

GOOGLE IT: AN ANALYSIS OF  
THE COVERAGE OF WOMEN'S BASKETBALL AND SOCCER

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On my honor  
I have neither given nor received  
unauthorized aid on this thesis.

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## Google It: An Analysis of the Coverage of Women's Basketball and Soccer

As Google, Yahoo!, and other search engines become daily tools for finding information in contemporary American society, it is important to look at potential systemic biases within society that are reflected by Google in reporting information to wide audiences. Similar to previous literature on the coverage of women's athletics, the present findings point to an overarching pattern of preference for men's sports teams over women's teams. Representation of women in the world of sport is essential for young girls to see because without equitable coverage of women's athletics, girls may not have the chance to seek role models or opportunities to explore their physical capabilities. Sports can provide a host of benefits to people young and old, such as academic scholarships, career opportunities, physical wellbeing, confidence, and social integration. These benefits should be widely available and visible to everyone— not just men and boys.

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Since the advent of Title IX in 1972, the number of women participating in sports has consistently been on the rise (Sagas, Cunningham, Wigley and Ashley 2000). However, this timeframe has seen little improvement in the coverage of women's sports in collegiate media as well as mass media (Cronk and Therberge 1986; Cooky, Messner, and Musto 2015; Kane and Maxwell 2011; Sagas, Cunningham, Wigley and Ashley 2000; Wann, Schrader, Allison and McGeorge 1998; Lumpkin and Williams 1991; Shifflett and Revelle 1994). The media's treatment of women is essential to the larger struggle for the advancement of women, because the media has the power to reflect and shape perceptions and behaviors (Cronk and Theberge 1986). In addition, the media seeks to broadcast what is believed to be of interest to the public. Shifflet and Revelle (1994:150) argue that "the media serves as a vehicle to frame what is acceptable, expected, and desirable. Therefore, inequitable coverage can potentially undermine the accomplishments and value of women in sports." Thus, without proper coverage and representation in the media, the exclusion of the female athlete in the mass media prevails. This phenomenon has led to a plethora of analyses on TV broadcasts, magazines, newspapers, photos, and websites to investigate the invisibility of women's sports compared to men's sports. So far, no research on the coverage of women's sports has explicitly used Google search engine results as data. The current study seeks to broaden this bed of research by analyzing Google results as a way of evaluating society's interest in women's sports.

## LITERATURE REVIEW

Since the early 1990's, the portrayal of the female athlete in the United States has become increasingly respectful. For example, sports commentators are less likely now than in the 1980's to joke or sexually objectify women in sports (Cooky, Messner, and Musto 2015). However, despite this seemingly positive step, research indicates that media coverage of women in sports is still inequitable in terms of both quantity and quality (Birrell and Rintala 1984; Cronk and Therberge 1986; Cooky, Messner, and Musto 2015; Kane and Maxwell 2011; Sagas, Cunningham, Wigley and Ashley 2000; Wann, Schrader, Allison and McGeorge 1998; Lumpkin and Williams 1991; Shifflett and Revelle 1994). The mass media continue to present the sports world as a man's world, where women may enter and exist there as strangers (Cronk and Therberge 1986). The difference in the quantity and quality of coverage of women's sports compared to men's suggests that these overarching patterns are more indicative of the "unevenness of social change" as opposed to a "stalled revolution" (Cooky, Messner, and Musto 2015:263). In other words, the tendency to present women's athletics less often and in a lackluster manner underlines the ongoing notion that women are incompatible with sports.

#### *The Question of Women's Compatibility with Sports*

The idea that women do not belong in the world of sports is rooted in the perceived biological differences between males and females. The "naturalness" of a male-female binary as a social division is harmonious in mainstream society because it is our "biological inheritance" (Goffman 1977:302). From the moment people are born in Western society, people are designated roles based on being male and female. Women are raised to not partake in physically and mentally demanding tasks such as plumbing, carpentry, mining, and managerial positions. In contrast, men are raised to fulfill these



types of tasks (Goffman 1977). Society has created certain pronouns, names, titles, and appearances as instruments for distinguishing gender. These denotations are typically deemed appropriate when they can be easily recognized even at a distance. All of these gendered components work together in order to establish and maintain hard boundaries between male and female (Goffman 1977). However, there is no anatomical reason why men must refrain from wearing skirts or putting on makeup, just as there is no anatomical reason why women are prevented from dominating in leadership positions. But one must uphold masculine or feminine roles assigned to them through socialization in order to avoid deviancy. Culture, not biology, therefore, actively influences the promotion of differences between male and female (Connell 1987).

The interrelation of femininity and masculinity rests on the global dominance of men over women (Connell 1987). This lens allows researchers to explore the ways in which hegemonic masculinity may help shape an ideal form femininity. Connell (1987:183) calls this ideal femininity “emphasized femininity,” which is centered around compliance with the subordination of women and oriented towards accommodating men’s interests and desires. The relationship between hegemonic masculinity and emphasized femininity enables “the maintenance of practices that institutionalize men’s dominance over women” (Connell 1987:185). Thus, hegemonic masculinity and femininity tend to coincide. The ideal emphasized femininity institutionalized in the workforce is still visible, although perhaps less so now, on planes, in restaurants, and in company office buildings among other places. The overrepresentation of women in roles that meet and serve the public is a prime example: the roles of women who are flight attendants, servers, or secretaries are designed to display youthful, feminine beauty in a

caring, motherly manner (Goffman 1977). The patrons of these services often expect to be taken care of in a manner of emphasized femininity. These traits that are expected from women in everyday life are not seen as compatible with sports (McGann and Musto 2016; Goffman 1977).

