD = 1.25$ ,  $F(1, 435) = 6.05$ ,  $p < .05$ ). However, among female subjects, no difference was uncovered between viewing pictures in “gender-appropriate” sports ( $M = 6.06$ ,  $SD = 1.15$ ) and in “gender-inappropriate” sports ( $M = 6.11$ ,  $SD = 1.25$ ), which was different from the pattern revealed among male subjects.

Regarding arousal, a three-way mixed repeated measure ANOVA was conducted including two within-subject variables—sports type (3) and athlete sex (2)—and one between-subject variable—subject sex (2)—into the analysis. Controlling the subjects’ age, education, income, race, and fanship, the mixed repeated measure ANOVA suggested that the interaction among the three variables was not significant. However, the interaction between subject sex and sports type was significant, Wilks’s  $\lambda = .96$ ,  $F(2, 227) = 4.31$ ,  $p = .015$ ,  $\eta_p^2 = .037$ , and the interaction between athlete sex and subject sex was also significant, Wilks’s  $\lambda = .97$ ,  $F(1, 228) = 7.79$ ,  $p = .006$ ,  $\eta_p^2 = .033$ . Post hoc tests were further conducted to explore the two research questions pertaining to arousal.

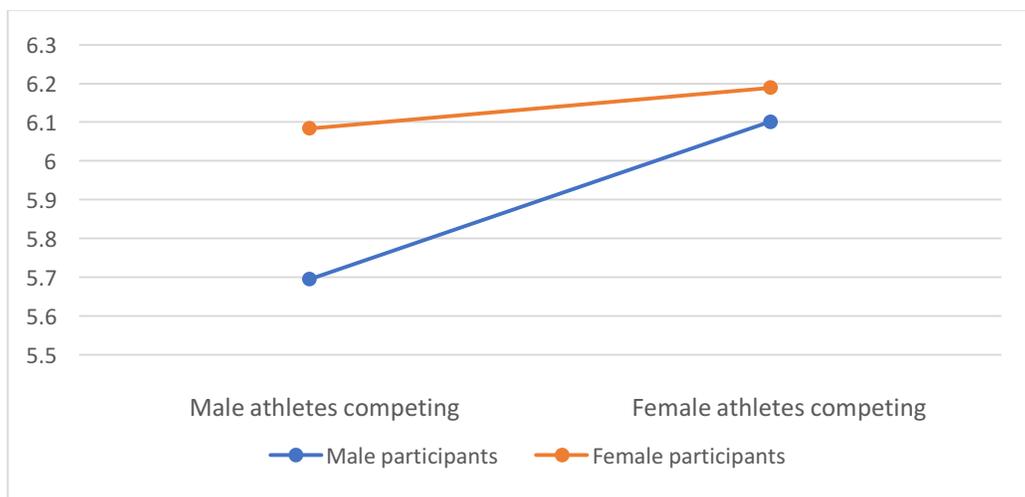
Research Question 3 queried how male and female subjects responded to sports images featuring same-sex athletes and opposite-sex athletes regarding arousal. This question was assessed according to two dimensions: (a) examining potential differences between male and female subjects in viewing pictures featuring male (or female) athletes; and (b) examining potential differences among male (or female) subjects in viewing pictures featuring male athletes and female athletes. Figure 3 reports how male and female subjects reacted to athletic images featuring sportsmen and sportswomen regarding arousal.

As shown in Figure 3, in viewing pictures featuring male athletes, male subjects ( $M = 5.70$ ,  $SD = 1.43$ ) showed a significantly lower level of arousal than their female counterparts ( $M = 6.08$ ,  $SD = 1.46$ ),  $F(1, 228) = 10.46$ ,  $p < .05$ ; however, in viewing pictures featuring female

athletes, no significant difference was uncovered between male subjects ( $M = 6.10, SD = 1.42$ ) and female subjects ( $M = 6.19, SD = 1.46$ ). In terms of the second dimension, male subjects reported a significantly higher level of arousal in viewing pictures featuring female athletes ( $M = 6.10, SD = 1.42$ ) than in viewing pictures featuring male athletes ( $M = 5.70, SD = 1.43$ ),  $F(1, 228) = 15.45, p < .05$ ; female subjects, however, did not show any significant difference when watching male athletes ( $M = 6.08, SD = 1.46$ ) and female athletes ( $M = 6.19, SD = 1.46$ ) competing.

Figure 3.

*Men and Women's Arousal Responses in Viewing Pictures Featuring Male and Female Athletes*

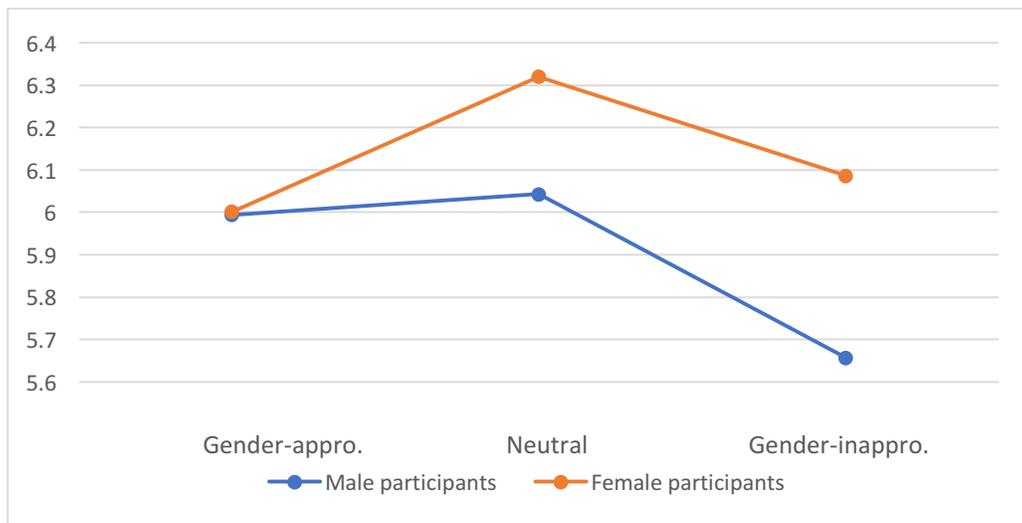


Research Question 4 addressed how male and female subjects responded to images featuring athletes in different types of sports regarding arousal. Again, this question was assessed according to two dimensions: (a) examining potential differences between male and female subjects in viewing pictures featuring athletes in “gender-appropriate,” “neutral,” or “gender-inappropriate” sports; and (b) examining potential differences among male (or female) subjects in viewing athletes competing in “gender-appropriate,” “neutral,” and “gender-inappropriate” sports. Figure 4 reports how male and female subjects reacted to the three types of sports.

As suggested in Figure 4, when viewing pictures featuring athletes competing in “gender-appropriate” and “neutral” sports, male and female subjects, again, did not show any significant differences regarding arousal; however, when watching athletes competing in “gender-inappropriate” sports, female subjects ( $M = 6.09, SD = 1.51$ ) showed a significantly higher level of arousal compared to their male counterparts ( $M = 5.66, SD = 1.48$ ),  $F(1, 408) = 6.54, p < .05$ .

Figure 4.

*Men and Women’s Arousal Responses in Viewing Athletes Competing in Gender-appropriate, Neutral, and Gender-inappropriate Sports*



In terms of the second dimension, male subjects reported the lowest level of arousal when viewing pictures featuring athletes in “gender-inappropriate” sports ( $M = 5.66, SD = 1.48$ ), which was significantly lower than when watching athletes competing in “gender-appropriate” sports ( $M = 5.99, SD = 1.55, F(1, 408) = 5.45, p < .05$ ) and in “gender-neutral” sports ( $M = 6.04, SD = 1.60, F(1, 408) = 7.15, p < .05$ ); meanwhile, male subjects did not show any significant difference in viewing pictures featuring athletes in “gender-appropriate sports” sports ( $M = 5.99, SD = 1.55$ ) and in “gender-neutral” sports ( $M = 6.04, SD = 1.60$ ).

Female subjects, however, did not show any difference in watching athletes competing in “gender-neutral” sports ( $M = 6.32$ ,  $SD = 1.63$ ), in “gender-appropriate” sports ( $M = 6.00$ ,  $SD = 1.59$ ), or in “gender-inappropriate” sports ( $M = 6.09$ ,  $SD = 1.51$ ).

Regarding dominance, a three-way mixed repeated measure ANOVA was conducted including two within-subject variables—sports type (3) and athlete sex (2)—and one between-subject variable—subject sex (2)—into the analyses. Controlling for the subjects’ age, education, income, race, and fanship, the mixed repeated measure ANOVA generated a significant interaction among the three variables, Wilks’s  $\lambda = .97$ ,  $F(2, 227) = 7.12$ ,  $p = .029$ ,  $\eta_p^2 = .031$ . Post hoc tests were further conducted to explore the two research questions pertaining to dominance.

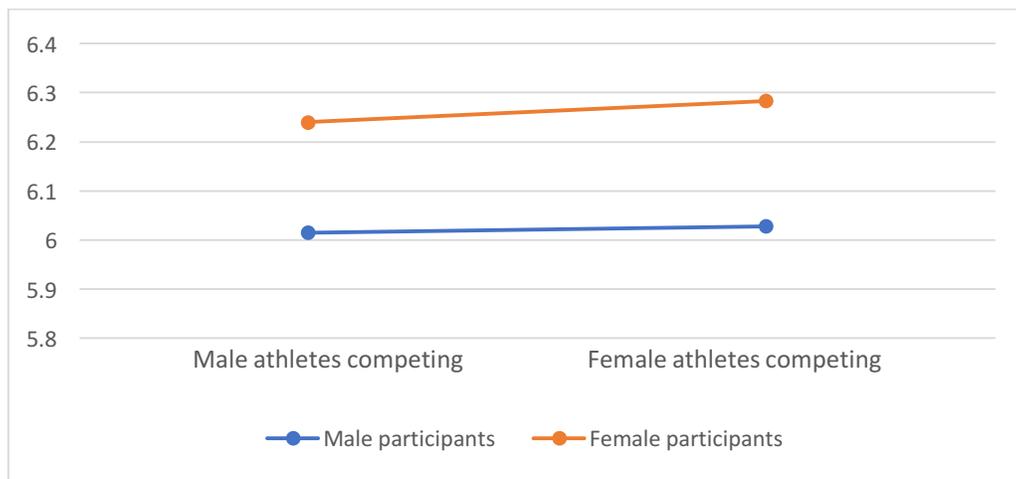
Research Question 5 queried how male and female subjects responded to sports images featuring same-sex athletes and opposite-sex athletes regarding dominance. This question was assessed according to two dimensions: (a) examining potential differences between male and female subjects in viewing pictures featuring male (or female) athletes; and (b) examining potential differences among male (or female) subjects in viewing pictures featuring male and female athletes. Figure 5 reports how male and female subjects reacted to athletic images featuring sportsmen and sportswomen regarding dominance.

As shown in Figure 5, in viewing pictures featuring male athletes, male subjects ( $M = 6.02$ ,  $SD = 1.26$ ) and female subjects ( $M = 6.24$ ,  $SD = 1.29$ ) did not show any significant difference regarding dominance; in viewing pictures featuring sportswomen, however, female subjects ( $M = 6.28$ ,  $SD = 1.35$ ) reported a significantly higher level of dominance compared to their male counterparts ( $M = 6.03$ ,  $SD = 1.32$ ),  $F(1, 228) = 4.69$ ,  $p < .05$ . In terms of the second dimension, male subjects did not report any significant differences when viewing pictures

featuring male athletes ( $M = 6.02$ ,  $SD = 1.26$ ) and female athletes ( $M = 6.03$ ,  $SD = 1.32$ ); female subjects, again, did not show any significant differences when viewing pictures featuring male athletes ( $M = 6.24$ ,  $SD = 1.29$ ) and female athletes ( $M = 6.28$ ,  $SD = 1.35$ ).

