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TIME TRENDS IN PRINTED NEWS COVERAGE OF FEMALE SUBJECTS, 1880–2008

Eran Shor, Arnout van de Rijt, Charles Ward, Aharon Blank-Gomel, and Steven Skiena

Former studies have suggested that female subjects are substantially underrepresented in most media. However, no study has systematically investigated historical trends in women's coverage over the last century. We use data collected by the Lydia text analysis system to assess the development in the coverage of female subjects in 13 daily newspapers, dating back to 1880. Our trend analysis shows that female subjects' representation has remained relatively low throughout modern history. Following a temporary rise during the 1930s, it declined until the 1960s, and then showed a modest uptake in recent decades. The data further demonstrate that no newspaper section comes even close to equality between male and female names.

KEYWORDS gender; inequality; media coverage; news; press; time trends; women

Introduction

Over the last few decades, women's representation in the media has been examined by a myriad of studies. Alongside evidence for stereotypical and often sexualized and demeaning depictions (e.g. Lester and Dente Ross 2003; Fiske 1996; van Zoonen 1988; Tuchman 1979), studies have also suggested that women are substantially underrepresented in the media in general and in the written press specifically (e.g. Davis 1982; Potter 1985; Greenwald 1990; Zoch and Turk 1998; Duncan, Messner, and Williams 1991). Many have suggested that such "symbolic annihilation" (Tuchman 1978) poses a serious problem for the way news media report on daily life and plays a significant role in maintaining the gendered balance of power (De Swert and Hooghe 2010). Furthermore, recent studies have suggested that the quantity and saliency of the coverage may matter even more than the content of the coverage. This is because mass audiences are thought to be more influenced by media signals than by content (Andrews and Caren 2010; Mazur 2009).

Yet, while the importance of gender inequities in news reporting is well-recognized, empirical evidence on the media coverage of women is fragmented and incomplete, both across time and across news domains (business, sports, etc.). How did women's coverage change over the last century? Has there been constant growth in women's share of the news, or can we find periodical ebbs and flows? Has the coverage of female subjects in the media grown since the 1960s, following the rise of women's movements and the growing participation of women in the workforce? Is it still growing today? And, have female names outnumbered male names in some news domains, such as entertainment, or have men always dominated the news across the

board? No former study has provided continuous large-scale historical evidence to answer such questions.

To explore these questions, we employ a newly developed methodology, using data collected by the Lydia text analysis system (Bautin, Vijayarenu, and Skiena 2008; Bautin et al. 2010). This computerized system performs named entity recognition, classification, and analysis of text corpora. Using Lydia we were able to collect and analyze extensive amounts of data on the historical coverage rates of female and male names in the *New York Times* since 1880, in *Time Magazine* since 1920, and in 13 national daily US newspapers since 1982. We present time trends for these various outlets, breaking them down by newspaper section, and discuss the developments that have occurred in female names' coverage over the last 130 years.

Former Empirical Research on Females' Newspaper Coverage

Over the last 40 years, a host of media studies have examined women's representation in the press (Len-Rios et al. 2005; Rodgers and Thorson 2003; Zoch and Turk 1998; Kahn and Goldenberg 1991; Armstrong 2004; Jolliffe 1989). Some studies have examined the entire newspaper (Len-Rios et al. 2005; Davis 1982; Gallagher 2010), while others have focused on the newspapers' front pages (Gibbons 2000; Potter 1985; Zoch and Turk 1998), news photographs (Blackwood 1983; Miller 1975; Rodgers and Thorson 2000), the business section (Greenwald 1990), or the sports section (Duncan, Messner, and Williams 1991; Huggins 1997). The findings of these studies are remarkably similar: They all report substantial underrepresentation of female subjects.

One notable disadvantage of the above studies is their adoption of a cross-sectional rather than a longitudinal methodology, typically examining one or more newspapers over a relatively short time period (usually ranging from a few days to a year). This approach, while useful in documenting gendered coverage at a specific time-period, fails to provide a full picture of the historical developments in media representation of women over the last century. Since these studies looked at a wide variety of newspapers and used a host of different methodological approaches, it is also hard to conduct a systematic cross-study review and compare the results of publications from different periods. It is thus hard to construct a reliable picture of the time trends in women's coverage.