In essence, Western society is built on the basis of male dominance and the assumption of heterosexuality, which presents a fundamental issue: what is deemed normal is not necessarily standard (Connell 1987). For example, heterosexuality is deemed the norm in society, yet there is a large gay and queer population that challenges this norm (Connell 1987). Thus, boundary maintenance, or the practice of dissuading deviance, is required in order to perpetuate emphasized femininity and masculinity, and the dominance of men over women. The designation of sports deemed more appropriate for women exemplifies the perpetuation of emphasized femininity. Different sports carry various connotations based on different kinds of force and bodily contact (McGann and Musto 2016). For example, tennis and figure skating are often seen as ladylike, while rugby and hockey are seen as violent and not ladylike (Lumpkin and Williams 1991). These kinds of attitudes about different sports are prevalent throughout the media and the sporting world. For example, the coverage of women's sports in the media indicates a preference for presenting women in sports such as golf, tennis, gymnastics, figure skating, and swimming because they can be described as elegant and graceful (Lumpkin and Williams 1991; Shifflet and Revelle 1994). In contrast, it is less appealing to see women playing sports like hockey, rugby, or wrestling (Lumpkin and Williams 1991).

Since sports are seen as incompatible with "normal" womanhood, female athletes are faced with the tension between upholding emphasized femininity and athleticism.

McGann and Musto (2016) argue that female athletes navigate this tension by overtly displaying characteristics or symbols of emphasized femininity, such as wearing jewelry, having longer hair, and wearing their hair in a stylized way that may appeal to heterosexual men. In other words, female athletes use various apologetic strategies in order to navigate the association between mannishness, sexual deviancy, and athleticism so they may participate in sport.

However, being apologetic is not the only method used to navigate the tension between emphasized femininity and athleticism. Broad (2001:198) critiques the apologetic approach and refers to it as “an assimilationist tactic of resistance” where in order to play the game, women conform to the traditional notion of femininity and heterosexuality. She argues that from a queer feminist perspective, previous research on resistance in sports fails to offer a way to explain resistance to heteronormativity. According to Broad’s (2001) account of her experience as an ethnographer on a women’s rugby team, players enacted queer resistance by changing the existing narratives and traditions in rugby to fit a gender fluid model. This was done, in part, by taking ownership of traditional men’s rugby songs and changing the lyrics, representing their love for rugby by wearing a lot of merchandise, and getting into fights with men who call them dykes or otherwise disapprove of them (Broad 2001). These examples illustrate gender fluidity because instead of supporting notions of heteronormativity and being complicit, these rugby players took ownership of their deviancy and used it to provoke the opposition to their participation in the male-dominated sport.

The traditional case of emphasized femininity is white, middle class, and heterosexual (McGann and Musto 2016, Carter-Francique and Flowers 2013,

Withycombe 2011). Emphasized femininity and apologetic strategies are stabilizers of hegemonic masculinity as well as the subordination of women (McGann and Musto 2016; Connell 1987; Broad 2001) and simultaneously marginalize other femininities based on race, sexuality, and class (McGann and Musto 2016, Carter-Francique and Flowers 2013). Historically, marginalized femininities have been concentrated in sports typically considered gender inappropriate, such as basketball, softball, or rugby. Soccer, although not traditionally deemed gender appropriate, has more recently been associated with middle class, suburban, white girls, which paved the way for the acceptance of female soccer players as just “girls next door” (McGann and Musto 2016; Kane and Maxwell 2011). On the contrary, female athletes of color are often othered further through stereotypical imagery that emphasizes the false notion that athletes of color have genetic athletic advantages (Withycombe 2011, Lumpkin and Williams 1991). Thus, the representation of certain women’s sports attempts to uphold the dominant, traditional femininity by othering sexually and racially deviant athletes.

### *The Role of Media*

People affect the media’s influence on them by making different choices (Birrell and Rintala 1984), while the media attempts to broadcast what is of interest to the public. In terms of women in sports, a cycle develops: as inequitable coverage supports the myth that women are inherently incompetent athletes, the myth goes on to justify the underrepresentation of women in sport. Within this cycle is the reproduction of young girls who, due to inequitable coverage of women’s sports, are often unaware of the existence of competent and talented female athletes. This issue in American society ultimately comes down to balancing social responsibility and economic rationality

(Birrell and Rintala 1984). For example, it would be socially responsible to feature imagery of all kinds of body types in media. However, the body types we tend to see are homogenous: fit, toned, petite women, and large, muscular men (Dworkin and Wachs 2009). Despite the overlap of women who are big and strong, and men who are small and skinny, these bodies are rarely featured anywhere. The notions of what actually sells in the media is up to the discretion of those in power. While people are fed what to believe as beautiful and handsome, they purchase and absorb this imagery, which reinforces these trends as dominant sellers. In response to this, Marxist, neo-Marxist and feminist critiques call for greater attention to be placed on the relationship between producer and message, as opposed to message and audience (Birrell and Rintala 1984). Coverage of women's sports is not equitable in terms of quantity, quality, nor to the extent of displaying strong, active, athletic abilities, but the critical issue is whether the presentation of the current lackluster interest in women's sports is considered fair treatment (Birrell and Rintala 1984).

