

All the Rioting That's Fit to Print: Selection Effects in National Newspaper Coverage of Civil Disorders, 1968–1969

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This study examined selection effects in newspaper reports about civil disorders in the late 1960s. A comprehensive set of events recorded in newspapers across the United States was compared with the subsets of these events recorded in two national newspapers often used to construct collective event data bases—the New York Times and the Washington Post. The results demonstrate that fewer than half of all disorders are covered in these two newspapers combined, and that those reported are selected on the basis of event intensity, distance, event density, city population size, type of actor, and day of the week. To demonstrate the effects of these selection patterns on substantive analysis of civil disorder, the authors replicated earlier studies using all reported events, and then repeated the analyses using only the events reported in the Times and the Post. This procedure showed some substantial differences in results. The implications of these findings for event analyses and for substantive understandings of media selection are discussed.

It is a truism that the mass media, both print and broadcast sources, have a powerful impact on how we understand the social world and how we live our lives. The role of the media in socialization, for example, is well documented (Bandura and Walters 1963; Gitlin 1979), and the billions spent annually on advertising stand as testament to the extent of media influence. News sources, in particular, do much to help us know the world around us. In fact, most of our knowledge about political and social conditions

in our country and abroad comes either directly or indirectly from the mass media. Of course, the media cannot inform us about everything happening in the world, and as reporters and news editors select content, they emphasize certain types of events while neglecting others. These selection practices shape our collective sense of reality—our perception of what is going on in the social world.

The influence of media does not, however, stop with the influence on the typical audience member. In recent decades, media records have become core data in scholarly studies investigating the causes and outcomes of political events. Likewise, government agencies and commissions (e.g., the Kerner Commission in the 1960s) have relied heavily on newspapers for enumeration and characterization of events. Such studies further reify the version of reality presented by the media and add an official stamp of veracity reflecting the expertise of the scholars and authors.

In both the public world and the scholarly world, some media outlets are considerably more influential in this reality-creating process. One of the most influential is the *New York Times*, which has long held an elite position

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among U.S. and world newspapers. An event reported in the *Times* is not just news, after all; it is important news. The appearance of an event in the *Times* certifies it as newsworthy ("fit to print") and imbues it with cultural and political significance. This occurs in part because political and economic elites pay particular attention to the *Times*. Thus, events that appear in the *Times* play a larger role in the perceptions and decision making of American leaders. But the effects of the *Times* on understandings of political situations and social life do not stop with elites who read the paper firsthand. Secondary spin-off effects give the newspaper even more power over our collective reality. One such echo occurs when editors and reporters from other news outlets (newspapers, magazine, radio, and television) read the *Times* and draw material for constructing their own stories, sidebars, local follow-ups, and op-ed pieces. Events that are not reported in the *Times* do not have this potential pass-along effect, and therefore have tremendously diminished chances of becoming salient influences on public opinion and policy decisions.

Given the power of a news outlet such as the *Times*, it is fitting to ask why some events are covered whereas others are neglected. When we as scholars and members of the public depend on single sources or a few key sources for information, what are we missing? Consider two events.

- In April of 1968, students at Columbia University took over five campus buildings to protest university construction on land commonly used for recreation by residents of Harlem. After several days, a physical confrontation developed when police attempted to eject students from the buildings. In the end, more than 1,000 students were arrested, more than 200 were injured during the clash, and property damage to the extent of several thousand dollars occurred.
- Earlier, that same month in Cincinnati, a black man defending his property against suspected looters accidentally shot a female acquaintance. A crowd gathered around the police officers sent to investigate, and rumors spread that a white officer had shot a black woman. In the next few hours, violence spread quickly, and more than 50 firebombings were reported. A National Guard unit was quickly activated and a curfew imposed, but before the incident ended, 2 people had

been killed, 20 more had been seriously injured, nearly 300 had been arrested, and property damage exceeding \$250,000 had resulted.

By any conventional definition, these two civil disorders were, in the words of the *New York Times*, "news that's fit to print." The characteristics of both events made them noteworthy and likely to attract the interest of a wide readership. They were not, however, both covered in the national newspaper of record, the *New York Times*. The *Times* record of American civil disorders in 1968, then, is incomplete. It is not surprising, of course, that the *Times* did not cover every single civil violence event in the United States. The paper did not have the resources to find all of them, the space to print them, or the audience interest to warrant such comprehensive coverage. But why was the Columbia University event reported by the *Times*, but not the Cincinnati event? Was it because the Columbia event was local, meaning that our understanding of the riot wave is excessively influenced by New York events? Or was it because the actors at Columbia have higher status, suggesting that the media reinforce political stratification? Furthermore, what do these kinds of selection processes mean for our substantive and social scientific understandings of civil disorder and protest?