Notable exceptions to the static character of past empirical work come from two studies conducted in the early 1980s, and by a third ongoing project. First, Cancian and Ross (1981) examined the relationship between media coverage of women and the women's movement in the annual editions of the *New York Times Subject Index* and of the *Reader's Guide*. Their findings show that the coverage of the categories "woman" and "women" in this newspaper was low until about 1908, soared quite substantially during the second decade of the twentieth century, but consequently began a long process of decline, culminating in the 1950s and 1960s. The second study that adopted a longitudinal methodology was conducted by Potter (1985), who examined the front pages of five US "elite" newspapers (*New York Times*, *Chicago Tribune*, *Atlanta Constitution*, *Miami Herald*, and *Christian Science Monitor*) for two weeks in each of the years 1913, 1933, 1963, and 1983. Contrary to his expectations, Potter found that the number of stories with female subjects as the main character had been steadily declining over the years.

While these two studies constitute an important landmark, both suffered from methodological limitations. Cancian and Ross's study examined only the subject index of the *New York Times* and relied on a loosely defined and shifting categorization of "women". Potter's analysis adopted wide time intervals (20–30 years), potentially obscuring the more nuanced developments that occurred between these years. Furthermore, both studies were conducted more than 25 years ago and leave open the question of what has happened to female subjects' coverage over the last three decades.

Some of these problems are rectified by a third research endeavor—the most extensive study on gender in the media to date—the Global Media Monitoring Project (GMMP) (Gallagher 2010, 2005; Spears and Seydegart 2000). This collective enterprise has been assembling data globally (in more than 100 countries) on the gender distribution of both subjects and producers of news. The GMMP monitored the coverage of multiple media sources (including television, radio, and newspapers) during a single day in each of the years 1995, 2000, 2005, and 2009. It reports an ongoing yet moderate increase in women's share of the global news: 17, 18, 21, and 24 in 1995, 2000, 2005, and 2009, respectively. However, in North America (the United States and Canada), the change for the above-mentioned years has been quite minimal: 27, 25, 26, and 28 percent.

The GMMP presents a reliable picture of recent trends and provides invaluable global statistics. However, a number of issues remain more problematic. First, while the projects' methodology is quite rigorous, the data is collected during only one day every five years. This methodological choice, while reasonable given the great logistical challenges involved, renders the data highly susceptible to unusual news events and occurrences, which are not necessarily gender-neutral.¹ A second limitation of the GMMP has to do with the fact that it only began in 1995. Therefore the larger historical trends in press coverage discussed earlier remain in question. In the current study we present consistent data on tendencies in gender coverage over the last 130 years. We employ a unique and innovative methodology and examine female subjects' coverage in English-language newspapers over the last 130 years.

Finally, most former studies pooled all names irrespective of context, leaving open the possibility that men's persistent domination in some areas, such as sports and crime, may have masked significant increases in women's representation in other areas, such as business and politics. In addition to looking at overall time trends, we also examine the differences between various newspaper sections—news, business, entertainment, and sports—and assess the time trends within each of these sections.

Data and Analysis

Our data come from English-language newspapers and magazines that were scanned for person names by the Lydia text analysis system (for details see Bautin, Vijayarenu, and Skiena 2008; Godbole, Srinivasaiah, and Skiena 2007; Bautin et al. 2010; van de Rijt et al. 2013). Lydia performs named entity recognition, classification, and analysis of text corpora. A named entity can be generally thought of as a proper noun: most commonly a person, a place, or an organization. Lydia employs natural language processing (NLP) to reduce text streams to time-series data on the news volume associated with each entity and on the juxtapositions of entities in sentences, articles, and newspapers with other news entities.