The mass media "routinely expand the social horizons of their audiences" and provides access to symbols and images that might not be available in one's immediate environment (Birrell and Rintala 1984:232). However, the current coverage of women's sports in the media continues to send a message to audiences that women's sports are less important and less exciting (Cooky, Messner, and Musto 2015; Cronk and Theberge 1986). In a longitudinal study on sports news broadcasts, Cooky, Messner, and Musto (2015) found that network producers focused nearly every broadcast on men's sports over women's sports even though both occur daily. The attitudes of news broadcasts that did cover women's sports were characterized as "matter-of-fact, uninspiring, and lackluster"

(Cooky, Messner, and Musto 2015:263). In addition, networks also chose to cover men's sports that were not in season more often than women's in-season sports (Cooky, Messner, and Musto 2015). Broadcasts about men's sports were also found to feature anecdotes, like stories about a men's team owner, stadium food, and something a fan did during a men's game (Cooky, Messner, and Musto 2015). The time spent on seemingly irrelevant men's sports anecdotes is time taken from the much needed effort in promoting equitable coverage of women's sports.

### *Implications of Title IX*

After the Civil Rights Act of 1964 was enacted, a legal framework for judging equality came to fruition. This legal framework laid the groundwork for Title IX as a push for furthering women's rights (Pusch 2014). Because of Title IX, female participation in collegiate level sports has gone up from 30,000 in 1977 to over 180,000 in 2010 (Cooky and Lavoie 2012). Title IX states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance" (20 U.S. Code § 1681). Despite support from Title IX, however, it is clear that women's sports are still held to a higher standard when it comes to media coverage at colleges and universities. For example, Sagas et al. (2000) found that although more collegiate women's softball teams were ranked in the Top 25 than baseball teams in their sample, baseball still received more coverage and the coverage was of a higher quality. If baseball was less successful at these different schools overall than softball in terms of wins, one would expect there to be less coverage of the baseball teams than the more successful softball teams, but this is not the case.

As Goffman (1977:307) puts it, “the issue, then is not that women get less, but under what arrangement this occurs and what symbolic reading is given to the arrangement.” The mass media frames what is acceptable, expected, and desirable. It has the power to shape values and attitudes, and to expand the social horizons of their audiences (Sagas et al 2000, Birrell and Rintala 1984). Therefore, inequitable coverage of women’s sports can undermine the value and accomplishments of women in sports (Shifflet and Revelle 1994). According to Cronk and Theberge (1986:201), “the media and men’s commercial sports are engaged in a symbiotic relationship that functions largely to exclude women from the newsmaking process.” Female representation for young female athletes to emulate is diminished if the media does not adequately cover the achievements and athletic competence of women to the same extent as men (Sagas, Cunningham, Wigley and Ashley 2000). Without this proper coverage and representation of competent female athletes in the media, the myth of female docility and passivity prevails (Cronk and Theberge 1986).

#### *Google as a Research Method*

In the past, research on the coverage of women’s sports has focused on newspapers, magazines, websites, and news broadcasts from local news as well as sports shows, such as SportsCenter or ESPN (Cooky, Messner, and Musto 2015; McGann and Musto 2016; Shifflet and Revelle 1994; Wann, Schrader, Allison and McGeorge 1998; Lumpkin and Williams 1991). However, search engines such as Yahoo! and Google are an increasingly important part of daily life for many people who use the internet in order to find news and information. Unlike newspapers, magazines, websites, and news broadcasts, search engines allow users to search for the topic they are looking for

directly. In a cross national study on the purposes and accuracy of search engine users, Ahituv and Segev (2010) found that in the United States, people primarily use Google and Yahoo! for finding entertainment content. Additionally, Ahituv and Segev (2010) deemed American search engine users, specifically, as world leaders in terms of specificity and accuracy in their searches. In other words, users in the United States are able to use specific terms to get information on the exact topic they are looking for. According to Ahituv and Segev (2010), this may imply that online information in the United States is highly customized, popularized, and commercialized. Instead of sifting through newspaper content or information from a news broadcast, people can simply find information with accuracy using Google. An “accurate” search is less about the factual integrity of the information, but instead how relevant the information is to the user’s specific question or search phrase. The ability to customize information retrieval creates a “virtuous circle,” or echo-chamber (Norris 2000:10). For sports fans, the ability to customize one’s searches may also contribute to the exclusion of female athletes and women’s sports teams from sports coverage on the Internet.