Figure 5.

*Men and Women's Dominance Responses in Viewing Pictures Featuring Male and Female Athletes*



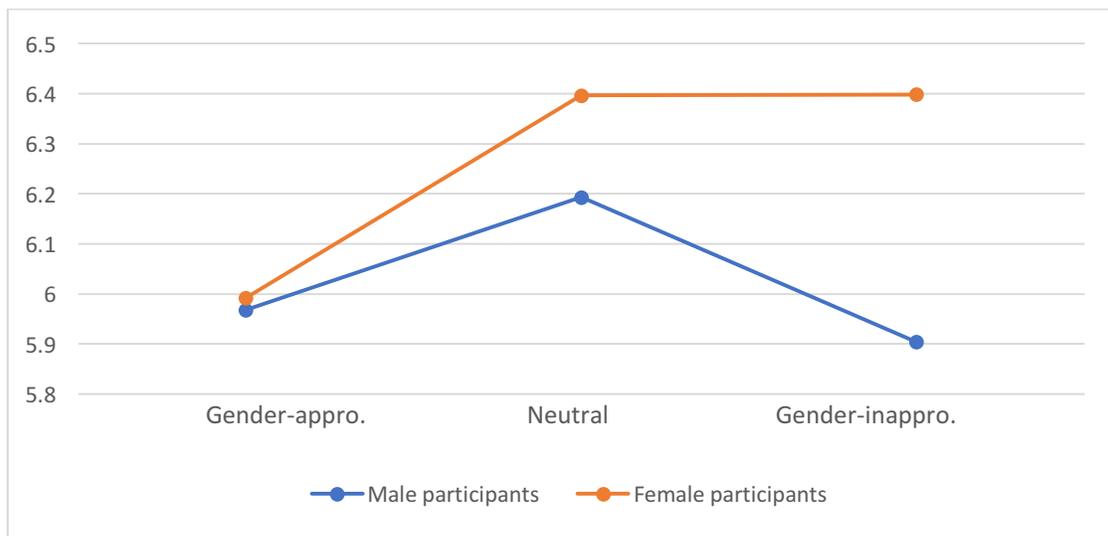
Research Question 6 addressed how male and female subjects responded to images featuring athletes in different types of sports regarding dominance. Again, this question was assessed according to two dimensions: (a) examining potential differences between male and female subjects in viewing pictures featuring athletes in “gender-appropriate,” “neutral,” or “gender-inappropriate” sports; and (b) examining potential differences among male (or female) subjects in watching athletes competing in “gender-appropriate,” “neutral,” and “gender-inappropriate” sports. Figure 6 reports how male and female subjects reacted to the three types of sports.

As suggested in Figure 6, when viewing pictures featuring athletes competing in “gender-appropriate” and “neutral” sports, male and female subjects did not report any significant differences regarding dominance; however, when viewing pictures featuring athletes competing

in “gender-inappropriate” sports, female subjects ( $M = 6.40, SD = 1.32$ ) claimed a significantly higher level of dominance compared to their male counterparts ( $M = 5.90, SD = 1.29$ ),  $F(1, 423) = 9.89, p < .05$ .

Figure 6.

*Men and Women’s Dominance Responses in Viewing Athletes Competing in Gender-appropriate, Neutral, and Gender-inappropriate Sports*



In terms of the second dimension, male subjects reported a significantly higher level of dominance when viewing pictures featuring athletes in “neutral” sports ( $M = 6.19, SD = 1.54$ ) than in “gender-inappropriate sports” ( $M = 5.90, SD = 1.29$ ),  $F(1, 423) = 4.59, p < .05$ . In addition, no significant difference was found among male subjects in watching athletes competing in “gender-appropriate sports” ( $M = 5.97, SD = 1.37$ ) and in “gender-neutral sports” ( $M = 6.19, SD = 1.54$ ); meanwhile, male subjects did not report any significant differences in viewing pictures featuring athletes in “gender-appropriate” sports ( $M = 5.97, SD = 1.37$ ) and in “gender-inappropriate” sports ( $M = 5.90, SD = 1.29$ ).

Female subjects, however, reported the lowest level of dominance when viewing pictures featuring athletes in “gender-appropriate” sports ( $M = 5.99, SD = 1.41$ ), which was significantly

lower than watching athletes competing in “neutral” sports ( $M = 6.40, SD = 1.59, F(1, 423) = 5.24, p < .05$ ) and in “gender-inappropriate sports” ( $M = 6.40, SD = 1.32, F(1, 423) = 5.29, p < .05$ ). Moreover, female subjects did not show any significant differences in viewing pictures featuring athletes in “neutral” sports ( $M = 6.40, SD = 1.59$ ) and in “gender-inappropriate” sports ( $M = 6.40, SD = 1.32$ ), which differed from the pattern that emerged among male subjects.

## CHAPTER FIVE

### DISCUSSION

In the previous chapter, the findings in the three studies have been reported. The following chapter will include a discussion of the major findings, theoretical and practical implications, limitations, suggestions for future studies, and conclusions.

#### **PART 1. CONTENT**

This study content-analyzed 1,013 thumbnails of news episodes at the Olympic Channel through the lens of biological sex. By examining the percentage of pictures rendered to male and female athletes, theme, sports type, sexualization, subordination, and action level, this study uncovered that, although some sex differences existed, the Olympic Channel—overall—showcased a high level of gender equality in visualizing male and female athletes in news thumbnails, especially considering that the cover pictures analyzed in this study were collected from the daily-based media coverage, rather than during the Olympic periods. This study is one of the first to explore sex differences in an IOC sports media platform, with significant theoretical and practical findings outlined.

In terms of the media attention devoted to men's and women's sports, this study uncovered that the Olympic Channel rendered 60.1% (excluding pictures featuring both men and women) of the total pictures to male athletes, while offering 39.9% (excluding pictures featuring both men and women) to female athletes, emerging as a relatively balanced sex ratio compared to prior studies examining the gendered coverage in sports media. To reiterate, sports media—over time—has been constructed as a male territory, in which female athletes have constantly

received substantially less media attention (Billings & Young, 2015; Bruce, 2016), especially during the non-Olympic period. For instance, studies conducted in Australia, China, and the United States all indicated that, in the daily-based coverage, female athletes only received a single-digit percentage of spotlight in sports media (Cooky, Messner, & Musto, 2015; Lumby, Caple, & Greenwood, 2010; Billings et al., 2018). During the Olympic period, however, women's sports tended to receive more attention, and the percentage ranged between 35.3% and 54.8% based on prior findings revealed in Australia, Canada, China, and the US (Billings, Angelini, & MacArthur, 2018; MacArthur, Angelini, Smith, & Billings, 2017; Xu et al., 2017; Xu et al., 2018). In this sense, the forty percent of the total thumbnails featuring female athletes uncovered at the Olympic Channel marks some of the most gender-balanced coverage in examining the daily reporting in sports media.

The high percentage of attention devoted to women's sports at the Olympic Channel could be potentially explained by two reasons. First, in terms of content production, the Olympic Channel is primarily focused on the Olympic Games, Olympic sports, and Olympians. The Olympic Games, as the most sex-balanced sporting events throughout the world, included 52% of the total events as women's events and 41% of the total athletes as female athletes at the 2018 Pyeongchang Winter Olympics; at the 2016 Rio Summer Olympics, 47.4% of the total events were women's events and 45% of the total Olympians were female athletes (Women in the Olympic Movement, 2018). Thus, the high percentage of women's sports and female Olympians at the Olympics could naturally lead to a more sex-balanced coverage at the Olympic Channel. In addition, the Olympic Channel was launched by the IOC to promote the Olympic Movement on a year-round basis (About the Olympic Channel, 2017). Based on the interviews with the Olympic Channel employees, being relatable to the Olympic values was considered as an

important criterion in content production. According to the Olympic Charter, one of the roles of the IOC is “to encourage and support the promotion of women in sport at all levels and in all structures, with a view to implementing the principle of equality of men and women” (Rule 2, paragraph 7). Aligning with the Olympic Charter, it is not surprising that the Olympic Channel, in the daily-based coverage, devoted nearly 40% of the total spotlight to female athletes in news thumbnails.

In terms of the top-10 most-covered sports for male and female athletes at the Olympic Channel, this study uncovered mixed results in which both gender-appropriate and gender-inappropriate sports were included in the lists. To be specific, among the top-3 most-covered sports for female athletes, both gymnastics and figure skating have been conventionally typed as “feminine sports”; similarly, in covering men’s sports, cycling, snowboarding, and basketball—traditionally typed as “masculine sports”—were also included in the top-10 most-covered sports (Hardin & Greer, 2009; Greer & Jones, 2013; Xu et al., 2018). On the other hand, some gender-inappropriate sports also emerged in the two lists. For instance, in visualizing male athletes, figure skating was ranked the third most-covered sport among the 1,013 pictures examined in this study; in featuring female athletes, snowboarding, surfing, and climbing—often typed as “masculine sports”—were frequently covered at the Olympic Channel (Hardin & Greer, 2009; Greer & Jones, 2013; Xu et al., 2018). The mixed findings revealed in the top-10 most-covered sports indicated the complexity of media operation within the Olympic Channel regarding the gendered coverage.

Based on the interviews conducted in this study, although the Olympic Channel is a non-profit media company, appealing to the target audience emerges as the primary consideration in its content production. That is, established to promote the Olympic Movement, the Olympic

Channel—as a sports media corporation—must produce engaging content to appeal to its target audience. Based on prior studies, gender stereotypes, to some degree, exerted an impact on individuals’ sports media consumption, in which individuals were more willing to watch women’s aerobics and gymnastics over men’s, whereas they preferred to watch men’s boxing and weightlifting over women’s (Apostolou, Frantzides, & Pavlidou, 2014). To produce content with a popular appeal, it is not surprising that the Olympic Channel particularly featured athletes in some gender-appropriate sports, leading to some stereotypes’ being reflected in its news thumbnails. This could also explain why the Olympic Channel portrayed women smiling more frequently than their male counterparts.

However, in the top-10 most-covered sports lists, some gender-inappropriate sports also emerged, which could be explained by two potential reasons. First, the gendered perception of sports is not fixed; instead, it has been constantly evolving in its social context. Some traditionally perceived “feminine” or “masculine” sports could become more socially acceptable for athletes of the opposite sex to compete in. For instance, at the 2018 Pyeongchang Winter Olympics, Yuzuru Hanyu—a male Japanese Olympian—achieved sensational success by his flawless performance in figure skating, a sport conventionally typed as “hyper-feminine” over time (Greer & Jones, 2012), becoming a rock star worshipped by fans all over the world (Teng, 2018). Among the 1,013 thumbnails examined in this study, Yuzuru Hanyu was frequently covered at the Olympic Channel, with his accomplishment in figure skating highly applauded. In this sense, rock stars in “gender-inappropriate” sports—such as Yuzuru Hanyu—might alter the public’s gendered perception of sports, leading to a greater share of the spotlight in sports media. Second, the Olympic Channel is devoted to covering the Olympic Games, Olympic sports, and Olympians to promote the Olympic Movement. To reiterate, nearly all Olympic sports are open

for both male and female athletes to compete in, which provides the Olympic Channel with a wealth of opportunities to cover athletes in “gender-inappropriate” sports. In sum, the mixed results uncovered in this study regarding the most-covered sports seems to indicate that the Olympic Channel tries to strike a balance between appealing to a wider audience and promoting gender equality in sport.