We present longitudinal data collected by Lydia over the last 130 years. More specifically, we analyze data from the *New York Times* since 1880, from *Time Magazine* since 1920, and from 13 national newspapers, which have made scanned articles available on the internet since 1982. Our *New York Times* data set consists of short snippets (one or two sentences) from the beginning of all articles on *each* day from 1880 until present, with comprehensive full-text articles beginning in 1981. Similar combinations of snippets and full text were acquired from 13 national newspapers—*Anchorage Daily News*, *The Boston Globe*, *Dayton Daily News*, *Detroit Free Press*, *New York Daily News*, *Rocky Mountain News*, *Star Tribune*, *The Oregonian*, *The Plain Dealer*, *The Press Enterprise*, *Times Leader*, *The New York Times*, and *The Washington Post*.

Taken together, these sources comprise nearly 25 million articles and snippets, with more than 50 million references to more than 5 million distinct entities classified as person-names, for which we were able to assess the person's sex with high reliability, following Anaphora Resolution (see below). The majority of this data consists of full-text articles from the 13 major newspapers. Thus, our dataset is quite dense: it consists of thousands of entity references per month until the 1980s, when it increases to tens (or hundreds) of thousands of entity references per month. More specifically, for the *New York Times* we looked on average at 158,193 person-names per year and for the combined data from the 13 daily newspapers we had on average 1,392,532 person-names per year.

Distinguishing Male and Female Names in Lydia

Names are first marked up in the Lydia NLP pipeline based on a technique which involves lists of first names and surnames, grammatical information (part of speech tagging), and machine learning applied to the context of the entity. Anaphora Resolution (Lappin and Leass 1994; Mitkov 2002) then attempts to resolve multiple ways of referencing the same entity. For example, an article which refers to John Smith and later on to a Mr. Smith, will resolve the latter to the former. In order to differentiate between male and female names in our news corpus, we used the most recent US Census data (2000) on male and female first names. This list gives 1219 male first names and 4275 female first names. Furthermore, it covers a more or less equivalent fraction of both males and females in the US population (about 90 percent for each). For the much older *New York Times* data, we also added to the list names from samples of publicly available censuses from 1930 and before, which slightly improved the quality of name-recognition in these older sources.

In cases where the less common sex for a given name occurred more than 10 percent of the time (e.g. when a typically male name was also used in more than 10 percent of the cases as a female name), the name was categorized as sex-ambiguous and excluded from all the reported analyses. It is unclear whether these names significantly differ from the overall sex ratio, but we have little evidence to suggest a major bias. Although sex-ambiguous names have become significantly more popular in recent years, they still make up less than 4 percent of all names and their inclusion could not have changed our results substantially. Similarly, names which did not appear in any census source were removed from our analysis. The majority of these unknown names were, in fact, NLP artifacts (e.g. misspelled names or non-name entities misclassified as names), along with a small number of rare foreign names. Table 1 presents a random sample of

TABLE 1

A random sample of 100 names and the way they were sex-classified by the Lydia system using Anaphora Resolution

Male	Male (continued)	Female (continued)	Sex-ambiguous
Anthony Arnold Holds	Michael Chan	Carolyn Robinowitz	Chris Dodds
Austin Feistl	Michael Sookiayak	Charmaine Harvey	Chris Yon
Brad Wiesley	Michael Tabor	Chelsie McGorry	Devin Logan
Brandon Henson	Miles Fairchild	Claire Sutton	Lee Thomas
Brandon McEndaffer	Miles Kane	Denise Doherty	Robin Samuelsen
Brett Backwell	Mitch Farrington	Diane Best	Tracy Corbett
Curtis Staley	Nathan Colbert	Eileen Wong	Tracy L.
Daniel A. Lashof	Nicholas Utpfall	Elizabeth Teeter	
Don Moseman	Patrick Kilduff	Esther D. Halvorson	<i>Unknown</i>
Donald H. Catlin	Paul Mancino	Ethel Darline Naus	Ah Yin Eng
Doug Stenger	Peter Saraf	Gail Conti	Force Peter Teets
Edward N. Heath	Preston Falls	Gina Binkley	High Leg Kick
Frank Doucette	Raymond Isherwood	Joyce Cashman	Jylmarie Kintz
Harry Towns	Raymond Miller	Judith Wartels	Marino Salas
Jacques Cesaire	Robert A. Mulligan	Lacey Andresen	Ranjit Walia
James Ciccolini	Robert Abelson	Linda Leis	Ritch Price
Jeff Garlin	Robert W. Geyer	Melissa McCoy-Garziona	Shoehorn Michael Conley
			Wease Day
John Michael Wallace	Scott Holliday	Michelle Dohm	
Jonathan Lephass	Thomas DeMartino	Pamela Mondo	
Jonathan Marvel	Todd Stottlemire	Phyllis Wade	
Joseph Faretra	Tony Iniguez	Rachel Belanger	
Julio Aleman	Vincenzo Romeo	Rachel Rush	
Kevin Undershute	Xavier R. Donaldson	Ryann Richardson	
Margarito Brito		Sarah Walter	
Mark Colwell	<i>Female</i>	Sarah Wetherill Okumura	
Martin Devaney	Abby Wagner	Susan Relland	
Matt Gorski	Barbara O'Regan	Valerie Barnes	
Maurice Higgins	Beverly Stripling	Victoria Lloyd	
Michael Bloomquist	Bonnie Featherstone		