However, research on how search engines present information about women’s sports has yet to be studied. It is up to Google to choose a path that reflects what people are most likely interested in so that the company continues to make money and maintains their credibility. And since it is in Google’s best interest to provide people with a search algorithm that will generate relevant results, Google can be seen as a reflection of what society at large wants to see. So how do people use Google to get information on their favorite sports teams? Does Google contribute to the exclusion of women in sports? Google Trends provides preliminary insight into these questions.



Figure 1. Google Trends: Frequency of Searches by Gender

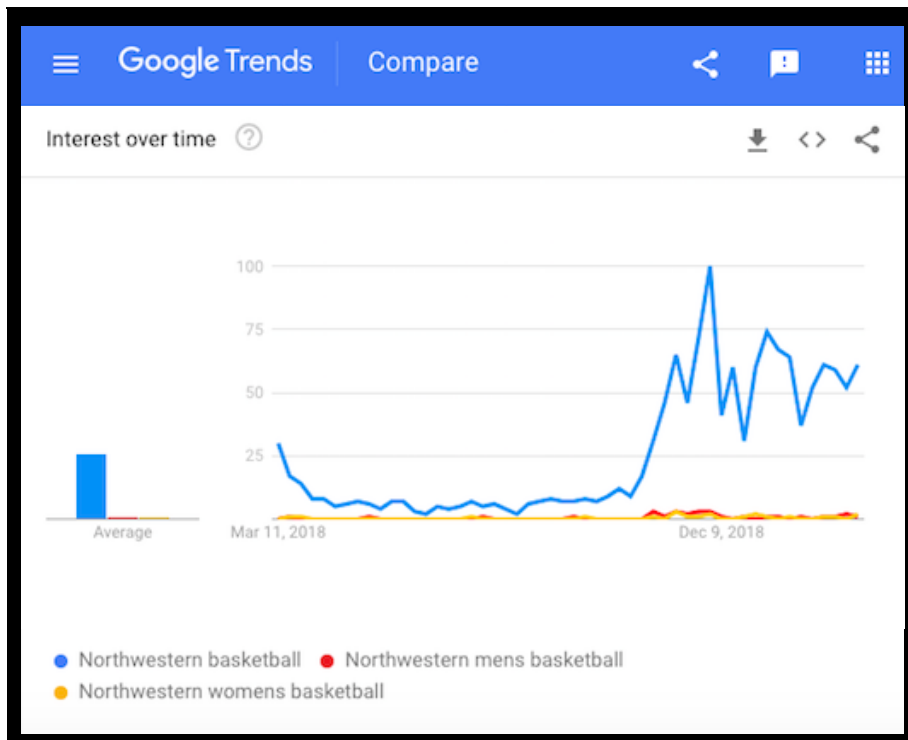


Figure 1 shows the prevalence of three Google searches over the past twelve months: 1) “Northwestern basketball” 2) “Northwestern men’s basketball” and 3) “Northwestern women’s basketball.” Throughout the year, searches for “Northwestern basketball” were more common than the other search phrases. The basketball season is indicated throughout winter 2018 and the beginning of spring 2019. Although Ahituv and Segev (2010) found that Americans tend to yield more accurate results based on their use of very specific search terms, Google Trends indicates using the school name and sport as the most frequented way of gaining information on a team as opposed to using gender specific phrasing. This study seeks to answer the following question: does Google display search results that equally pertain to both men’s and women’s soccer and basketball teams if the search phrase is gender neutral?

## METHODS

### *Sample*

Using the NCAA official website<sup>1</sup>, I obtained the names of all schools with teams of the same sport within the same division. For example, if a school had a Division II women's basketball team but a men's Division I basketball team, I excluded that school from the list. I sampled teams from each division because they illustrate different levels of competition. Division I is the most competitive, while Division III is the least competitive. From this list of schools teams with matched divisions, I randomly selected 50 schools for each sport from each division using a random list generator. My sample consisted of 300 total schools and 600 separate teams.

### *Variables*

My dependent variable is *depth*, or the distance from the top of the results to the first women's and men's links. Links were categorized as men's or women's links when they directly referenced the men's or women's teams respectively. Examples of relevant links included team websites, photos, schedules, rosters, tickets, and news stories. Depth ranged from 1 to 40 with a value of 1 indicating the first link, and a value of 40 indicating no relevant women's or men's links within the first three pages of Google results (see Table 1).

My independent variables of interest are team characteristics: *season success* and *sport* (basketball or soccer), and school characteristics: the *type of school* (private or public), whether or not there is a *football* team, and the *number of undergraduates*. Using

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<sup>1</sup> <http://www.ncaa.org/championships/statistics?division=d2>

the NCAA website, I ranked each women's and men's team in regards to the success of their season. Since soccer was out of season during data collection, I used statistics from their most recent season: Fall 2018. I ranked the seasons of soccer and basketball differently, because basketball games cannot end in a tie. For soccer, I gave each win 3 points, each tie 1 point, and 0 points for losses and then weighted their scores for the number of games played. Seasons with a score of 0.35 or less were losing, seasons between 0.36 and 0.44 were medium, and seasons 0.45 and above were deemed winning. For basketball, I calculated the percentage of games won for each team and categorized them into either "winning" (at least 65% of games won), "medium" (45% to 64% of games won), and "losing" (lower than 45% of games won). I took note of whether or not each school has a football team using the school's athletic website. Since football teams attract a lot of media attention, fandom, and revenue, the presence of a football team may overshadow coverage of basketball and soccer. I used either the U.S News Education university listings<sup>2</sup> or the school website to determine whether each school is private or public as well as the number of undergraduate students for the academic year of 2018-19.