In terms of theme, 93.5% (947) of the 1,013 thumbnails analyzed in this study featured players’ athletic performance; moreover, no significant differences were detected between male and female athletes regarding the three themes examined—athletic life, personal life, and business life. In sports communication, an overwhelming body of studies have suggested that, compared to depicting male athletes, sports media tended to direct more of the spotlight to female athletes’ personal life—such as family roles and relationships—to construct their primary identity as women rather than athletes (e.g., Billings, Xu, & Xu, 2018; Kaelberer, 2018). Even when athletes claimed the autonomy to represent themselves on social media, Chinese female athletes still mentioned their athletics far less frequently compared to their male counterparts (Xu & Armstrong, in press). However, in this study, the Olympic Channel showcased a high level of gender equality in covering male and female athletes, echoing the findings revealed in the interviews with the Olympic Channel employees—the content production is highly achievement-oriented in featuring both male and female athletes.

Another pre-funding finding uncovered in this study was that male and female athletes did not show any significant differences regarding sexualization and action. To be specific, 81.2% of the total of 1,013 pictures featured athletes in athletic uniform, standing out as highly athletic-oriented sports media coverage, especially considering that in the athletes’ self-representation at the Rio Olympics, only 64.8% of the total pictures posted by athletes depicted themselves in

athletic uniform (Xu & Armstrong, in press). The high percentage of pictures portraying athletes in uniform was consistent with the high prevalence of depicting athletes in athletic themes revealed in this study. The progressive frame of presenting female athletes as being as active as their male counterparts with no evidence of sexualization uncovered at the Olympic Channel echoed the emerging framing strategy in sports communication of constructing sportswomen as legitimate, serious, and active athletes (Ayvazoglu, 2017; Broch, 2014; Delorme & Testard, 2015). Considering that framing female athletes as less active, and in a more revealing manner, has been a persistent constantly uncovered in sports media over time (e.g., Godoy-Pressland, 2016; Xu & Armstrong, in press), the findings in this study mark an important and progressive case in supporting the emerging frame of “female athletes in action” in sports media.

Although the current study has shed light on how the Olympic Channel framed male and female athletes in news thumbnails, the findings should be interpreted with caution. First, the Olympic Channel is a comprehensive sports media company, producing a variety of media content, including news, live broadcasting, original series, social media posts, and beyond. This study only examined the cover pictures of news episodes, and the findings cannot be generalized to the whole gendered scenario at the Olympic Channel. Future studies could further analyze other content at the Channel from the perspective of biological sex. Second, the current study employed content analysis to examine the sex differences in framing male and female athletes by counting or rating specific operating indicators (e.g., smile, uniform, and the level of action) numerically, which did not interpret the latent meanings embedded in these pictures. Future studies could apply qualitative approaches, such as textual analysis or thematic analysis, to complement the current findings to gain a more holistic understanding of the gendered representation at the Olympic Channel.

Moreover, the Olympic Channel stands as a global, non-profit sports media corporation established by the IOC to promote the Olympic Movement on a year-round basis, in which appealing to the target audience and aligning with the Olympic values are the two most salient criteria in its content production. Trying to strike a balance between values and commercial pursuits, the Olympic Channel claims a unique management structure in the world sports media landscape, which is different from the commercial- or government-based networks, such as *ESPN*, *Fox Sports*, and *CCTV Sports*. The great research potential of the Olympic Channel invites further exploration from various other perspectives, such as race, nationality, and management, which could significantly contribute to the current understandings of sports media in sports communication.

## **PART 2. PRODUCTION**

Eleven interviews have been conducted with employees at the Olympic Channel to explore its content production from a lens of biological sex. The interviews revealed that the IOC exerted a substantial impact on the Olympic Channel from three dimensions: (a) individual values; (b) institution values; and (c) a working environment embracing diversity. Regarding content selection, two leading criteria emerged from the interviews: (a) appealing to the target audience of millennials; and (b) aligning with the Olympic values. Moreover, this study suggested that sports media professionals claimed considerate agency and autonomy, with their own personality and perspective heavily influencing production, challenging the prevalent ideology of “gender neutrality” in sports newsrooms.

The Olympic Channel professionals’ individual impacts on production could be primarily attributed to personal identity and personal interest. Based on the interviewees, although a framework was given, professionals always had their own interpretations and understandings,

leading to a news story or a video heavily marked with personal characteristics, including the influence of their gender. For instance, Ashlee Tulloch—a young female reporter at the Olympic Channel—claimed a high level of gender equality awareness; meanwhile, she clearly realized how her beliefs influenced her journalism practice. That is, although Ashlee Tulloch did not intentionally highlight women’s sports, her passion for covering female athletes was naturally ingrained into who she was and what she believed in. Ashlee Tulloch’s self-awareness of how her personal identity influenced her journalism practice deviated from many prior studies in which sports media professionals insisted that the biological sex of journalists did not make a difference in the production process (e.g., Gee & Leberman, 2011).

Beyond individual identity, personal familiarity and interest in sports also play an important role in shaping professionals’ content production at the Olympic Channel. Tom Kirkland stated that, when broadcasting sports that he was familiar with (e.g., basketball), he would talk more about the technical aspects during competitions; however, when broadcasting sports that he was not familiar with (e.g., fencing and cheerleading), he would become more “generic” and talk more about the “universal” things—such as “families and parenting”—without diving too far into the technical side. Although Tom Kirkland asserted that he tried his best to broadcast men’s competitions and women’s competitions in an equal manner, his personal interest and familiarity inevitably influenced his broadcasting practice, especially considering that he is the only full-time broadcaster at the Olympic Channel. The autonomy and agency that the Olympic Channel professionals claimed in the production process echoed the prior findings that journalism was not only a “structure-in-use” but also a process of “interpretive creativity” (Peterson, 2001, p.201), in which media professionals—as gatekeepers—played an

active role as social actors by exerting their own understandings of the reality to his/her media production.

More importantly, the findings in this study, at least partially, could explain the occurrence of *gender-bland sexism* uncovered by Musto and her colleagues in 2017 from a production perspective. To reiterate, *gender-bland sexism* refers to a framing strategy by which, instead of overly denigrating or trivializing sportswomen's athletic accomplishments, sports media are likely to frame female athletes in an "ostensibly respectful but lackluster" pattern, whereas the narrative in broadcasting men's competitions is more action-packed with passion and excitement (Musto et al., 2017, p.573). First, sport is constructed as a male territory worldwide, in which male athletes, overall, enjoy greater popularity than their female counterparts. Thus, it is not surprising that sports media professionals — regardless of biological sex — tend to be more familiar with men's sports and male athletes, whereas the lack of knowledge of women's sports might lead to a more "generic" and "plain" narrative in covering female athletes.

Second, in the sports media industry, commentating and reporting remain mostly sex segregated with only a few female broadcasters breaking into the domain (Hardin, 2003; Sheffer & Schultz, 2007). In the United States, for instance, examining a 25-year span of sports coverage from ESPN *SportsCenter* and three local news affiliates in Los Angeles, Cooky and her colleagues (2015) found that over 95% of the anchors were men and the ancillary announcers at the three local networks were exclusively male. Considering that male sports media professionals tend to render less attention to female athletes compared to their female counterparts (e.g., Kian & Hardin, 2009; Schmidt, 2018), it is possible that many male broadcasters are less interested in women's sports. That is, although male broadcasters—on the individual level—do not hold

gender biases in broadcasting competitions, their lack of interest in or familiarity with women's sports might result in a frame of *gender-bland sexism*.

In terms of content selection, two primary criteria—aligning with the Olympic values and appealing to the target audience—emerged from the 11 interviews with the Olympic Channel employees. On the one hand, the Olympic Channel—as one important part of the Olympic Agenda 2020—is a non-profit sports media company established directly by the IOC to promote the Olympic Movement on an every-year basis (About the Olympic Channel, 2017). Considering that “to encourage and support the promotion of women in sport at all levels and in all structures” is a key mission of the Olympic Movement (Olympic Charter, para. 7), it is not surprising that the IOC values—including gender equality—have been ingrained in the Olympic Channel's content production. The Olympic Channel employees, overall, share a consensus of portraying both male and female athletes from an accomplishment- and athletic-oriented perspective, although no official guidelines or documents emphasizing gender equality have been issued within the organization. In this sense, as a sports media company directly under the umbrella of the IOC, the Olympic Channel aligns its content with the Olympic Charter, which—to a large extent—establishes the progressive nature of the Channel regarding gendered media representation.

On the other hand, to better promote the Olympic Movement, the Olympic Channel needs to produce engaging content to reach the audience, which explains why appealing to its target audience emerges as its “primary obligation” in production, although the Olympic Channel is a non-profit media platform. Since the Olympic Channel was launched in 2016, it has constantly adjusted its production strategies to appeal to a wider audience. According to Tom Kirkland, for instance, the World Cheerleading Championships “wasn't much of a deal in the first year;”

however, the Olympic Channel rendered more spotlight on the Championships later because it received a high viewer rating. The audience-oriented content production strategies have driven the Olympic Channel to cover sports based on popularity, which might lead to some gender stereotypes' remaining in its coverage. That is, gender stereotypes could influence individuals' sports consumption, in which people tend to favor athletes competing in "gender-appropriate" sports over "gender-inappropriate" sports (Apostolou, Frantzides, & Pavlidou, 2014). This also explains the findings uncovered in the content analysis that some conventionally-typed "masculine" sports (e.g., cycling and basketball) were included in the top-10 mentioned sports in featuring sportsmen but not in featuring sportswomen, and vice versa.

Although appealing to the audience is a "primary obligation" in production, the Olympic Channel does not perceive its target audience as overwhelmingly male. According to the official website, the Olympic Channel's target audience refers to millennials aged between 14 and 30, with no clear gender ratio specified. Stephen Nannon—the head of News at the Olympic Channel, pointed out that the Olympic Channel's target audience is "ideally 50 percent men and 50 percent women." Ashlee Tulloch also clearly stated that she did not perceive male viewers outnumbered females in her journalism practice. In the sports media industry, women's interests in sports have been largely underestimated over years. In the United States, for instance, a majority of sports media editors (64%) estimated that their female readership was between 21% and 40% (Hardin, 2005), far lower than the proportion of female fans and viewers uncovered in market surveys (Best, 2016; Hampton, 2017). Researchers have criticized that the gatekeepers' underestimation of women's interest in sport, to some extent, led to a more male-oriented coverage in sports media (e.g., Hardin, 2005). The Olympic Channel, however, produces its content for both men and women without perceiving its audience as overwhelmingly male,

which contributes to a more sex-balanced media representation, although commercial pursuit is one primary concern in producing content.

Regarding gender hiring at the Olympic Channel, 37% (36) of the total of 98 professionals are women (Olympic Channel HR, 2019), far exceeding the proportion of female employees of 17.9% in U.S. sports media (APSE Racial and Gender Report Card, 2018). Ashlee Tulloch particularly highlighted, during her interview, the tremendous support and inspiration that she received from her two experienced female colleagues at the News Department who had paved a path for her in the male-dominated sports media industry. Moreover, at the management level, five (33%) out of 15 managers are women (Olympic Channel HR, 2019), including the editor in chief (Mary Byrne) and the director of production (Rebekka Ahlstrom). These female managers stand as role models who have broken the glass ceiling of a male-centric profession for many female employees at the Olympic Channel. More importantly, the considerable number of female employees there have nurtured a sense of belonging among women, constructing a workplace where female professionals are confident to voice their opinions and facilitating a network where “females look after females” at the Olympic Channel (Ashlee Tulloch). This also corroborates Sherwood and her colleagues’ (2017) findings that the presence of women in sports newsrooms could exert a substantial impact on their sex-balanced content production, underscoring the value of gender diversity in sports media institutions.