100 names from our analysis and demonstrates the way these were classified as “male”, “female”, “sex-ambiguous”, or “unknown”.²

Findings

We present the main findings of our study in Figures 1 and 2. Figure 1 shows the general trends in mentions of female subjects’ (as a fraction of all person-mentions) in the *New York Times*³ since 1880 and the same trends broken down by four major sections—news, business, entertainment, and sports.⁴ Figure 2 shows the overall and section-specific trends for our sample of 13 national newspapers, for the years 1982–2008. Examining these two figures one may notice that the overall coverage rate of female subjects in the media has been low throughout the years. Consistent with the findings of former smaller-scale and anecdotal research, male subjects have always received at least three times more coverage space than female subjects, and throughout most of the twentieth century rates were actually closer to six or seven times more in favor of males. Even with the progress

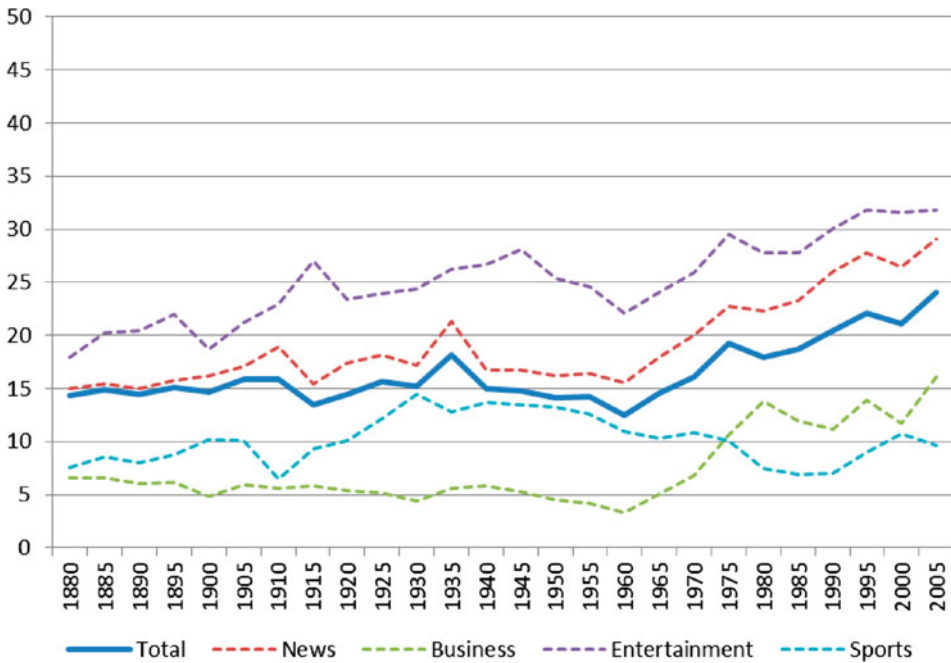


FIGURE 1

Trends in the percentage of female subjects in the *New York Times* by section, 1880–2005

made in recent decades, females still remain significantly underrepresented in the written press and are not nearing equality.