### *Analysis*

Before beginning my analysis, I set up an incognito window and turned off the Google search history switch in my Google browser settings. This allowed me to search for teams without the results being influenced by previous searches. I chose Colorado Springs for my default location for Google searches because of its central location within the country. I decided upon a constant place because Google uses one's search location to present more relevant results. Data were collected during the basketball season,

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<sup>2</sup> <https://www.usnews.com/best-colleges>

specifically between March 5<sup>th</sup> and March 27<sup>th</sup>, encompassing the March Madness men's and women's tournaments.

Then for each school team, I googled the school using the name they provide on their athletics website and the sport (either soccer or basketball). For example, Miami University in Florida is more commonly known as "the U," and their website refers to themselves as "U Miami," so I googled "U Miami basketball," as opposed to "University of Miami basketball." When the results popped up, I counted the number of links it takes to get to the first link pertaining to the women's team and then did the same for the men's team. Most links provide a brief description of its content, so if a link seemed gender neutral or ambiguous, I was able to double check by reading the description or actually clicking the link to see if it pertained to the men's or women's team.

Each school team then received a depth ranking, for example, if the women's Northwestern soccer team had a link at the very top, it would get a depth ranking of 1. Similarly, if the first link referencing the men's Northwestern soccer team was third from the top, it would get a depth ranking of 3. Therefore the lower the depth, the more prioritized that team is on Google. Generally, after the second page or so the results remain only partially relevant to the original search phrase. For example, after two Google results pages, there may be a link to a women's basketball camp for kids that is semi relevant to the school but not actually to the women's basketball team. If the first three full Google results pages contain no women's links, then I recorded "40" as a placeholder for the women's depth. I then analyzed the effects of different school characteristics and season success on both the women's and men's depth using OLS regression in STATA statistical software. Because the data were skewed and not

normally distributed, I tried taking the log of depth. This did not make a difference in the OLS regression results, so to address the normality concerns I used the “robust” command after the regression in STATA.

## RESULTS

Table 1. Descriptive Statistics

<b>Variables</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Min</b>	<b>Max</b>
<b><i>Dependent Variables</i></b>				
Women’s Depth	7.80	10.84	1	40
Men’s Depth	1.08	0.37	1	5
Difference of Depths	6.71	10.86	-1	39
<b><i>School Chrctrstcs</i></b>				
Private	0.60	0.49	0	1
Football	0.60	0.49	0	1
Number of Undergrads	6,837.78	7,612.08	370	45,754
<b><i>Team Chrctrstcs</i></b>				
Soccer	1.5	0.50	1	2
Division	2	0.81	1	3
Women’s Season Success	1.93	0.80	1	3
Men’s Season Success	1.97	0.80	1	3

Table 1 shows descriptive statistics for the dependent variables, school characteristics and team characteristics. Compared to men’s depth, women’s depth has a higher mean (7.80), standard deviation (10.84), and maximum depth (40). The mean men’s depth in Google is slightly greater than 1 (1.08) with a standard deviation less than 1 (0.37) and a max depth of 5, indicating less variance than women’s depth. The difference of depths between men and women has a mean (6.71) just short of the

women’s depth but has the highest standard deviation (10.86) out of all other variables. Most schools are private (60%) and have football teams (60%). Within the sample, 50% of teams were soccer and 50% were basketball teams as indicated by the sport mean (1.5). The mean for division is 2 because there are 3 divisions in total. The mean for men’s season success (1.97) is slightly higher than mean season success for women (1.93), indicating that both men’s and women’s teams for soccer and basketball experience average rankings slightly below the “medium” winning category.

Figure 2 displays the frequency of depth for men’s and women’s links one through five. The frequency of men’s depth at the first link reaches 282, whereas the frequency of the women’s depth at the first link only reaches 8. At the second link, the frequency for women’s depth is 115, while the frequency for men’s depth at the second link is 13. Both men’s and women’s frequencies of depth gradually decrease for the third through the fifth link with the men’s depth frequency at 0 for all other links past the fifth link.

