

# Assessing Gender Inequity in Local Athletic News Coverage

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**Abstract:** The amount of sports news coverage is generally less for women compared to men. This serves to promote sports as a predominantly male enterprise, hindering female athletics participation and marketing. In addition, it dissuades young women from participating in sports activities, which can lead to many negative mental and physical health outcomes. This study compared athletic news coverage of male and female athletes in a local suburban newspaper and assessed factors that may influence coverage. All articles published in the weekly Lexington Minuteman in 2017 were manually reviewed extracting the sex of the athletes, sport-related factors (e.g., sport played), and publication-related factors (e.g., front-page status). A one-proportion z-test was performed to compare the proportion of articles covering male and female athletes; chi-square and t-test were used to compare factors associated with articles that covered males and females. The study found that 70% of sports-related articles covered male athletes, significantly more than females ( $p < 0.0001$ ). Other factors did not differ significantly by sex, including criteria for accepting articles. Although publication-related factors were similar for articles covering males and females, underrepresentation of female athletes in local newspaper coverage suggests decreased stakeholders' interest in submitting articles concerning female athletes. This may, in turn, impact female participation and interest in athletics. Improving sports consciousness needs to be addressed more widely by society to encourage female athletic participation in fitness and sports.

**Keywords:** News Coverage, Local Newspaper, Local Sports, Female Athletes

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## 1. Introduction

Historically, news coverage of female sports events and achievements lags behind those of males [1]. This discrepancy is more apparent in sports that media has portrayed as more masculine (e.g., ice hockey, football) [2]. The type and quality of coverage vary by gender with sexist language sometimes used to depict female athletes. In addition, the amount of coverage is generally less for women compared to men. This serves to promote sports as a predominantly male enterprise, hindering female athletics participation and marketing [3].

Highlighting female role models helps inspire and sustain enthusiasm for sports activities. Gender-specific influence (i.e., maternal role model) has been studied and shown to be a factor in youth physical activity in European children [4]. For female athletes, increased coverage of female sports

activities influences public interest [5]. Increasing coverage is especially influential in motivating young athletes. Furthermore, encouraging women to participate in sports activities can lead to many mental and physical health benefits [6-8]. In addition, it has been associated with increased self-esteem and improved grades in female children [6, 7, 9].

Because not a lot of work has been done towards evaluating gender-based representation in local news sources, the purpose of this study is to evaluate the sports section of a local newspaper in Lexington Massachusetts. Because of the town's progressive, egalitarian nature, we hypothesized that athletic news coverage is agnostic to sex, with an equal number of news stories over a yearlong study period. We also assessed other factors that may influence coverage, such as sport type and game outcomes.

## 2. Materials and Methods

### 2.1. Overview

This study included all sport-related articles published in the weekly *Lexington Minuteman* newspaper from January 1 to December 31, 2017. Articles were reviewed by two independent investigators after three training sessions were spent developing and standardizing coding sheets and coding protocols for the study. Relevant factors that may influence news coverage as well as outcomes were deliberated prior to the training sessions and consensus factors were included in the data collection.

### 2.2. Relevant Factors

Besides sex, we assessed sport-related variables, including sport played (e.g., basketball), group focus (team, individual, other), game outcome (win, loss, tie, no game), location (indoor/outdoor), and player type (kid/adult). These are listed in Table 1. For several articles that included multiple games in one article, we only recorded the variable corresponding to the first game described. For instance, an article covering two basketball games in the past week might include a win in the first game and a loss in the next. We only recorded a win for this article.

Table 1. Variables Collected.

Variables		Values
Sport-Related	Sport Played	Basketball, Volleyball, Football, Tennis, Golf, Track & Field, Softball, Lacrosse, Hockey, Skiing, Swimming, Field Hockey, Synchronized Skating, Fencing Sailing, Cross Country, Wrestling
	Group Focus	Team, individual, other
	Game outcome	Win, loss, tie, no game
	Location	Indoor, outdoor
	Player type	Adult, kid
Publication-related	Front page status	Yes/no
	Banner article status	Yes/no
	Presence of photo	Presence/absence
	Layout area	Square centimeter
	Number of games in a single article	Integer

The coders also assessed publication-related variables for each article, including front page status (yes/no), banner article status defined as a front page article with the largest title-font (yes/no), number of games discussed in the article (integer count), accompanying photograph or image

(present/absent), and layout area for each article (in square centimeters). A standard ruler was used to measure the area covered for each article including its corresponding title. Figure 1 illustrates how data was extracted from the *Lexington Minuteman* newspaper.