Looking at the historical trend, we show that, as suggested by previous small-scale studies (Potter 1985; Cancian and Ross 1981), there was indeed a tendency towards a declining ratio of female subjects' coverage up to the early 1960s. For many years female names constituted about 15 percent of the total number of mentions in the *New York Times*, with a slight and temporary increase during the 1930s and a low of about 12–13 percent at the beginning of the 1960s. However, unlike previous studies that have suggested a continued decline into the mid-1980s (Potter 1985), female subjects' coverage after the 1960s grew quite substantially over the last few decades. Coverage has increased quite consistently and has reached an all-time peak of nearly 25 percent of all coverage in 2005. This overall trend is also evident in the 13 national newspapers (Figure 2), showing a gradual increase in female representation to about 27 percent in 2008.

Breaking down the press coverage by newspaper section (using a statistical classifier) reveals a number of additional tendencies. While the overall picture does not change (in all newspapers, in all sections, and for all years female subjects are underrepresented), in some sections female subjects' coverage is higher and trends are not uniform across all sections. The average coverage rate of female subjects in the *news section* and the yearly trends in this coverage rate are quite similar to overall newspaper coverage and trends. Consistent with the findings of previous studies (e.g. Davis 1982; Greenwald 1990), our study shows that female subjects' coverage in the *business sections* of newspapers is especially low. However, there has been an impressive growth since the late 1960s, from less than 5 percent to almost 15 percent in the *New York Times* and to about 20 percent in the 13 national newspapers.

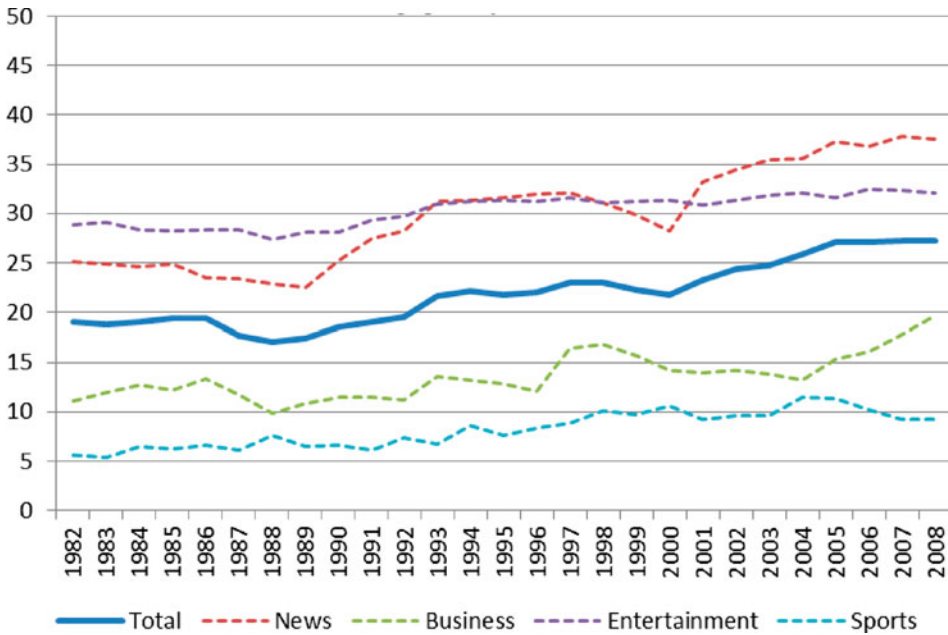


FIGURE 2

Trends in the percentage of female subjects appearing in 13 US national newspapers by section, 1982–2008. Newspapers included in the analysis: *Anchorage Daily News*, *The Boston Globe*, *Dayton Daily News*, *Detroit Free Press*, *New York Daily News*, *Rocky Mountain News*, *Star Tribune*, *The Oregonian*, *The Plain Dealer*, *The Press Enterprise*, *Times Leader*, *The New York Times*, and *The Washington Post*

Also consistent with the findings of previous research (Len-Rios et al. 2005), we found the highest rate of female subjects’ coverage in *entertainment articles*. In the *New York Times* the ratio of female subjects’ coverage has increased since the end of the nineteenth century, from about 18 percent of all individual references in 1880 to over 30 percent in the twenty-first century. However, Figure 2 shows that in the daily newspapers the rate of female subjects’ coverage was always around 30 percent and has remained stagnant at that level since the early 1990s.