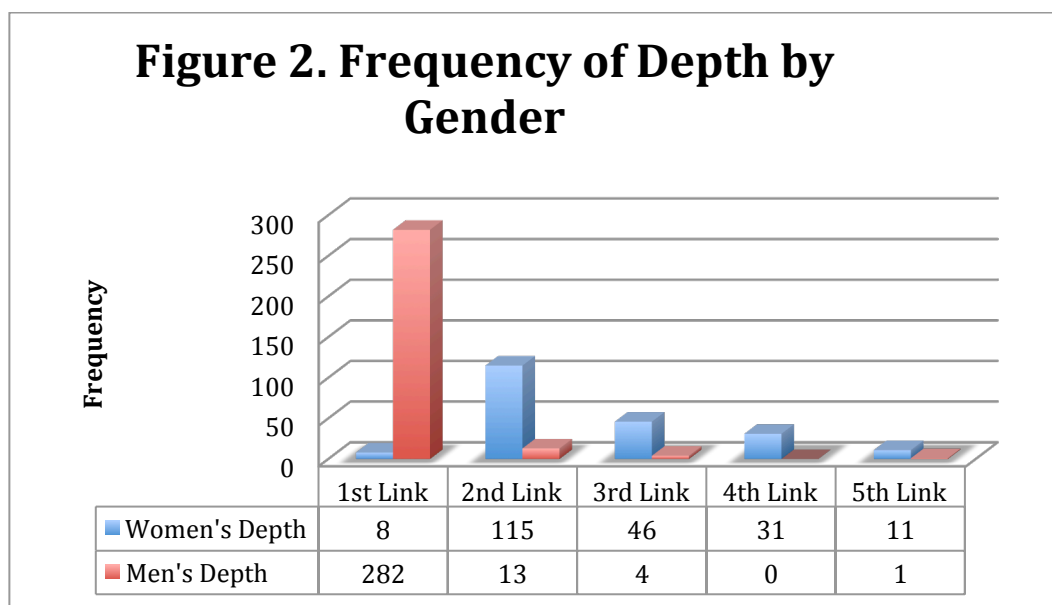


Figure 3 shows the frequency of depth for the men's and women's teams of both soccer and basketball. Figure 3 is not, however, comparing women's soccer and women's basketball or men's soccer and men's basketball. Instead, this chart illustrates the relationship between women's basketball and men's basketball as it compares to the relationship between women's soccer and men's soccer. The women's depth frequency at the first link for basketball is 0 compared to a men's depth frequency at the first link of 147. For soccer, the women's depth frequency at the first link is 8, compared to the men's depth frequency of 135. At the second link for basketball, the women's depth frequency is 40, while the men's depth frequency is 3 with 0's across the board after the second link, which shows that men's basketball links were always either the first or second link. At the second link for soccer, the women's depth frequency reaches 75, whereas the men's depth frequency is 10. In terms of depth frequencies for women's soccer and basketball, there is more variance across the first five links compared the variance in men's depth frequencies. In addition, there were no men's links for either basketball or soccer past the first five links.

**Figure 3. Frequency of Depth by Sport and Gender**

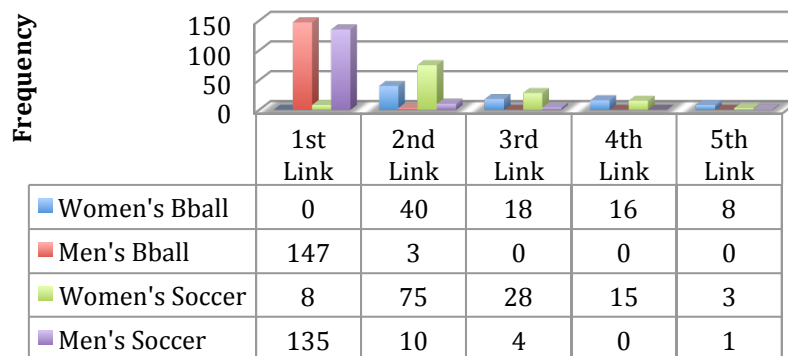


Table 2 reports the unstandardized regression coefficients from OLS regression on the women's teams using STATA statistical software. Model 1 regresses women's depth on school characteristics. In Model 1, school's division has a statistically significant effect on women's depth. Compared to being a Division I team, being a Division II or Division III team is associated with a decrease in women's depth of about 4.81 and 5.54 links respectively. In Model 1, the number of undergraduates is positively related to women's depth. For every increase in 1,000 undergraduate students, there is a statistically significant increase in women's depth by less than one link in Model 1 (0.285). Model 2 regresses women's depth on season success and sport while controlling for school characteristics. Compared to basketball, being a soccer team has a significant impact on the depth of women's links. A women's soccer team decreases the depth by 7.96 links in Model 2. In other words, when controlling for all other variables, smaller schools tend to have a smaller women's depth. In Model 2, the success of the women's season has a statistically significant effect on the depth of a women's link. Compared to a losing season, a winning women's season decreases the depth by 3.42 links. The number of undergraduates in Model 2 is also positively associated with women's depth (0.317). The R-Squared for Table 2 is pretty strong in both Model 1 (0.33) and Model 2 (0.34). After taking the season success and sport into account, about 34% percent of the variance in the depth of women's links in Google search engine results can be accounted for by Model 2.

In Table 3, we see that very little affects the depth of men's team links. The R-Squared is very weak in both Models 1 (0.059) and 2 (0.06), indicating that these models account for less than 7% of the total variance in men's depth. This may be explained by



the very small amount of variance in men's depth overall (see Figure 2). However, soccer teams, in comparison to basketball teams, have a statistically significant impact on the depth of men's links. Being a soccer team increases the men's depth in Model 1 (0.128) and Model 2 (0.130). Unlike the depth of women's links in Google search results, the success of men's seasons in Model 2 does not have a significant impact on their link placement in Google.