Figure 1. Data Extraction from the *Lexington Minuteman*.

### 2.3. Study Outcome

The primary outcome is the percentage of articles that cover female athletes and those that cover male athletes. Secondary outcomes include factors that are associated with coverage of female athletes compared to male athletes.

### 2.4. Communication with Newspaper Staff

We communicated with the editor of the sports section of

the *Lexington Minuteman* to determine the sources for articles included in the newspaper. In addition, we determined reasons why articles may be rejected.

### 2.5. Data Analysis

Inter-annotator agreement between the two reviewers was assessed using kappa [10]. A one proportion z-test was performed to analyze the raw proportion of male and female articles. Comparative analyses of relevant factors between

articles that cover males and females were done using chi-square for categorical variables and t-test for continuous variables. Statistical analysis was performed using R statistical software (R foundation, Vienna, Austria), with p-value less than 0.05 defined as statistically significant.

### 3. Results

#### 3.1. News Coverage

Fifty (50) editions of the sports section of Lexington Minuteman containing 200 sports-related articles, were examined by two investigators independently. Inter-annotator kappa agreement was 0.84, considered almost perfect [10]. There were 103 strictly male articles, 52 strictly female articles, and 45 other articles containing both sexes. Given the

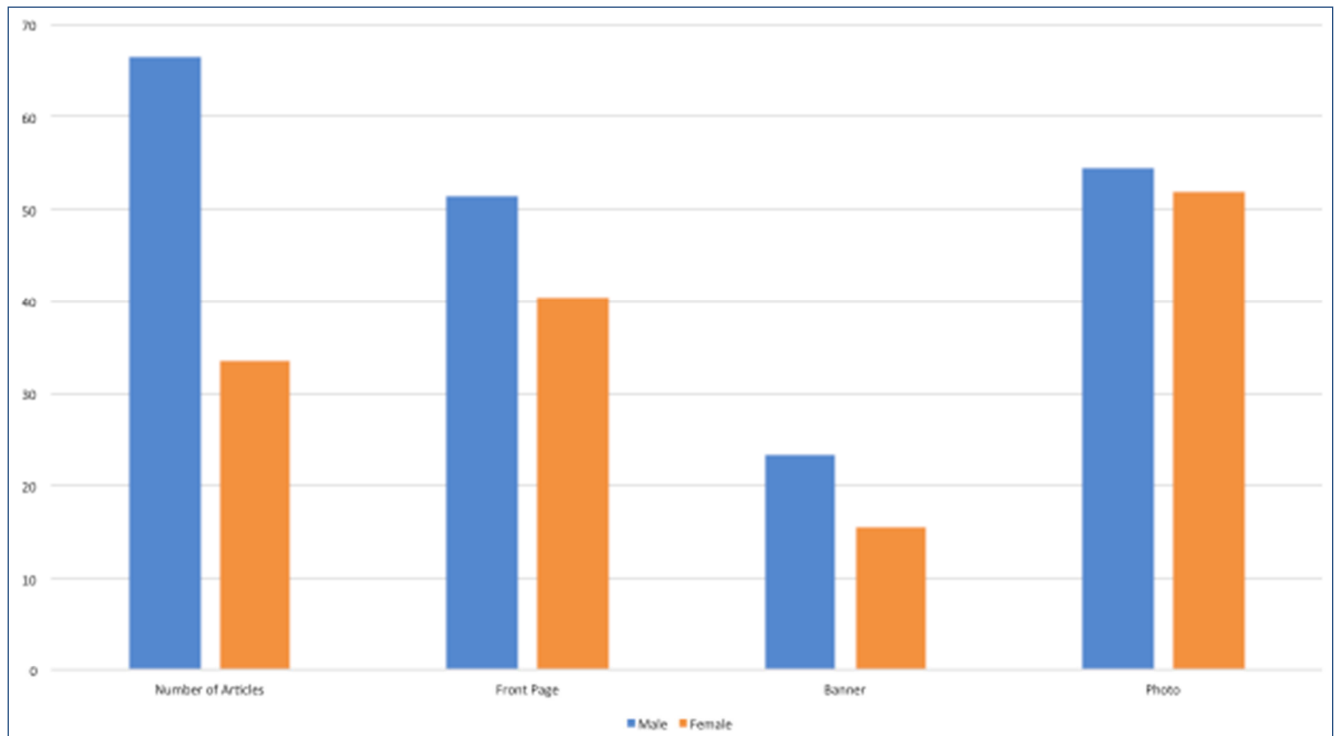
approximately equal opportunities for both genders to participate in sports (20 sports for males, 16 sports for females), the expected representation of each gender in the sports section of the newspapers was 50% each. Performing a one proportion z-test among strictly sex-delineated articles suggested that male representation was significantly higher than female representation: male proportion = 0.70, female proportion = 0.30, z-score = 4.98,  $p < 0.0001$ . The mean layout area covered by text of the article for males and females were not significantly different ( $386 \text{ cm}^2$  vs.  $329 \text{ cm}^2$ ,  $p = 0.16$  by t-test). Categorical variables such as banner article status, front page status, inclusion of photograph(s), game outcome, and article focus did not differ significantly by sex using chi-square tests (Table 2). Of note, 89% of sports articles featured children.