Beyond the research questions proposed, another interesting point that emerged from the interviews pertains to the potential impact of market size on sports media gendered representation. That is, the Olympic Channel is a start-up sports media company with a small corporate size. To compete with giant, established sports media networks such as *ESPN* and *Turner Sports*, the Olympic Channel has been striving to find its niche market in the sports

media landscape. For instance, the News Department at the Channel has been trying to push female athletes in certain sports, such as soccer. According to Stephen Nannon, women's soccer has a growing audience and many giant sports media networks have not devoted much spotlight to it, making women's soccer a "sweet spot" for the Olympic Channel. The finding echoed prior studies uncovering that sports media with smaller market size tended to show greater strides toward gender equalities (Kaiser, 2017; Wann, Schrader, Allison, & McGeorge, 1998), which also emerged as another possible explanation of why the Olympic Channel showcased a high level of gender equality in its media content.

Although the current study has shed light on how journalists, editors, broadcasters, and managers viewed the content production at the Olympic Channel from a lens of biological sex, the findings should be interpreted with caution. First, this study only interviewed 11 professionals at the Olympic Channel. Although the interviewees are diverse regarding gender, nationality, rank, and duty, their opinions cannot be generalized to the whole production scenario at the Channel, especially considering that media professionals' personal characteristics could play an important role in their journalism practice. Also, having personal identities revealed during interviews, participants might intentionally provide desired statements aligning with social norms and expectations, especially pertaining to a topic of gender equality. Future studies could conduct an anonymous survey at the Olympic Channel to further explore its content production from a gender perspective. Moreover, the Olympic Channel is a startup, and it has been constantly evolving in the last three years. According to Tom Kirkland, "they're [the Olympic Channel staff] still trying to figure out what they do and how to do it better, like any startup company. The first 6 months is different than the second 6 months. The second year is different than the first year." Future research could further track the Olympic Channel's content

production to explore how a non-profit IOC sports media platform evolves over time, which could potentially make a substantial contribution to the literature of sports media studies.

### **PART 3. AUDIENCE**

This study recruited 236 subjects to explore how subjects reacted to 12 athletic pictures in a variety of sports contexts regarding valence, arousal, and dominance, finding that (a) when viewing pictures featuring male athletes, female subjects reported a significantly higher level of valence and arousal compared to their male counterparts; when viewing pictures featuring female athletes, female subjects—again—reported a significantly higher level of dominance compared to male subjects; (b) regarding affective responses to different types of sports, male subjects reported the lowest level of valence and arousal in watching athletes competing in “gender-inappropriate” sports, a pattern that did not emerge among female subjects; (c) when viewing pictures featuring athletes competing in “gender-inappropriate” sports, female subjects reported a significantly higher level of valence, arousal, and dominance compared to their male counterparts. This study provided insights into how subjects reacted to athletic images portraying male and female athletes in different types of sports, with theoretical and practical implications outlined.

In sports communication, many prior studies have suggested that both men and women preferred watching men’s sports over women’s (Apostolou et al., 2014; Jakubowska, 2015). The current study, however, revealed that female subjects did not show any significant differences in reacting to pictures figuring male and female athletes, and male subjects even reported a significantly higher level of valence and arousal in viewing images portraying female athletes, which deviated from expectations of social dominance theory and evolutionary theory. The discrepancies in findings between prior research and the current study might be attributed to

different research designs. That is, prior studies usually employed surveys, interviews, and focus groups to explore individuals' attitudes or preferences in sports consumption (e.g., Apostolou et al., 2014; Jakubowska, 2015), whereas this study directly measured subjects' emotional responses to athletic pictures. Based on the literature, sports consumption is a process heavily influenced by socialization, in which gender norms, stereotypes, and sports media coverage could play important roles in affecting individuals' preferences in sports-related activities (e.g., Salvatore & Marecek, 2010; Whiteside & Hardin, 2011; Xu, Fan, & Brown, 2018); affective responses measured in this study—at least to some extent—reduced the impact of socialization, showing a more primitive reaction to athletic content. Thus, it is not surprising that the findings revealed in this study did not align with prior literature.

In sports media industry, the assumption that the audience—regardless of biological sex—prefer watching men's athletic performance over women's has been frequently applied to justify the underrepresentation of female athletes in sports media (Sherwood et al., 2013). However, as a social institution, sports media—instead of simply reflecting the audience's interest—play an important role in creating and shaping the audience consumption pattern (Hardin, 2005). The low proportion of sports media coverage rendered to female athletes provides limited opportunities for viewers to appreciate women's sports, although—from an emotional angle—both men and women are pleased and aroused in watching female athletes competing. In practice, sports media might consider devoting more spotlight to women's sports and constructing female athletes in a more athletic-oriented perspective, which might foster the audience's interest in women's sports and expand the sports media market.

Another prevalent assumption in the sports media industry is that women—compared to men—are less interested in sport, which emerges as another primary reason to justify the male-

centric sports media coverage (Hardin, 2005). In this study, however, women did not show a lower level of interest in sport compared to their male counterparts; instead, female subjects even reported a higher level of valence and arousal in watching male athletes competing and claimed a higher level of dominance in watching female athletes competing, which—again—cannot be explained by social dominance theory. What is noteworthy is that female subjects' higher level of valence, arousal, and dominance detected in this study does not guarantee that women tend to be more interested in sport than men, especially considering that sports interest is substantially influenced by socialization. However, the findings—at least to some extent—suggest that women, indeed, are not inferior to men regarding their emotional appreciation of sports; the general lower level of sports interest and fan identity that women claim in the current social climate (Dietz-Uhler, Harrick, End, & Jacquemotte, 2000) might be attributed more to daily social construction, such as the male-centric sports media coverage, the patriarchal domestic structure, and beyond.

Although many findings uncovered in this study were not consistent with predictions of social dominance theory, the theory proved stronger in explaining sex differences regarding the emotion of dominance. That is, in viewing pictures featuring sportswomen, female subjects—as in-group members—claimed a significantly higher level of dominance compared to their male counterparts, who perceived female athletes as “out-group” members, whereas an analogous was not uncovered regarding valence or arousal. One hypothesis for this pattern of results is that social dominance theory claims different extents of connection with the three emotional dimensions measured in this study. To be specific, the construct of social dominance theory captures “the extent of individuals’ desires for groups-based dominance and inequality,” in which individuals tend to legitimate or enhance social dominance of the in-group over out-

groups to maximize their gains from the social structure (Pratto, Sidanius, & Levin, 2006, p.281). Among the three affective dimensions measured in SAM scales, the emotion of dominance—compared to arousal and valence—aims to measure subjects’ feeling of control, independence, and influence, which is more closely tied with the core mechanism of social dominance theory. In this sense, it is not surprising that the differences between male and female subjects regarding dominance aligns better with the theoretical expectation.

In *A Circumplex Model of Affect*, Russell (1980) proposed that valence and arousal are two core affects used to construct human emotions, in which valence is conceptualized as a continuum response ranging from positivity (pleasant) to negativity (unpleasant), and arousal is defined as a continuum response ranging from excitement (alert) to calm (peaceful). Although SAM scales include dominance as the third dimension in assessing human emotions (e.g., Bradley & Lang, 1994; Russell & Mehrabian, 1977; Wundt, 1896), whether the measurement of dominance is valid and necessary has not reached a consensus in academia, especially considering that no consistent effects have been confirmed across studies (e.g., Betella & Verschure, 2016; Libkuman, Otani, Kern, Viger, & Novak, 2007). This study—however—uncovered that, when watching male athletes competing, female subjects were more aroused and pleased than their male counterparts, whereas this pattern was not uncovered regarding dominance; when watching sportswomen competing, male and female subjects did not report any significant differences regarding arousal and valence, whereas female subjects claimed a higher level of dominance compared to their male counterparts. These findings underlined that the measurement of dominance is not a redundant dimension as “a consequence of core affect” (Betella & Verschure, 2016, p.4); instead, it could capture nuances that the dimensions of valence and arousal cannot measure in assessing human emotions.

The explanatory power of social dominance theory not only varied across emotional dimensions, but also varied across sports types. To be specific, in viewing pictures featuring athletes in “gender-inappropriate” sports, female subjects reported a significantly higher level of valence, arousal, and dominance than their male counterparts, a pattern that did not emerge in “gender-appropriate” or “neutral” sports. According to social dominance theory, in a male-dominated sports territory, men—as members of the dominant group—tend to enhance the patriarchal gender hierarchy, whereas women—as members from the subordinate group—tend to challenge the patriarchal gender hierarchy to legitimate their status in the male-centric domain (Xu et al., 2018). Compared to “gender-appropriate” and “neutral” sports, “gender-inappropriate” sports—such as male athletes competing in gymnastics and female athletes competing in weightlifting—challenge the conventional, stereotypical gender boundary to the greatest extent, leading to a more salient difference between male and female subjects in their emotional reactions.

Although this study has shed light on how subjects responded to athletic pictures featuring sportsmen and sportswomen regarding valence, arousal, and dominance, the findings should be interpreted with caution. First, this study employed the SAM scales to measure subjects’ emotional reactions to athletic pictures. Although the SAM scales have been repeatedly validated as robust, effective instruments in assessing human emotions (Bradley & Lang, 1994), the self-reported data might not accurately reflect subjects’ emotions. Future studies could apply other instruments—such as skin conductance frequency, skin conductance amplitude, and heart rate—to complement the data collected using the SAM scales to minimize measurement errors. Second, this study only recruited 236 subjects from Amazon MTurk. Drawing conclusions based on a convenient sample of small size, the generalization of the findings uncovered in this study

to the Olympic Channel—a sports media platform with a global audience—should be conducted with caution. Moreover, this study only exposed subjects to 12 athletic pictures in tennis, figure skating, and boxing, which could not represent the whole range of scenarios within the three types of sports (i.e., “gender-appropriate,” “neutral,” and “gender-inappropriate” sports). Although this study controlled for subjects’ age, race, income, education, and fanship in statistical analyses, the characteristics of the three selected sports might have had an impact on individuals’ emotional reactions, limiting the generalizability of the findings. Further studies could might include more sports and pictures to supplement the findings uncovered in this study to reach a more holistic understanding of individuals’ affective responses in watching male and female athletes competing in different types of sports.

### **Conclusion and Implications**

The content study in this project examined the framing strategies of 1,013 news thumbnails at the Olympic Channel through a lens of biological sex, finding that, overall, the Channel showcased a high level of gender equality in its daily media coverage, with more than 90% of its total cover pictures portraying players’ athletic performance and no significant sex differences detected regarding action, sexualization, and theme. The minimal sex differences uncovered in this study suggested that the athlete representation at the Olympic Channel is highly achievement- and athletic-oriented, echoing the emerging frame of “athlete in action” in portraying female athletes in sports communication. The progressive visualization of athletes at the Olympic Channel—to a large extent—could be attributed to the nature of the Channel: a non-profit sports media company established by the IOC to promote the Olympic Movement with gender equality imbued. Although the commercial pursuit inevitably leads to reflecting some sex stereotypes, the Olympic Channel stands as a highly progressive sports media corporation in

terms of its gendered coverage. Moreover, building both Olympic values and commercial pursuits into its operation, the Olympic Channel holds great potential for future exploration through research.

The production study in this project has conducted 11 interviews with Olympic Channel professionals to explore content production through a lens of gender. The findings suggest that (a) sports media professionals claimed considerate agency and autonomy, with individual personality and perspectives heavily influencing their journalism practice; (b) regarding content selection criteria, the Olympic Channel has been trying to strike a balance between the Olympic values and commercial pursuits, which explained the mixed media coverage revealed in the content analysis; and (c) the considerable proportion of female employees played an important role in facilitating a female-friendly workplace at the Olympic Channel, which—at least to some extent—contributed to a more sex-balanced media coverage at the Channel. The current study appears as one of the first studies exploring content production at the Olympic Channel, contributing to the literature by illustrating how employees at an IOC’s official sports media platform viewed gender equality in their journalism practice. Considering that the Olympic Channel is a startup with great development potential, the current study has provided a springboard for follow-up studies to track its content production from a temporal perspective.