Finally, female subjects’ coverage in the *sports section* over the years has been especially low. However, unlike the coverage in the business section, the trends in sports coverage over the last few decades are not at all encouraging. After a low of about 7 percent in 1910, female subjects’ coverage in the *New York Times* surged in the early 1920s and reached a peak of almost 15 percent in the early 1930s. However, following this peak the coverage of females in the sports pages has slowly declined and today less than 10 percent of all individuals mentioned in the sports section are females. These findings clearly show that the 1972 Title IX legislation, which many had hoped would revolutionize the coverage of women’s sports, had in fact no visible effect on this coverage.

To examine which specific sports are most responsible for reversing (or hindering) the progress in the press coverage of female subjects we broke down the coverage by individual sports. Figure 3 shows the juxtapositions of female subjects’ coverage rates with specific sports for the 13 newspapers examined since 1982. This figure reveals that in

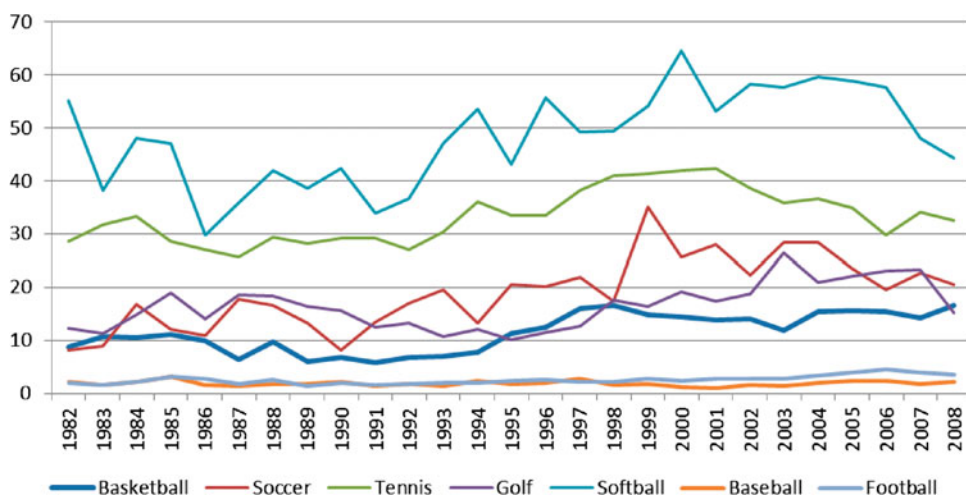


FIGURE 3

Trends in the percentage of female subjects appearing in 13 US national newspapers' sports sections by type of sport, 1982–2008. Newspapers included in the analysis: *Anchorage Daily News*, *The Boston Globe*, *Dayton Daily News*, *Detroit Free Press*, *New York Daily News*, *Rocky Mountain News*, *Star Tribune*, *The Oregonian*, *The Plain Dealer*, *The Press Enterprise*, *Times Leader*, *The New York Times*, and *The Washington Post*

professional and highly commercialized sports such as football and baseball female subjects' coverage has been very low (less than 5 percent) throughout the years. Since these sports dominate media coverage, this stagnation can partly explain why women's share of the total sports coverage remains very low. Coverage is somewhat higher in basketball and in soccer, especially right before and following the foundation of the Women's National Basketball Association (WNBA) in April 1996, and the Women's United Soccer Association (WUSA) in February 2000.