*Table 2. Distribution of Variables between Articles Covering Male and Female Athletes.*

VARIABLE	MALE (n=103) (proportion)	FEMALE (n=52) (proportion)	p-value
Article focus (team, individual, other)	Team = 0.84, Individual = 0.10, Other = 0.06	Team = 0.86, Individual = 0.04, Other = 0.10	0.32*
Game outcome (win, loss, tie, no game)	Win = 0.49, Loss = 0.20, Tie = 0.00, No game = 0.31	Win = 0.48, Loss = 0.25, Tie = 0.02, No game = 0.25	0.43*
Front page status	Front page = 0.51	Front page = 0.44	0.50*
Banner article status (front page article with the largest title-font)	Banner = 0.23	Banner = 0.15	0.35*
Presence of photo	Photo = 0.54	Photo = 0.52	0.91*
Layout area	$386 \text{ cm}^2$	$329 \text{ cm}^2$	0.16*

\*not statistically significant.

Figure 2 illustrates the distribution of publication-related variables between male and female athletes, highlighting more articles featuring males.



*Figure 2. Publication-Related Variables featuring Male and Female Athletes.*

### 3.2. Other Factors Associated with News Coverage

There are 20 sports available for males, and 16 sports for females. The covered sport activities solely for male athletes included football, baseball, golf and wrestling. There were no covered sport activities that only included female athletes. Coverage of adult sport activities included those for adult males playing softball. No coverage was available for sport activities involving adult women. All other sports news covered children.

### 3.3. News Sources

Sources for submitted articles include write-ups from news reports sent in by coaches, team managers, team captains, athletes, and parents directed to the sports section of the newspaper. Approximately 95% of articles sent in are accepted and published in the sports section of the newspaper, with the main criterion for rejection (remaining 5%) being lack of relevance to the town of Lexington or its residents. Articles are also rejected if they are not submitted by the deadline for submission.

## 4. Discussion

### 4.1. Coverage of Female Versus Male Athletes

A significant majority (70%) of sports-related articles in the local newspaper covered male athletes, a disadvantage for female athletes. This finding is consistent with many other studies looking at news coverage of athletes by gender in students as well as adults. It is also consistent with other news outlets, including television and electronic outlets i.e. internet [11]. The sports editor noted that only 5% of newspaper articles were rejected in 2017, agnostic to gender. We calculated that even if the 5% rejected articles were all-female, publishing them would not abrogate the disparity in coverage of females compared to males we uncovered.

The only inequity found between sexes is the discrepancy in the number of articles published during the study period. All the other editorial based factors (e.g., layout area, front page status) were similar without a significant difference between articles covering males and females. This finding suggests that the newspaper *Lexington Minuteman* did not favor either sex when an article is published. Therefore, we posit that more stories covering female sports needs to be submitted by parents, coaches, and athletes to increase the percentage of articles covering female athletes and sporting activities in this local paper.