From a theoretical perspective, the audience study pointed out that the explanatory power of social dominance theory varied across sports types and emotional dimensions. That is, in terms of sports types, social dominance theory played a more effective role in predicting men and women subjects’ emotional differences in watching “gender-inappropriate” sports; in terms of emotional dimensions, compared to arousal and valence, social dominance theory wielded more power in explaining emotional differences between male and female subjects regarding

dominance. This study extended the application of social dominance theory in explaining and predicting subjects' affective reactions to sports content, underscoring the value of dominance as one important dimension in measuring human emotions. From a practical perspective, this study uncovered that both male and female subjects highly appreciated women's sports from an emotional perspective; male participants even reported a higher level of valence and arousal when watching female athletes competing over male athletes. The findings indicated that the low interest in women's sports might be attributed to daily socialization, such as the low proportion of sports media coverage devoted to women's sports, stereotyping sport as a "male-appropriate" territory, and the patriarchal family structure offering women less leisure in consuming sports. Sports media, as a social institution playing an important role in creating and shaping the audience interest, might consider sharing more of the spotlight with female athletes to cultivate and foster audience interest in women's sports to expand the sports market.

## REFERENCES

- About the Olympic Channel. (2017). *Olympic Channel Services*. Retrieved from <https://olympicchannelservices.com/about/>
- Anderson, D. A. (1984, August). Changing thrusts in daily newspaper sports reporting. Literature Association Conference, San Diego, CA.
- Anderson, D. A. (1988). Changing thrusts in daily newspaper sports reporting. *Coroebus triumphs: The alliance of sport and the arts*, 175-90.
- Angelini, J. R. (2008). How did the sport make you feel? Looking at the three dimensions of emotion through a gendered lens. *Sex Roles*, 58(1-2), 127-135.
- Antunovic, D., & Hardin, M. (2015). Women and the blogosphere: Exploring feminist approaches to sport. *International Review for the Sociology of Sport*, 50(6), 661-677.
- Apostolou, M., Frantzides, N., & Pavlidou, A. (2014). Men competing, men watching: Exploring watching-pattern contingencies in sports. *International Journal of Sport Communication*, 7(4), 462-476.
- Armstrong, C. L. (2004). The influence of reporter gender on source selection in newspaper stories. *Journalism & Mass Communication Quarterly*, 81(1), 139-154.
- Arth, Z. W., Hou, J., Rush, S. W., & Angelini, J. R. (Broad)casting a wider net: Clocking men and women in the primetime and non-primetime coverage of the 2018 Winter Olympics. *Communication & Sport*, 1(1), 1-23. *Advanced online publication*. doi:10.1177/2167479518794505
- Ayvazoglu, N. R. (2017). The coverage of female athletes at London 2012 summer games in Turkish sports media. *The Anthropologist*, 27(1-3), 49-57.
- Bagdikian, B. H. (2004). *The new media monopoly*. MA: Beacon.
- Bernstein, A., & Kian, E.M. (2013). Gender and sexualities in sport media. In P.M. Pedersen (Ed.), *Routledge handbook of sport communication* (pp. 319–327). London, UK: Routledge.
- Best, N. (2016, August 12). The Rio Olympics, NBC ratings and total audience delivery. *Newsday*. Retrieved from <http://www.newsday.com/sports/olympics/the-rio-olympics-nbc-ratings-and-total-audience-delivery-1.12168143> (assessed October 4, 2018)

- Betella, A., & Verschure, P. F. (2016). The affective slider: A digital self-assessment scale for the measurement of human emotions. *PLoS ONE*, *11*(2), e0148037.
- Billings, A. C. (2007). From diving boards to pole vaults: Gendered athlete portrayals in the 'big four' sports at the 2004 Athens Summer Olympics. *Southern Communication Journal*, *72*(4), 329-344.
- Billings, A. C. (2009). Conveying the Olympic message: NBC producer and sportscaster interviews regarding the role of identity. *Journal of Sports Media*, *4*(1), 1-23.
- Billings, A. C., Angelini, J. R., & MacArthur, P. J. (2018). *Olympic television: Broadcasting the biggest show on Earth*. London, England: Routledge.
- Billings, A. C., & Ruihley, B. J. (2013). Why we watch, why we play: The relationship between fantasy sport and fanship motivations. *Mass Communication and Society*, *16*(1), 5-25.
- Billings, A., Xu, Q., & Xu, M. (2018). Two sides of the Chinese sports media story: Contrasting state-owned and commercially sponsored Chinese websites by nation and sex of athlete. *Communication & Sport. Advanced online publication*. doi: 2167479518759749
- Billings, A., & Young, B. D. (2015). Comparing flagship news programs women's sport coverage in ESPN's *SportsCenter* and FOX Sports 1's *FOX Sports Live*. *Electronic News*, *9*(1), 3-16.
- Bradley, M. M., & Lang, P. J. (1994). Measuring emotion: The self-assessment manikin and the semantic differential. *Journal of Behavior Therapy and Experimental Psychiatry*, *25*(1), 49-59.
- Broch, T. B. (2014). 'Smiles and laughs-All teeth intact': A cultural perspective on mediated women's handball in Norway. *International Journal of Sport Communication*, *7*(1), 56-73.
- Bruce, T. (2016). New rules for new times: Sportswomen and media representation in the third wave. *Sex Roles*, *74*(7-8), 361-376.
- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data?. *Perspectives on Psychological Science*, *6*(1), 3-5.
- Buss, D.M. (2003). *The evolution of desire: Strategies of human mating* (2nd ed.). New York, NY: Basic Books.
- Buyse, J. A., & Wolter, S. (2013). Gender representation in 2010 NCAA Division I media guides: The battle for equity was only temporarily won. *Journal of Issues in Intercollegiate Athletics*, *6*(1), 1-21.

- Caple, H. (2013). Competing for coverage: Exploring emerging discourses on female athletes in the Australian print media. *English Text Construction*, 6(2), 271-294.
- Caple, H., Greenwood, K., & Lumby, C. (2011). What league? The representation of female athletes in Australian television sports coverage. *Media International Australia*, 140(1), 137-146.
- Claringbould, I., Knoppers, A., & Elling, A. (2004). Exclusionary practices in sport journalism. *Sex Roles*, 51(11-12), 709-718.
- Clavio, G., & Eagleman, A. N. (2011). Gender and sexually suggestive images in sports blogs. *Journal of Sport Management*, 25(4), 295-304.
- Craft, S., & Wanta, W. (2004). Women in the newsroom: Influences of female editors and reporters on the news agenda. *Journalism & Mass Communication Quarterly*, 81(1), 124-138.
- Cooky, C., Messner, M. A., & Hextrum, R. H. (2013). Women play sport, but not on TV: A longitudinal study of televised news media. *Communication & Sport*, 1(3), 203-230.
- Cooper, R., & Tang, T. (2013). Gender and predictors of multiplatform media uses: A case study of the Super Bowl. *International Journal of Sport Communication*, 6(3), 348-363.
- Coche, R., & Tuggle, C. (2016). The Women's Olympics? A gender analysis of NBC's coverage of the 2012 London Summer Games. *Electronic News*, 10(2), 121-138.
- Coche, R., & Tuggle, C. (2017). Men or women, only five Olympic sports matter: A quantitative analysis of NBC's prime-time coverage of the Rio Olympics. *Electronic News*, 1(1), 1-19. *Advanced online publication*. doi: 1931243117739061.
- Cooky, C. (2017). "We cannot stand idly by": A necessary call for a public sociology of sport. *Sociology of Sport Journal*, 34(1), 1-11.
- Cooky, C., Messner, M. A., & Hextrum, R. H. (2013). Women play sport, but not on TV: A longitudinal study of televised news media. *Communication & Sport*, 1(3), 203-230.
- Cooky, C., Messner, M. A., & Musto, M. (2015). 'It's dude time!' A quarter century of excluding women's sports in televised news and highlight shows. *Communication & Sport*, 3(3), 261-287.
- Costa Fernandes, S., & Arriaga, P. (2010). The effects of clown intervention on worries and emotional responses in children undergoing surgery. *Journal of Health Psychology*, 15(3), 405-415.

- Cranmer, G. A., Brann, M., & Bowman, N. D. (2014). Male athletes, female aesthetics: The continued ambivalence toward female athletes in ESPN's *The Body Issue*. *International Journal of Sport Communication*, 7(2), 145-165.
- Crolley, L., & Teso, E. (2007). Gendered narratives in Spain: The representation of female athletes in Marca and El Pais. *International Review for the Sociology of Sport*, 42(2), 149-166.
- Daddario, G. (1994). Chilly scenes of the 1992 Winter Games: The mass media and the marginalization of female athletes. *Sociology of Sport Journal*, 11(3), 275-275.
- Dashper, K. (2017). Smiling assassins, brides-to-be and super mums: The importance of gender and celebrity in media framing of female athletes at the 2016 Olympic Games. *Sport in Society*, 1-19. *Advanced online publication*. doi: 10.1080/17430437.2017.1409729.
- Delorme, N., & Testard, N. (2015). Sex equity in French newspaper photographs: A content analysis of 2012 Olympic Games by L'Equipe. *European Journal of Sport Science*, 15(8), 757-763.
- Devlin, M., Billings, A. C., & Leeper, J. (2016). Fighting fandom: How fan identity influences self-reported and physiological arousal during exposure to violent sports imagery. *Journal of Sports Media*, 11(2), 159-185.
- Deuze, M. (2000). Onderzoek journalistiek in Nederland [Research journalism in the Netherlands]. Retrieved from <http://users.fmg.uva.nl/mdeuze/publ14.htm>
- Dietz-Uhler, B., Harrick, E. A., End, C., & Jacquemotte, L. (2000). Sex differences in sport fan behavior and reasons for being a sport fan. *Journal of Sport Behavior*, 23(3), 219-231.
- Duncan, M. C. (1990). Sports photographs and sexual difference: Images of women and men in the 1984 and 1988 Olympic Games. *Sociology of Sport Journal*, 7(1), 22-43.
- Eagleman, A., Burch, L. M., & Vooris, R. (2014). A unified version of London 2012: New-media coverage of gender, nationality, and sport for Olympics consumers in six countries. *Journal of Sport Management*, 28(4), 457-470.
- Eagleman, A. N., Clavio, G., & Kwak, D. H. (2011). Treading the political media waters: Coverage of the 2008 Olympic Games in US and Chinese news outlets. *International Journal of Sport Management*, 12(4), 471-485.
- Emmons, B., & Mocarski, R. (2014). She poses, he performs: A visual content analysis of male and female professional athlete Facebook profile photos. *Visual Communication Quarterly*, 21(3), 125-137.
- Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication*, 43(4), 51-58.