In the two individual sports examined—golf and especially tennis—female subjects enjoy relatively higher rates of coverage, although their press coverage is still substantially overshadowed by that of men. In both sports female subjects' share of the total coverage picked up during the early 1990s and reached its peak during the early 2000s. However, in both golf and tennis (as well as in soccer) female subjects' relative share of the coverage has been dropping over the last few years. This tendency of decline is also evident in the coverage of softball—the one sport in our list where female subjects briefly had a coverage share that was over 50 percent. Even in a sport clearly dominated by female players such as softball, the majority of the coverage during many of the years went to males.

Conclusion and Discussion

We examined female subjects' media coverage (overall and by newspaper section) over the last 130 years. The data we have presented corroborate and expand trend evidence from earlier studies on the coverage of female subjects (e.g. Len-Rios et al. 2005;

Davis 1982; Potter 1985; Cancian and Ross 1981; Gallagher 2010). Throughout modern history, female subjects have been substantially underrepresented in their press coverage and the coverage remains notably low even in recent decades. Male names continue to dominate every single section of leading American newspapers, and female names remain far less visible to the public eye. Our data do show a marked improvement since the 1960s. However, in recent years this gradual increase in female subjects' representation is showing signs of slowing down. Future studies will determine whether this is only a temporary bump on the way up, or whether, female subjects' newspaper coverage has reached a "paper ceiling".

This persistent gap, some may argue is not very surprising in a world where men remain dominant in virtually every domain. However, looking at various social spheres, we seem to find much more impressive progress toward greater equality between men and women over the last 50 years. In higher education, for example, the gender gap has been reversed (Goldin, Katz, and Kuziemko 2006). Women, who 40 years ago were still only about 40 percent of college students in North America, are today a clear majority, close to 60 percent of all students (Perry 2009). They dominate all degrees (Bachelor's, Master's and Doctor's) and often do better than their male counterparts (Lewin 2006; Ganguli Prokopovych, Hausmann, and Viarengo 2011). Furthermore, women's presence in some formerly male-dominated professions has increased dramatically. For example, in 1960 women were only 6 percent of those receiving MDs, 3 percent of those receiving a law degree, and 4 percent of those receiving an MBA. By 2007 the percent of women receiving each of these degrees had soared to 49, 47, and 43, respectively (England 2010).

In other important social and public realms women have not been able to close the gender gap, but have made substantial strides toward greater equality. Women's workplace participation has dramatically increased over the last century, resulting in much greater visibility in the public sphere (Goldin 2006; England 2010). Women's labor force participation rate in North America has grown from slightly over 30 percent in 1950 to about 60 percent in 2007, while men's labor participation rate declined from almost 90 percent to less than 75 percent during the same time period (Bureau of Labor Statistics 2007). The gender gaps in wages in the United States have also been narrowing over the last few decades (Bernhardt, Morris, and Handcock 1995), from a 0.60 ratio of female-to-male earnings in 1980 to a ratio of about 0.77 in 2008 (Drago and Williams 2010).

Finally, and perhaps most relevant to the current study, even in terms of their presence in some media women have been able to make remarkable progress over the last few decades. Michel et al. (2011) examined 4 percent of all books printed between 1800 and 2000. Their analysis shows that while the term "women" was dominated by the term "men" by a ratio of 8 to 1 for most of the nineteenth century), by the mid-1980s "women" in fact *surpassed* "men" in terms of the total number of mentions in books.

It is therefore particularly striking that with women's growing participation in the public sphere and the progress they have made in various social realms and certain media, we find such moderate progress in the written press. One reason for this underwhelming uptake may be the male dominance in the production of news (Hartley 1988; Ross and Carter 2011). This remains the case even with the substantial increase in female participation in journalism (Carter, Branston, and Allan 1998; ASNE 2011; IWMF 2011). Various scholars have argued that males and females differ in their propensity to cover female subjects, both as reporters (Mills 1985; Armstrong 2004; Gallagher 2010) and as editors (Anderson 1988; Smith and Wright 1998). However, most empirical research has

found that the gender of the reporter had moderate to no effect on gendered coverage patterns (Craft and Wanta 2004; Joliffie and Cartlett 1994; Splichal and Garrison 1995). These findings suggest that structural factors, such as reliance on hegemonic journalistic practices and traditional patterns of coverage (Bourdieu 1998), might play a more significant role in coverage patterns than individual factors. Furthermore, we suspect that much of the stability in coverage inequality has to do with the fact that women remain a small minority among those who regularly make the news. The top politicians, athletes, performers, business-people, professionals, criminals, and authors who draw public attention on a daily basis continue to be overwhelmingly male.