Although we did not assess the quality of photographs, we noted that the proportion of accompanying photographs were not significantly different in articles covering male and female athletes. This is contrary to a previous large study demonstrating that female athletes were more likely to be represented visually in images [11]. We found that approximately half of the articles covering male and female athletes in this newspaper had accompanying photographs.

Overall, there are less articles that cover female athletes.

Under-representation generally causes spectators to perceive female sports as less prominent with less competitive appeal. Increasing news coverage of female sports activities may augment the image of female sports [12]. We believe the supposition that increasing local female coverage strengthens fan identification, building enthusiasm for becoming participants, spectators, and consumers of female athletics.

### 4.2. Importance of Sports News Coverage and Sports Consciousness

Multiple studies have looked at social factors influencing participation in sports, including culturally determined characteristics [13, 14]. These factors include favoring sports that are popular and fashionable [14]. In order to nurture sport expertise, cultural influences and environmental factors need to be addressed for young athletes to succeed [15].

Promoting fitness and sports consciousness involve strengthening the public's awareness of sporting activities through news media and other communication tools, such as blogs, online fitness and sports videos, and other online platforms [16]. In addition, the development of fitness and sports organizations can be encouraged, [17, 18] so they can hold more fitness and sports activities and competitions that the public would like to see [19, 20].

Other professional organizations that promote exercise and nutrition sciences also need to focus their efforts on promoting fitness and sports for diverse audiences [21, 22]. Sports involving women athletes can be popularized, such as synchronized swimming, rhythmic gymnastics, and cheerleading. In addition, trainers and role models need to include female athletes to encourage female participation and engagement [23, 24]. A recent study emphasized that female athletes appeared to be more comfortable when provided care by a same-sex athletic trainer. Thus, it may be necessary to have athletic trainers of both sexes accessible to athletes in any sport activity.

Early coaching and parental support can significantly influence the ability of athletes to engage in high quality training. While young, however, children are encouraged by parents to participate in sports simply by initiating sport involvement in any sport [15]. For the child athlete, the emphasis in these early years include having fun and enjoying learning the basics skills. This is the stage where children can be made more aware of varied choices for sport and fitness activities.

Improving sports consciousness needs to be a joint effort by the society as a whole [16], in order to drive more people to participate in fitness and sports. Because sports are increasingly becoming an organized activity, societal importance in promoting fitness and sports is important for promoting individual and public health [8, 25-27].

### 4.3. Study Limitations

This is a retrospective study of a local suburban newspaper. Results may not generalize to other geographical areas and

more urban settings. We also did not address quality of news coverage, focusing primarily on quantity of articles that pertain to both sexes.

## 5. Conclusion

Coverage of female athletes are underrepresented in the sports section of the local Lexington Minuteman newspaper. All the other editorial based factors (e.g., layout area, front page status) did not differ significantly between articles covering males and females. This suggests that the editorial staff did not favor either sex once an article is submitted for publication to the newspaper. Thus, within the context of the paper featuring local sports stories being promoted by organizers, coaches, and parents, we conclude that barriers to news coverage of female athletes may include an imbalance of stakeholders' interest in submitting relevant articles and corresponding photographs.

Having less coverage of female athletes may impact young girls' participation and interest in athletics. Under-representation generally causes readers to perceive those female sports as less prominent and/or with less competitive appeal. Less coverage also translates to fewer opportunities for readers to be aware of varied choices for sport and fitness activities or to be inspired by sports feats and achievements, not just in activities traditionally dominated by males but also for activities more prominently involving women athletes, such as synchronized swimming.

Promoting fitness and sports consciousness involve strengthening the public's awareness of sporting activities through news media and other communication tools. Strengthening sports consciousness, especially sports involving women athletes, may encourage more participation and engagement. As sports consciousness is increased in women, athletic organizers can focus their efforts on promoting fitness and sports for more diverse audiences. Encouraging female athletic participation in fitness and sports is critical in delivering many mental and physical health effects [8, 25-27], which provide benefit not only for individuals but also for public health.

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