## DISCUSSION

The primary goal of this study was to extend previous literature on the coverage of women's athletics by analyzing the way in which Google search engine results present links to information for women's and men's collegiate teams. As Google, Yahoo!, and other search engines become daily tools for finding information in contemporary American society, it is important to look at potential systemic biases within society that are reflected in reporting information to wide audiences. Similar to previous literature on the coverage of women's athletics, the present findings point to an overarching pattern of preference for men's sports teams over women's teams (Birrell and Rintala 1984; Cronk and Therberge 1986; Cooky, Messner, and Musto 2015; Kane and Maxwell 2011; Sagas, Cunningham, Wigley and Ashley 2000; Wann, Schrader, Allison and McGeorge 1998; Lumpkin and Williams 1991; Shifflett and Revelle 1994). Analyzing the depth of Google links is informative because it provides an estimate of how important and relevant information is to a wide audience. It is in Google's best interest to return search results that are most relevant to the search phrase. However, these findings show that men's teams are disproportionately displayed at or near the top, whereas women's teams were

Table 2: OLS Regression of Women's Depth on School and Team Characteristics

	Model 1 ( $\beta$ )	Model 2 ( $\beta$ )
<i>School Characteristics</i>		
DII	-4.811** (1.545)	-4.235** (1.528)
DIII	-5.546*** (1.594)	-5.397*** (1.557)
Private	-1.277 (1.470)	-0.992 (1.498)
Number of Undergrads	0.285* (0.141)	0.317* (0.142)
Football Team	0.763 (1.060)	1.087 (1.046)
<i>Season Success</i>		
Medium Season		-1.014 (1.302)
Winning Season		-3.246**
<i>Team Characteristics</i>		
Soccer		-7.965*** (1.014)
Constant	13.733*** (2.485)	14.130*** (2.518)
Observations	300	300
$R^2$	0.3328	0.3471

Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table 3: OLS Regression of Men's Depth on School and Team Characteristics

	Model 1 ( $\beta$ )	Model 2 ( $\beta$ )
<i>School Characteristics</i>		
DII	0.073 (0.061)	0.075 (0.061)
DIII	-0.045 (0.062)	-0.042 (0.064)
Private	-0.078 (0.054)	-0.075 (0.054)
Number of Undergrads	-0.003 (0.004)	-0.003 (0.003)
Football Team	-0.032 (0.044)	-0.031 (0.045)
<i>Season's Success</i>		
Medium Season		-0.020 (0.052)
Winning Season		-0.026 (0.055)
<i>Team Characteristics</i>		
Soccer		0.130** (0.044)
Constant	1.095*** (0.083)	1.104*** (0.086)
Observations	300	300
$R^2$	0.0595	0.0603

Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

rarely at the very top and sometimes not present at all. Being at the top of Google's search results is akin to being on the cover of a magazine or newspaper—the top, or a decreased link depth, is the first visible piece of information.

There is a clear discrepancy between season success affecting women's depth and men's depth, which suggests that women's athletics are held to a higher standard than men's athletics (Cooky, Messner, and Musto 2015; Cronk and Therberge 1986; Sagas, Cunningham, Wigley and Ashley 2000). In essence, in order for women's teams to be near the top of Google, where most people confine their search for information, their seasons must be predominantly winning. Men's teams, however, were in the top five links regardless of their season across all divisions in both basketball and soccer. This reflects the notion that the accomplishments of female athletes are often underappreciated and overshadowed by male athletic discourse (Cooky, Messner, and Musto 2015; Sagas, Cunningham, Wigley and Ashley 2000). There were several instances, especially in basketball, where women's links could not be found within the first 30 to 40 links.

Division III, the least competitive division, saw the smallest depth of women's links overall. The less competitive divisions may have smaller women's depths because the more competitive divisions attract more mass media attention, as opposed to just collegiate media attention present in all divisions. In other words, at a higher level of competition, women's teams are not only competing with each other, but they are also competing with their male counterparts for more media attention from mass media outlets such as SportsCenter and ESPN. Furthermore, while football teams and the type of school were not found to significantly impact depth, future research may want to consider

the implications of women's teams being overshadowed by larger schools, especially in more competitive divisions.

A women's team in Division I experienced an increased depth despite the variance in season success. The more competitive the division, the less visible women's links were on Google, especially if their season was losing or medium in terms of overall wins. These findings align with Cronk and Theberge's (1986) argument that the media presents the world of sport as a man's world, in which women are permitted as strangers but not as part of the main agenda. If men's teams were held to the same standard of success as women's teams, we would expect losing men's teams to experience a similar increased depth in Google search results. This could potentially decrease women's team depth overall, because there would be more room for men's and women's teams to be covered equally.