The case of sports is especially revealing in this regard. Despite women's struggle for greater equality, and despite legislation that seemed to have the potential to generate positive change (Title IX), the very low rate of press coverage dedicated to women's sports has hardly budged in recent decades. This state of affairs demonstrates that progress in women's representation is by no means deterministic. At least in some fields, structural, ideological, and cultural constraints are deeply entrenched and seem almost impenetrable. The advocacy of feminists and social scientists (Brake and Catlin 1996) for greater attention to women's athletics have not yet succeeded at improving female subjects' coverage.

Study Limitations and Directions for Future Research

As noted above, our unique methodology makes this study the first to provide an extensive and systematic historical analysis of the coverage by sex in the printed press. That said, an important limitation of our methodology should be acknowledged: our data does not allow us to detect the specific ways in which women are portrayed or the specific roles they take when mentioned in newspaper articles. Hence, this article tells only part of the story. Numerous studies have shown that women's marginalization in the media is due not only to their underrepresentation, but also to the stereotypic and often subordinating, belittling, and demeaning ways in which they are portrayed (Lester and Dente Ross 2003; Lovdal 1989; Kang 1997; Fiske 1996; van Zoonen 1994, 1988; Rakow and Kranich 1991; Tuchman 1979; Ross and Carter 2011). In this respect, the coverage of women often resembles that of ethnic minorities and immigrants (Shor 2008; Shor and Yonay 2010, 2011). Even when women are mentioned, it is often done in ways that sexualize them, highlight mainly their physical attractiveness or motherly qualities, and play down or trivialize their talents, abilities, and ideas (Kahn and Goldenberg 1991; Kane 1996; Carroll 1994; Kahn 1994; Boutilier and SanGiovanni 1983; Higgs, Weiller, and Martin 2003).

Furthermore, previous research suggests that women are often mentioned as wives (Michelle Obama) or mothers (Gloria James) of well-known politicians (Barak Obama) or sports superstars (LeBron James), rather than as the main characters in a news story. Considering this tendency, the ratios of newspaper articles that actually focus on women and their independent actions and ideas may in fact be even lower than the ratios found in the present study (see e.g. Gallagher 2010). Future research should therefore continue to follow women's coverage rates in different fields and examine whether the tendencies we found in the present study persist. Researchers should also continue to be sensitive to the roles that women portray when they do appear in the media, as merely being covered does not in any way guarantee a respectable, positive, and empowering portrayal.

NOTES

1. For example, the first GMMP took place on January 18, 1995, the day following the Kobe Earthquake in Japan and news coverage around the world during that day was dominated by this tragic event (Spears and Seydegart 2000). This potential methodological instability is also demonstrated in specific data reported by the GMMP over the years. For example, in North America the percentage of female subjects in news classified as "Economy" was 22 percent in 2005, but then soared to 37 percent within a period of only four years (Gallagher 2010).
2. Note that the ratio of female names out of all names is higher in this table than in our analysis, as the table presents *distinct names* rather than *all references*. The former means that we only count each name once, even if that name appeared many times during a given year. In the latter, however, the same name (e.g. Barack Obama) can appear many times during a year and all of them will be counted. We preferred to use this latter measure (all references) in our analyses as it accounts not only for how many male names and how many female names appeared in the news, but also for how often these names have appeared.
3. Our analysis of the coverage in *Time Magazine*, starting in 1920, reveals a very similar pattern to that presented here for the *New York Times*. The trends for *Time Magazine* are available from the authors.
4. The Lydia system recognizes and distinguishes between these sections according to the main themes appearing in the analyzed text.

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