- Everbach, T. (2008). Still in the minor leagues: A comparison of women's sports coverage in female-and male-edited newspaper sports sections. *Southwestern Mass Communication Journal*, 23(2), 55-68.
- Fernández-Aguilar, L., Ricarte, J. J., Ros, L., & Latorre-Postigo, J. M. (2018). Emotional differences in young and older adults: Films as mood induction procedure. *Frontiers in Psychology*, 9, 1-14.
- Frisby, C. M. (2017). Sacrificing dignity for publicity: Content analysis of female and male athletes on 'Sports Illustrated' and 'ESPN the Magazine' covers from 2012-2016. *Advances in Journalism and Communication*, 5(02), 120-135.
- Gainor, K. (2017). Self-presentation of male and female athletes on Instagram: A continuation of gender roles found in advertisements? *Honors Projects in Communication*. Retrieved from [http://digitalcommons.bryant.edu/honors\\_communication/20](http://digitalcommons.bryant.edu/honors_communication/20)
- Gantz, W., & Wenner, L. A. (1991). Men, women, and sports: Audience experiences and effects. *Journal of Broadcasting & Electronic Media*, 35(2), 233-243.
- Gee, B. L., & Leberman, S. I. (2011). Sports media decision making in France: How they choose what we get to see and read. *International Journal of Sport Communication*, 4(3), 321-343.
- Geurin-Eagleman, A. N., & Burch, L. M. (2016). Communicating via photographs: A gendered analysis of Olympic athletes' visual self-presentation on Instagram. *Sport Management Review*, 19(2), 133-145.
- Godoy-Pressland, A. (2016). 'No hint of bulging muscles': The surveillance of sportswomen's bodies in British print media. *Journalism*, 17(6), 744-759.
- Goffman, E. (1974). *Frame analysis: An essay on the organization of experience*. Harvard University Press.
- Greenwell, T. C., Hancock, M., Simmons, J. M., & Thorn, D. (2015). The effects of gender and social roles on the marketing of combat sport. *Sport Marketing Quarterly*, 24(1), 19-29.
- Hampton, L. (2017, February 4). Women comprise nearly half of NFL audience, but more wanted. *Reuters*. Retrieved from <http://www.reuters.com/article/us-nfl-superbowl-women/women-comprise-nearly-half-of-nfl-audience-but-more-wanted-idUSKBN15J0UY> (assessed October 4, 2018)
- Hardin, M. (2005). Stopped at the gate: Women's sports, 'reader interest,' and decision making by editors. *Journalism & Mass Communication Quarterly*, 82(1), 62-77.
- Hardin, M. (2013). Want changes in content? Change the decision makers. *Communication & Sport*, 1(3), 241-245.

- Hardin, M., & Greer, J. D. (2009). The influence of gender-role socialization, media use and sports participation on perceptions of gender-appropriate sports. *Journal of Sport Behavior*, 32(2), 207-226.
- Hardin, M., & Shain, S. (2005). Strength in numbers? The experiences and attitudes of women in sports media careers. *Journalism & Mass Communication Quarterly*, 82(4), 804-819.
- Hoerber, L., & Kerwin, S. (2013). Exploring the experiences of female sport fans: A collaborative self-ethnography. *Sport Management Review*, 16(3), 326-336.
- Hull, K. (2017). An examination of women's sports coverage on the Twitter accounts of local television sports broadcasters. *Communication & Sport*, 5(4), 471-491.
- IOC Marketing: Media Guide (2018). *International Olympic Committee*. Retrieved from <https://stillmed.olympic.org/media/Document%20Library/OlympicOrg/Games/Summer-Games/Games-Rio-2016-Olympic-Games/Media-Guide-for-Rio-2016/IOC-Marketing-Media-Guide-Rio-2016.pdf> (assessed October 4, 2018)
- Jakubowska, H. (2015). Are women still the 'other sex': Gender and sport in the Polish mass media. *Sport in Society*, 18(2), 168-185.
- James, J., & Ridinger, L. (2002). Female and male sport fans: A comparison of sport consumption motives. *Journal of Sport Behavior*, 25(3), 260-278.
- Jones, D. (2012). Swifter, higher, stronger? Online media representations of gender during the 2008 Olympic Games. In: *The British World: Religion, memory, society, culture conference*, Toowoomba, QLD, Australia, 2-5 July. Available at: [https://eprints.usq.edu.au/22030/2/Jones\\_BW2012\\_PV.pdf](https://eprints.usq.edu.au/22030/2/Jones_BW2012_PV.pdf) (accessed August 23, 2018)
- Kaelberer, M. (2018). Gender trouble on the German soccer field: Can the growth of women's soccer challenge hegemonic masculinity? *Journal of Gender Studies*, 1(1), 1-11. *Advanced online publication*. doi: 10.1080/09589236.2018.1469973.
- Kearney, M. C. (2011). Tough girls in a rough game: Televising the unruly female athletes of contemporary roller derby. *Feminist Media Studies*, 11(3), 283-301.
- Kian, E. M., & Hardin, M. (2009). Framing of sport coverage based on the sex of sports writers: Female journalists counter the traditional gendering of media coverage. *International Journal of Sport Communication*, 2(2), 185-204.
- Knoppers, A., & Elling, A. (2004). 'We do not engage in promotional journalism': Discursive strategies used by sport journalists to describe the selection process. *International Review for the Sociology of Sport*, 39(1), 57-73.

- Koivula, N. (2001). Perceived characteristics of sports categorized as gender-neutral, feminine and masculine. *Journal of Sport Behavior*, 24(4), 377-393.
- Krane, V., Choi, P. Y., Baird, S. M., Aimar, C. M., & Kauer, K. J. (2004). Living the paradox: Female athletes negotiate femininity and muscularity. *Sex Roles*, 50(5-6), 315-329.
- Krippendorff, K. (2018). *Content analysis: An introduction to its methodology*. CA: Sage.
- Lafky, S. A. (1993). The theory and practice of educating ideologically unreliable journalists. *The Journalism Educator*, 48(2), 17-25.
- Lagaert, S., & Roose, H. (2018). The gender gap in sport event attendance in Europe: The impact of macro-level gender equality. *International Review for the Sociology of Sport*, 53(5), 533-549.
- Lapchick, R. (2018). The 2018 associated press sports editors racial and gender report card. *The Institution for Diversity and Ethics in Sport*. Retrieved from <http://nebula.wsimg.com/2b640482e881dddc4dfb39e6aca52c2e?AccessKeyId=DAC3A56D8FB782449D2A&disposition=0&alloworigin=1>
- Lewin, K. (1947). Frontiers in group dynamics: II. Channels of group life, social planning and action research. *Human Relations*, 1(1), 143–153.
- Libkuman, T. M., Otani, H., Kern, R., Viger, S. G., & Novak, N. (2007). Multidimensional normative ratings for the international affective picture system. *Behavior Research Methods*, 39(2), 326-334.
- Lombardo, M.P. (2012). On the evolution of sport. *Evolutionary Psychology*, 10(1), 1–28.
- Lumby, C., Caple, H., & Greenwood, K. (2010). Towards a level playing field: Sport and gender in Australian media, 2 November. Available at [https://www.dca.org.au/sites/default/files/towards\\_a\\_level\\_playing\\_field\\_-\\_updated\\_version.pdf](https://www.dca.org.au/sites/default/files/towards_a_level_playing_field_-_updated_version.pdf) (accessed 23 August 2018).
- MacArthur, P. J., Angelini, J. R., Smith, L. R., & Billings, A. C. (2017). The Canadian state of mind: Coverage of men and women athletes in the Canadian broadcasting corporation's prime time broadcast of the 2014 Sochi Winter Olympic Games. *Journal of Broadcasting & Electronic Media*, 61(2), 410-429.
- McDonald, H., Leckie, C., Karg, A., & Zubcevic-Basic, N. (2018). Female season ticket holders: How their satisfaction is derived differently from males. *European Sport Management Quarterly*, 18(2), 156-174.
- McQuail, D. (2010). *McQuail's mass communication theory*. Sage.
- Mehus, I. (2005). Sociability and excitement motives of spectators attending entertainment sport events: Spectators of soccer and ski-jumping. *Journal of Sport Behavior*, 28(4), 333-350.

- Messner, M. (2013). Reflections on communication and sport: On men and masculinities. *Communication and sport*, 1(1-2), 113-124.
- Messner, M. A., Duncan, M. C., & Jensen, K. (1993). Separating the men from the girls: The gendered language of televised sports. *Gender & Society*, 7(1), 121-137.
- Miller, G. (2000). *The mating mind*. New York: Anchor Books.
- Morrin, S. (2018). Female sports reporters are blowing the whistle on sexist behavior at the World Cup. *Time*. Retrieved from <http://time.com/5329361/sexism-harassment-world-cup/> (accessed October 3, 2018)
- Morris, J. D. (1995). Observations: SAM: The Self-Assessment Manikin: An efficient cross-cultural measurement of emotional response. *Journal of Advertising Research*, 35(6), 63-68.
- Musto, M., Cooky, C., & Messner, M. A. (2017). 'From fizzle to sizzle!': Televised sports news and the production of gender-bland sexism. *Gender & Society*, 31(5), 573-596.
- Nixon, H. L., Maresca, P. J., & Silverman, M. A. (1979). Sex differences in college students' acceptance of females in sport. *Adolescence*, 14(56), 755-764.
- Olympic Channel Commission. (2019). Check out the Olympic Channel. *The International Olympic Committee*. Retrieved from <https://www.olympic.org/olympic-channel>
- Olympic Channel HR. (2019). The information was retrieved from the Olympic Channel HR Department.
- Olympic Channel to Broadcast Flying Disc at the World Games (2017, July 18). *World flying disc federation*. Retrieved from <http://www.wfdf.org/news-media/news/press/2-official-communication/815-olympic-channel-to-broadcast-flying-disc-at-the-world-games>
- Olympic Charter. (2017, September 15). *International Olympic Committee*. Retrieved from [https://stillmed.olympic.org/media/Document%20Library/OlympicOrg/General/EN-Olympic-Charter.pdf#\\_ga=2.132527562.531609420.1538608389-680343989.1422542543](https://stillmed.olympic.org/media/Document%20Library/OlympicOrg/General/EN-Olympic-Charter.pdf#_ga=2.132527562.531609420.1538608389-680343989.1422542543)
- Pan, Z., & Kosicki, G. M. (1993). Framing analysis: An approach to news discourse. *Political communication*, 10(1), 55-75.
- Paolacci, G., Chandler, J., & Ipeirotis, P. G. (2010), "Running experiments on Amazon Mechanical Turk." *Judgment and Decision Making*, 5(5), 411-419.
- Paterson, J. & Matzelle, R. (2014). *Australian Sports Commission: Women in Sport Broadcasting Analysis* (Final report). Canberra, ACT, Australia: Australian Sports Commission.

- Parker, B., & Chusmir, L. H. (1991). Motivation needs and their relationship to life success. *Human Relations*, 44(12), 1301-1312.
- Pope, S. (2018). 'Who could name an England women's footballer?': Female fans of men's football and their views of women's football in England. *Female Football Players and Fans* (pp. 125-153). Springer.
- Poniatowski, K., & Hardin, M. (2012). 'The more things change, the more they...': Commentary during women's ice hockey at the Olympic Games. *Mass Communication and Society*, 15(4), 622-641.
- Ponterotto, D. (2014). Trivializing the female body: A cross-cultural analysis of the representation of women in sports journalism. *Journal of International Women's Studies*, 15(2), 94-111.
- Powers, A., & Fico, F. (1994). Influences on use of sources at large US newspapers. *Newspaper Research Journal*, 15(4), 87-97.
- Pratto, F., Sidanius, J., & Levin, S. (2006). Social dominance theory and the dynamics of intergroup relations: Taking stock and looking forward. *European Review of Social Psychology*, 17(1), 271-320.
- Pratto, F., Stallworth, L. M., Sidanius, J., & Siers, B. (1997). The gender gap in occupational role attainment: A social dominance approach. *Journal of Personality and Social Psychology*, 72(1), 37-53.
- Ravel, B., & Gareau, M. (2016). 'French football needs more women like Adriana'? Examining the media coverage of France's women's national football team for the 2011 World Cup and the 2012 Olympic Games. *International Review for the Sociology of Sport*, 51(7), 833-847.
- Riffe, D., Lacy, S. & Fico F.G. (2014). *Analyzing media messages: Using quantitative content analysis in research*. New York, NY: Routledge.
- Russell, J. A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology*, 39(6), 1161-1178.
- Russell, J. A., & Mehrabian, A. (1977). Evidence for a three-factor theory of emotions. *Journal of Research in Personality*, 11(3), 273-294.
- Salkowitz, R. (2018). Data shows women paid more attention to Super Bowl LII than men. *Forbes*. Retrieved from <https://www.forbes.com/sites/robsalkowitz/2018/02/05/data-shows-women-paid-more-attention-to-super-bowl-lii-than-men/#4cecaab65c4a> (accessed October 3, 2018 )