Women's basketball teams and soccer teams did not receive identical treatment within Google's search engine results, which supports McGann and Musto's (2016) argument that different sports carry different meanings based on gender. In other words, certain sports, such as basketball and softball, are considered deviant for different reasons. For example, McGann and Musto (2016) argue that softball is regarded as deviant because of its associations with lesbianism, and basketball is more deviant for women because it requires explosive maneuvers, close contact, and possesses a more urban connotation. Female soccer players, on the other hand, are more associated with "girls next door" because of soccer's more aerobic nature and its association with suburban, middle class, heterosexual whiteness (McGann and Musto 2016; Withycombe, J.L. 2011; Broad, K.L. 2001; Lumpkin and Williams 1991; Carter-Francique, A.R., and

Flowers, C.L. 2013). The relationship between men's and women's soccer may be more egalitarian for these reasons. "Girls next door" are generally viewed as non threatening to emphasized femininity and hegemonic masculinity, and are thus more compatible with mainstream society (Goffman 1977; McGann and Musto 2016).

The present findings reflect a more egalitarian relationship between women's and men's soccer compared to that of women's basketball and men's basketball even though data was collected during the women's basketball season and tournament. The men's March Madness attracts a ton of media attention as well as attention from everyday individuals, especially those who fill out brackets. The culture surrounding the men's March Madness tournament includes several activities such as betting money on brackets and gathering to watch games all throughout the day in order to stay up to date on the tournament. The women's and men's collegiate basketball season and tournament happen at the same time. Yet, when controlling for all other variables, women's soccer teams had an overall decreased depth compared to women's basketball, rendering women's basketball less visible to Google users even though it was happening during data collection and soccer was not. There were only eight instances where a women's soccer team had the first link in Google, women's basketball teams were never the first link (see Figure 3). Compared to men's basketball and soccer respectively, Google's display of women's basketball is less visible than women's soccer during the basketball season, which indicates that there is less interest and value placed on women's basketball prevalent in society at large.

Representation of women belonging in the world of sport is essential for young girls to see in order to emulate inspiring female athletes. Without equitable coverage of

women's athletics, girls may not have the chance to seek role models or opportunities to explore their physical capabilities. Sports can provide a host of benefits to people young and old, such as academic scholarships, career opportunities, physical wellbeing, confidence, and social integration. These benefits should be widely available and visible to everyone— not just men and boys. By highlighting the biases reflected in search engines that are used by millions of Americans everyday, more inclusive measures, such as changing the algorithms to be contingent on season success and season timing, can be implemented in order to promote the visibility and representation of women's sports.

## CONCLUSION

Women's collegiate basketball and soccer team links were found to have an increased depth compared to men's collegiate basketball and soccer team links. Overall, men's links have a decreased depth when compared to women's depth and are exclusively within the top five links, even if their season was predominantly losing. Women's teams experienced a decreased depth if their season was winning compared to losing, and if the team was a soccer team compared to basketball, despite data being collected during the basketball season. This finding is important because it illustrates the popularity of men's basketball compared to women's basketball. Even though data were collected during basketball season, there appeared to be a more egalitarian relationship between men's and women's soccer. The overall depth of women's basketball appeared more increased than one might expect considering data was collected during the NCAA women's basketball tournament. This study furthers the current body of research because it looks specifically at Google search engine results, which is an increasingly influential

form of access to media, as it functions to provide a wide variety of information to any person with internet access. These findings suggest that there still exists a preference in society for the coverage of men's sports over women's sports as reflected by Google search engine results.

Presenting the sports world as mostly for men presents ramifications that could hurt the prospect of young girls joining sports programs. Specifically, the relative invisibility of women's basketball compared to women's soccer could potentially function as a way to keep women from playing sports that require more bodily contact and quick maneuvers like in basketball (McGann and Musto 2016). The invisibility of Google links to women's teams could be mitigated by developing measures that take season success and season timing into account. That way, the teams that are in season and doing well can experience a decreased depth as opposed to simply defaulting men's teams to the top five. This would also provide an opportunity for those unaware of how well women's team is doing to cultivate interest in more women's sports.

#### *Ideas for Further Research and Limitations*

Future researchers could extend the present study by looking at other search engines such as Bing and Yahoo! to see if different algorithms are better or worse for the visibility, or depth, of women's and men's links. Analyzing sports by collecting data only during their season or only out of their season would also benefit future research on the coverage of women's sports. Collecting data on different days is a limiting factor in this study, for some teams could have won a major game right before or right after data were collected. Another limitation was the sample size. Ideally, data on about 1,200 schools would make a sufficient random sample, but only 300 schools were analyzed due to time



constraints. The data on depth that were collected ended up being very skewed and therefore not normally distributed. Taking the log of depth did not make a difference in making the data more normal, so I used the robust command in STATA for the normality concerns. With a larger sample, this issue can potentially be resolved. The coverage of women's sports is an important area of study due to perceived equality of women in the world of sports because of Title IX. If people are unaware of the inequitable coverage of women's sports that still prevails despite Title IX, then the accomplishments of female athletes will continue to fly under the radar, inhibiting the ability of young girls to emulate their favorite female athletes and succeed in sports. Thus, further research into the coverage of women's sports is required in order to highlight inequitable narratives that still exist in the world of sports today.

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