- Salvatore, J., & Marecek, J. (2010). Gender in the gym: Evaluation concerns as barriers to women's weight lifting. *Sex Roles, 63*(7-8), 556-567.
- Schallhorn, C., Knoll, J., & Schramm, H. (2017). 'Girls just want to have fun?' Sex differences in motives of watching the FIFA World Cup and the UEFA European Championship. *Sport in Society, 20*(9), 1118-1133.
- Schmidt, H. C. (2018). Forgotten athletes and token reporters: Analyzing the gender bias in sports journalism. *Atlantic Journal of Communication, 26*(1), 59-74.
- Schoch, L. (2013). 'Feminine' writing: The effect of gender on the work of women sports journalists in the Swiss daily press. *Media, Culture & Society, 35*(6), 708-723.
- Scott-Chapman, S. (2012). *The gendering of sports news: An investigation into the production, content and reception of sports photographs of athletes in New Zealand newspapers*. (doctoral dissertation). University of Waikato, United States.
- Sherwood, M., Osborne, A., Nicholson, M., & Sherry, E. (2017). Newswork, news values, and audience considerations factors that facilitate media coverage of women's sports. *Communication & Sport, 5*(6), 647-668.
- Shoemaker, P. J., Eichholz, M., Kim, E., & Wrigley, B. (2001). Individual and routine forces in gatekeeping. *Journalism & Mass Communication Quarterly, 78*(2), 233-246.
- Shoemaker, P. J., & Reese, S. D. (2013). *Mediating the message in the 21st century: A media sociology perspective*. Routledge.
- Shoemaker, P. J., & Vos, T. P. (2009). *Gatekeeping theory*. Routledge.
- Shreffler, M. B., Hancock, M. G., & Schmidt, S. H. (2016). Self-presentation of female athletes: A content analysis of athlete avatars. *International Journal of Sport Communication, 9*(4), 460-475.
- Sidanius, J., & Pratto, F. (2001). *Social dominance: An intergroup theory of social hierarchy and oppression*. Cambridge University Press.
- Silver, D. (1986). A comparison of newspaper coverage of male and female officials in Michigan. *Journalism Quarterly, 63*(1), 144-149.
- Smith, L. R., & Sanderson, J. (2015). I'm going to Instagram it! An analysis of athlete self-presentation on Instagram. *Journal of Broadcasting & Electronic Media, 59*(2), 342-358.
- Soleymani, M., Chanel, G., Kierkels, J. J., & Pun, T. (2008). *Affective characterization of movie scenes based on multimedia content analysis and user's physiological emotional responses*. Paper presented at the Multimedia, 2008. ISM 2008. Tenth IEEE International Symposium on.

- Swanson, S. E. (2009). *Women in sports journalism* (master's thesis). San Jose State University, San Jose, California.
- Tang, T., & Cooper, R. (2012). Gender, sports, and new media: Predictors of viewing during the 2008 Beijing Olympics. *Journal of Broadcasting & Electronic Media*, 56(1), 75-91.
- Teng, E. (2018). The crush of the crowd. *ESPN*. Retrieved from [http://www.espn.com/olympics/story/\\_/id/23564734/world-fame-100-rock-star-following-figure-skating-gold-medalist-yuzuru-hanyu](http://www.espn.com/olympics/story/_/id/23564734/world-fame-100-rock-star-following-figure-skating-gold-medalist-yuzuru-hanyu)
- Trujillo, N. (1991). Hegemonic masculinity on the mound: Media representations of Nolan Ryan and American sport culture. *Critical Studies in Mass Communication*, 8(3), 290-306.
- Tseng, Y.-H. (2016). Reproduction of the female image and nationalism in Taiwanese sport documentaries. *International Review for the Sociology of Sport*, 51(8), 897-916.
- Van Riper, T. (2011). The sports women watch. *Forbes*. Retrieved from <https://www.forbes.com/sites/tomvanriper/2011/09/30/the-sports-women-watch/#3091b55932ac> (accessed October 3 2018)
- Van Zoonen, L. (1994). *Feminist media studies*. Sage.
- Weiller, K. H., & Higgs, C. T. (1999). Television coverage of professional golf: A focus on gender. *Women in Sport & Physical Activity Journal*, 8(1), 83-100.
- Wensing, E. H., & Bruce, T. (2003). Bending the rules media representations of gender during an international sporting event. *International Review for the Sociology of Sport*, 38(4), 387-396.
- White, D. M. (1950). The 'gate keeper': A case study in the selection of news. *Journalism Bulletin*, 27(4), 383-390.
- Whiteside, E., & Hardin, M. (2011). Women (not) watching women: Leisure time, television, and implications for televised coverage of women's sports. *Communication, Culture & Critique*, 4(2), 122-143.
- Wolter, S. (2015). A critical discourse analysis of espnW: Divergent dialogues and postfeminist conceptions of female fans and female athletes. *International Journal of Sport Communication*, 8(3), 345-370.
- Women in the Olympic Movement. (2018). *International Olympic Committee*. Retrieved from [https://stillmed.olympic.org/media/Document%20Library/OlympicOrg/Factsheets-Reference-Documents/Women-in-the-Olympic-Movement/Factsheet-Women-in-the-Olympic-Movement.pdf#\\_ga=2.10142710.274991409.1545637377-680343989.1422542543](https://stillmed.olympic.org/media/Document%20Library/OlympicOrg/Factsheets-Reference-Documents/Women-in-the-Olympic-Movement/Factsheet-Women-in-the-Olympic-Movement.pdf#_ga=2.10142710.274991409.1545637377-680343989.1422542543)

- Women's Media Center. (2017). The status of women in the U.S. media 2017. *Women's Media Center*. Retrieved from [https://wmc.3cdn.net/10c550d19ef9f3688f\\_mlbres2jd.pdf](https://wmc.3cdn.net/10c550d19ef9f3688f_mlbres2jd.pdf)
- Women's Sports Foundation. (2017, March 14). A look back at women's history since Title IX's passage. *The She Network*. Retrieved from <https://www.womenssportsfoundation.org/sports/look-back-womens-history-since-title-ix/>
- Wundt, W. (1896). *Outlines of psychology*. New York: Dustav E. Stechert.
- Xu, Q. (2016). *How Chinese new media construct elite female athletes: Gender, nationalism, and individualism* (master's thesis). University of Georgia, Athens.
- Xu, Q. & Armstrong, C. (in press). #SELFIES at the 2016 Rio Olympics: Comparing self-representations of male and female athletes from the U.S. and China. *Journal of Broadcasting and Electronic Media*.
- Xu, Q., Billings, A., & Fan, M. (2018). When women fail to 'hold up more than half the sky': Gendered frames of CCTV's coverage of gymnastics at the 2016 Summer Olympics. *Communication & Sport*, 6(2), 154-174.
- Xu, Q., Billings, A. C., Scott, O. K. M., Lewis, M., & Sharpe, S. (2017). Gender differences through the lens of Rio: Australian Olympic primetime coverage of the 2016 Rio Summer Olympic Games. *International Review for the Sociology of Sport*, 1(1), 1-19. *Advanced online publication*. doi:10.1177/1012690217710690.
- Xu, Q., Fan, M., & Brown, K.A. (2018, February). Men's sports or women's sports?: Gender norms, sports participation, and media consumption as predictors of the perceptions of gender-appropriate sports in China. The Broadcast Education Association, Las Vegas, NV.

## APPENDIX A

### Coding Book in Analyzing the Content

#### **The first level of coding:**

- (a) athlete's biological sex (men or women);
- (b) athlete's race
- (c) athlete's nation
- (d) athlete's sport;
- (e) theme of the visual image (1-athletic life, 2-personal life, 3-business life, or 4-others);

*Note: Primarily adopted from Geurin-Eagleman and Burch's (2016) paper on visual self-representation.*

1. Personal life: Photos referring to personal life, e.g. hanging out with friends/family, party, pets, traveling, etc.
2. Athletic life: Photos referring to athletic routine, e.g., training, traveling for competition, emotions related to competitions, related figures or events related to sports, etc.
3. Business life: Photos referring to business life, aiming to construct personal brand, e.g., promoting products, charity work, etc.
4. Others: Pictures cannot fit into any categories mentioned above.

## **The second level of coding**

### *Sexualization index*

*Note. Primarily adopted from Goffman (1979) and Smith and Sanderson (2015).*

(a) clothing: uniform (1-athletic clothes; 2-non-athletic clothes)

(b) clothing: rate the revealing level of the clothing in a 5-point scale

1. not revealing: casual clothes, completely no revealing sense
2. slightly revealing: wearing slightly revealing clothing, such as wearing shirts with modestly low necklines or exposed arms and shoulders
3. somewhat revealing: wearing clothing that was somewhat revealing; this included exposed midriffs on both women and men
4. revealing: wearing clothing that was quite revealing; such as wearing skin-tight clothing
5. highly revealing: wearing clothing that was very revealing, such as wearing swimsuits, lingerie, or naked

(c) facial expression: rate the revealing level of facial expression in a 5-point scale

1. not revealing: not express in any way related to sexual activity, such as being serious
2. slightly revealing: showing expression in slightly sexual manner, such as slightly opening mouth exemplifying the “come on”
3. somewhat revealing: showing expression in somewhat sexual manner, such as licking or biting own lips
4. revealing: showing expression in a quite suggestive manner, such as putting fingers in the mouth with withdrawing eyes

5. highly revealing: showing overly sexual expression; this included showing the orgasm expression

Subordination index

*Note. Primarily adopted from Emmons and MocarSKI (2014), Gainor (2017), and Goffman (1979).*

- (a) emotion (1-no emotion; 2-showing emotion; 0-no face shown)
- (b) smiling? (1-no; 2-yes; 0-no face shown).
- (c) camera angle (1-below eye angle; 2-high eye angle; 0-normal)
- (d) presence of others (1-solo; 2-with others)

Active/passive: rate the level of active/passive in a 5-point scale:

*Note. Primarily adopted from Smith and Sanderson (2015).*

1. completely passive: involving in completely passive action, such as sitting, standing, or lying down without any other activities
2. slightly active: involving in slightly active activities, such as standing with the arm open, pointing, or stretching.
3. somewhat active: involving in somewhat active activities, such as walking.
4. active: involving in quite active activities, such as running.
5. highly active: involving in highly active activities, such as racing or dunking on the field

## APPENDIX B

### Semi-Structured Interview Outline

#### **Warm-up questions:**

1. What is your title at the Olympic Channel? What kind of work are you responsible for?
2. How long have been worked at the Olympic Channel?
3. Before working in the Olympic Channel, what kind of work you did?
4. Could you describe your routine at the Olympic Channel briefly?

#### **General decision-making process:**

5. Most sports media professionals join a pre-existing channel or network that has already established norms and practices. Since the Olympic Channel was recently added, you got the chance to start from the beginning. What norms and practices did you wish to place upon this new channel? What values did you hope it would advance?
6. Who makes the decisions about what to cover? What is your role in that process?  
(Could you explain the decision making when you select living videos, news, and original series in practices?)
  - a. What factors do you concern (readership, popularity, gender equality, etc.)?
  - b. What are the criteria (newsworthiness-performance, notoriety-popularity, etc.) in selecting news/videos/original series? In the top spot?
7. What kind of interaction do you have with your editor/staff in terms of covering stories?
8. What is the primary policy of covering men and women's sports in the Olympic Channel?

9. Coverage of women Olympians in 2018 is much more progressive than previous decades. Given that some of your content is older, are there concerns that biases against women athletes from previous decades could be reinforced by bringing them back via the Olympic Channel?

### **Readership**

10. Does the Olympic Channel have a targeted audience? If yes, what are the demographics of the targeted group(s)? (When you cover sports, who do you imagine you're writing for?)
- a. What do you think interests your targeted audiences? What gives you that impression?
11. In many sports media, female athletes are given less coverage because media assumes that their target audiences are more interested in men's sports. Does the Olympic Channel Services have similar concerns? (The debt between "what the audiences want to see" and "what the audiences ought to see.")

### **The gender scenario at the Olympic Channel**

12. Research in other countries has shown that the sports media give women substantially less coverage than men. Do you think the similar scenario appears at the Olympic Center? Why?
13. What amount of women's coverage you think is proper/ideal at the Olympic Channel? (Some people think 1:1 is proper, whereas some people think 30% might be more realistic for now considering that sports media usually only devote less than 10% of the coverage to sportswomen.)

14. Do you think there are different approaches when portraying male and female athletes at the Olympic Channel?
- a. Does women's appearance matter in deciding to cover a women's athletes?
  - b. Do you have some certain sports "fit" for men and some other sports are more "proper" for women to participate in?

#### **The number of women in sports institutions**

15. What is the proportion of female employees at the Olympic Channel?
16. Does the biological sex of employees make a difference in the contents production of the Olympic Channel?
- a. Some people think the increasing number of women employees in sports news institutions will make a difference in gendered sports coverage (offering women more and fair coverage), but some scholars do not agree. They argued that the patriarchal atmosphere will push women adopt the existed routines. How do you think?
17. Will the Olympic Channel consider hiring more female employees in the future? (Do you think it is necessary to hire more women employees at the Olympic Channel?)

#### **Closing questions**

18. To what extent do you think the Olympic Channel fulfill its promises in promoting gender equality at this point?
19. What do you think the most important factor(s) that stops the Olympic Channel from pursuing gender equality in mediated sports? (What else the Olympic Channel can do to pursue a better gender equality scenario in mediated sports?)

20. What initiatives can you suggest that would support better/increased media coverage of women's sports?

### **Questions for different interviewees**

Managers:

1. What is the proportion of female employees in the newsroom of the Olympic Channel?
2. Does the biological sex of employees make a difference in the contents production of the Olympic Channel?
3. Will the Olympic Channel consider hiring more female employees in the future?

Commentators:

1. There are many gender stereotypes for men and women athletes. Are you self-conscious about the narratives applied to men and women athletes?

Female employees:

1. How is your personal experience working at the Olympic Channel as one of few female professionals?
2. In your working practice, do you think you intentionally or unintentionally highlight women related coverage?
3. Do you think including more women in the newsroom will make a difference to the gendered coverage in the Olympic Channel?

## APPENDIX C

### The Stimuli Applied in the Audience Study

#### Stimulus 1



Stimulus 2



Stimulus 3



Stimulus 4



Stimulus 5



Stimulus 6



Stimulus 7



Stimulus 8



Stimulus 9



Stimulus 10



Stimulus 11

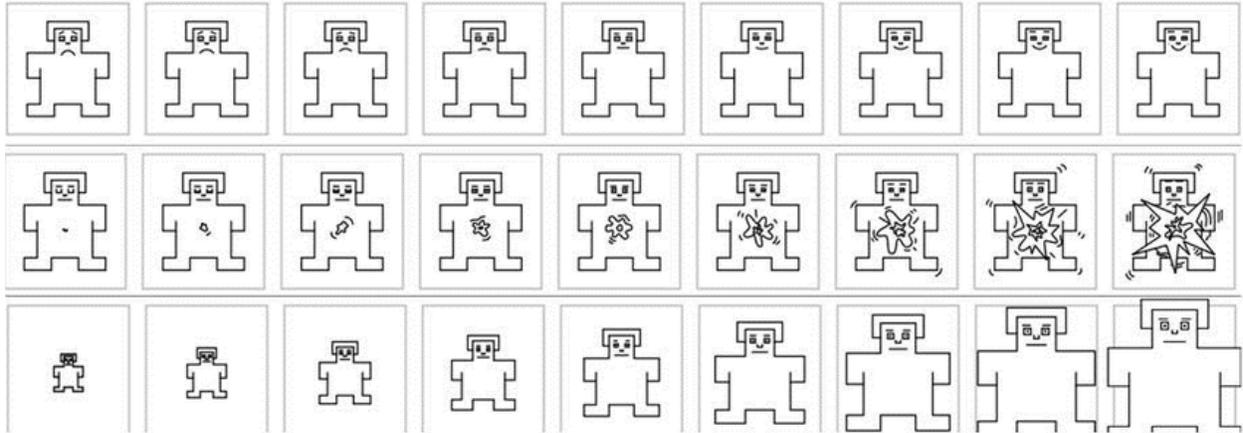


Stimulus 12



APPENDIX D

The Applied 9-Point SAM Scales



## APPENDIX E

### IRB Certification



January 8, 2019

Qingru Xu  
CCIS  
Box 870172

Re: IRB#: 19-OR-007 "Challenging the Gender Dichotomy? Examining Olympic Channel Content, Production, and Audiences through a Gendered Lens"

Dear Qingru Xu:

The University of Alabama Institutional Review Board has granted approval for your proposed research.

Your application has been given expedited approval according to 45 CFR part 46. You have also been granted the requested waiver of written documentation of informed consent. Approval has been given under expedited review category 7 as outlined below:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies

Your application will expire on January 7 2020. If your research will continue beyond this date, complete the relevant portions of the IRB Renewal Application. If you wish to modify the application, complete the Modification of an Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, complete the appropriate portions of the IRB Request for Study Closure Form.

Please use reproductions of the IRB approved stamped consent/assent forms to provide to your participants.

Should you need to submit any further correspondence regarding this proposal, please include the above application number.

Good luck with your research.

Sincerely,

Carpalato T. Myles, MSM, CIM, CIP  
Director & Research Compliance Officer

358 Rose Administration Building | Box 870127 | Tuscaloosa, AL 35487-0127  
205-348-8461 | Fax 205-348-7189 | Toll Free 1-877-820-3066

**UNIVERSITY OF ALABAMA  
HUMAN RESEARCH PROTECTION PROGRAM**

**Informed Consent for a Non-Medical Study**

**Study title:** Challenging the Gender Dichotomy? Examining Olympic Channel Content, Production, and Audiences through a Gendered Lens

**Investigator's Name, Position, Faculty or Student Status**

Qingru Xu, Ph.D. candidate, College of Communication and Information Sciences, University of Alabama

Andrew Billings, Professor, Journalism and Creative Media, University of Alabama

**Institution if other than or collaborating with UA:**

You are being asked to take part in a research study called "Challenging the Gender Dichotomy? Examining Olympic Channel Content, Production, and Audiences through a Gendered Lens." The study is being done by Qingru Xu, a Ph.D. candidate of the College of Communication and Information Sciences at the University of Alabama. She is supervised by Dr. Billings, who is a professor in the Department of Journalism and Creative Media at the University of Alabama.

**Is the researcher being paid for this study?**

This research did not get any funding from any individuals or institutions.

**Does the investigator have any conflict of interest in this study?**

There is no any conflict of interest in this study.

**What is this study about? What is the investigator trying to learn?**

This study aims to understand how people respond to different sports images featuring male and female athletes in different types of sports. In the sports market, female consumers make up a considerable proportion of sports fans. However, the media coverage devoted to women's sports and female athletes remains only a single-digit percentage in many cases. Many sports media agencies insist that men's sports are more desirable among both male and female audiences because men's events often involve a higher level of competitiveness and athletics. However, whether female and male spectators both prefer to watch men's sports over women's sports is still in debate with limited empirical support. This study will fill in the gap by exploring men and women's emotional responses toward images featuring male and female athletes in different types of sports.

**Why is this study important or useful?**

In the sports media industry, many sports media professionals believe that men's sports are more desirable than women's sports for both male and female audiences, which leads to the huge

UNIVERSITY OF ALABAMA IRB  
CONSENT FORM APPROVED: 11/8/19  
EXPIRATION DATE: 11/1/2020

gender gap in sports media coverage. That is, sports media often devote more than 90% of the media coverage to men's sports with limited attention offers to women's sports. However, whether female and male spectators both prefer to watch men's sports over women's sports is still in debate with limited empirical support. This study will help us understand how male and female spectators' emotional responses toward sports images figuring male and female athletes, providing useful information to both industry and academia.

**Why have I been asked to be in this study?**

You have been asked to participate in this study because your age is 18 years old or older.

**How many people will be in this study?**

The number of participants will be around 200.

**What will I be asked to do in this study?**

If you meet the criteria and agree to be in this study, you will be asked to do the following missions. First, you are required to read the consent form. Once you show agreement on the consent form, you can click yes. In the next step, you will be exposed to the 20 randomly ordered pictures and you are expected to report your emotional responses toward each picture presented. After reporting your emotional responses of the 20 pictures, you will be asked to answer questions pertaining to your demographics (i.e., age, education, gender, race, income), fandom, and sports identification.

**How much time will I spend being this study?**

It may take 10-15 minutes to complete this study.

**Will being in this study cost me anything?**

The only cost for involving in this study is your time.

**Will I be compensated for being in this study?**

In appreciation of your time, you will receive around 50 cents from Amazon MTurk after you completed this survey with passing the quality check.

**What are the risks (dangers or harms) to me if I am in this study?**

There is no physical, economic, psychological, social or any other risks to you. If you do not want to answer any questions, you can skip it or quit this survey at any time.

**What are the benefits (good things) that may happen if I am in this study?**

There is no direct benefit guaranteed to you.

**What are the benefits to science or society?**

This study could potentially help people understand how people respond to sports pictures featuring male and female athletes in different sports, which will provide useful empirical understandings of the taste of audiences regarding sports media production.

**How will my privacy be protected?**

UNIVERSITY OF ALABAMA IRB  
 CONSENT FORM APPROVED: 11/8/19  
 EXPIRATION DATE: 11/7/2020

No private information will be asked in the survey. Your name and identity will not be connected to any of the data in the survey.

**How will my confidentiality be protected?**

Your part in this research is **confidential**. That is, the information gathered for this project will not be published or presented in a way that would allow anyone to identify you.

**What are the alternatives to being in this study? Do I have other choices?**

The alternative to being in this study is not to participate.

**What are my rights as a participant in this study?**

Taking part in this study is voluntary. It is your free choice. You can refuse to be in it at all. If you start the study, you can stop at any time.

**Who do I call if I have questions or problems?**

If you have questions, concerns, or complaints about the study later on, please call Qingru Xu at 706-308-1397. You may also email Qingru Xu at [qxu22@crimson.ua.edu](mailto:qxu22@crimson.ua.edu). You could also call Dr. Andrew C. Billings at 205-348-8658, or email Dr. Billings at [acbillings@ua.edu](mailto:acbillings@ua.edu).

If you have questions about your rights as a person in a research study, call Ms. Tanta Myles, the Research Compliance Officer of the University, at 205-348-8461 or toll-free at 1-877-820-3066.

You may also ask questions, make suggestions, or file complaints and concerns through the IRB Outreach website at <http://ovpred.ua.edu/research-compliance/prco/> or email the Research Compliance office at [rscompliance@research.ua.edu](mailto:rscompliance@research.ua.edu).

After you participate, you are encouraged to complete the survey for research participants that is online at the outreach website or you may ask the investigator for a copy of it and mail it to the University Office for Research Compliance, Box 870127, 358 Rose Administration Building, Tuscaloosa, AL 35487-0127.

I have read this consent form. I agree to take part in it.

Yes, I agree to participate in survey.

No, I do not agree to participate in survey.

UNIVERSITY OF ALABAMA IRB  
 CONSENT FORM APPROVED: 1/8/19  
 EXPIRATION DATE: 1/7/2020