The current study offers insight into these questions by examining newspaper reports about civil disorders in the late 1960s. In the first part of this analysis, we examine the question of what is covered and what is missed by a prominent newspaper such as the *New York Times*, comparing the set of civil disorders reported in the *Times* and the *Washington Post* with those reported by all local newspapers in the United States. This comparison helps us understand why some events become important news to the public and scholars by showing a number of factors that influence coverage, such as event intensity, location, and the political significance of the actors. In the second part of this study, we turn more directly to the scholarly use of newspaper data and consider how reliance on a single source such as the *Times* may affect substantive analyses of civil disorders. To do so, we examine models that predict disorder, first, using all events from all newspapers, and then comparing the results with models using data from only the *Times* and the *Post*. We conclude

by examining the methodological issues surrounding the use of such data before returning to the authors' larger concerns about content selection and presenting a broader model for understanding media selection that emphasizes the role of the audience in the selection process.

BACKGROUND

Questions about what is covered and what is missed by newspapers are longstanding. In political science and sociology, these concerns emerged in full force mainly as a methodological question about the time scholars started using newspapers as data sources for political events (see Mueller 1997b for detail).¹ As these kinds of studies have accumulated, early concerns about the accuracy of newspaper data (e.g., Danzger 1975; Hazelwood and West 1974; Jackman and Boyd 1979; Snyder and Kelly 1977; Taylor and Hudson 1972) have reemerged, and scholars have been taking a keen interest in the biases that these data may be introducing (e.g., Barranco and Wisler 1999; Franzosi 1987; Hocke 1998; Koopmans 1998; McCarthy, McPhail, and Smith 1996; Mueller 1997a; 1997b; Oliver and Maney 2000; Oliver and Myers 1999). These recent studies make it plain that the media are far from transparent conduits of information about political events. The media use various filtering mechanisms that

produce substantial representation of some events while neglecting others. A number of studies, for example, have demonstrated the sensible finding that large protest events are more likely to be covered than smaller ones (Barranco and Wisler 1999; McCarthy, McPhail, and Smith 1996; Oliver and Maney 2000; Oliver and Myers 1999).

Besides the consistent effect of event size, other factors also affect coverage. For example, McCarthy, McPhail, and Smith (1996) showed that media attention cycles affect coverage. As social issues move in and out of vogue, the coverage of related social movements ebbs and wanes. Barranco and Wisler (1999) found that violence connected with an event increases coverage. McCarthy et al. (1998), Oliver and Myers (1999), and Mueller (1997a) found that the newspaper's political position affected which events it reported, and Oliver and Maney (2000) and Oliver and Myers (1999) documented seasonal patterns in protest coverage and linked selection patterns to reporting routines.

Despite such findings, analysts have remained hopeful about newspaper data because, although imperfect, they often are the only reasonably complete and continuous sources available (Koopmans 1998). With the documentation of systematic coverage patterns, analysts have concluded that, if treated properly, event data are reasonably sound. For example, some have argued that event intensity and size are the only important determinants of bias, and that if these are controlled, analyses and the conclusions drawn from the data remain largely valid (Shanahan and Olzak 1999; Snyder and Kelly 1977). Others have suggested that newspaper data are useful as long as the bias that exists is consistent over time. If so, according to these analysts, the peaks and valleys in the media record reflect real cycles of activity, and thus, many analyses are valid (Franzosi 1987; Koopmans 1998; Olzak 1992).²

LIMITING NEWSPAPER SOURCES: THE NEW YORK TIMES

The recent surge of attention to newspaper event records has focused on comparing police records

¹ Although those who study protest and collective violence have made the most use of newspaper data (e.g., Gurr 1968; Jenkins and Eckert 1986; Jenkins and Perrow 1977; Kriesi et al. 1995; Lieberman and Silverman 1965; McAdam 1982; Olzak 1992; Shorter and Tilly 1974; Spilerman 1970; 1976; Minkoff 1997), the practice is much more widespread. Analysts use newspaper data to study assassinations, intra- and interstate wars, coups and revolutions, state repression (Paige 1975; Rummel 1966; Taylor and Jodice 1983), elections (Banks 1997), management control of corporations (Burch 1972), long-term changes in public opinion (Galambos 1975), strikes (Shorter and Tilly 1974), public signals about monetary policy (Woolley 2000), and even earthquakes (Taylor and Jodice 1983). Furthermore, newspaper records are the key elements in well-established and widely used data series such as *Polity III* (Jaggars and Gurr 1995) and the *World Handbook of Political and Social Indicators* (Russett 1964, Taylor and Hudson 1972; Taylor and Jodice 1983).

² Even consistent bias may produce problems in multivariate analysis (Hug and Wisler 1998).

of protest (including permit applications and incident reports) with what has been reported in newspapers (Barranco and Wisler 1999; McCarthy, McPhail, and Smith 1996; Oliver and Maney 2000; Oliver and Myers 1999). Through such comparisons, these studies have determined what characteristics of events cause them to appear in the media record. However, besides the general media selection process examined in these studies, there is another piece of the selection process that has received less attention.

Because analysts of political behavior typically do not have the resources necessary to collect data from multiple newspapers (Jackman and Boyd 1979; Koopmans 1998), most newspaper-based event data are tabulated from only a small number of newspapers—often only one. Thus, selection bias in these data develops through two steps. First, within the universe of events relevant to a particular study, there is a subset reported by some newspaper. This is the selection process that has been the focus of recent studies using police records. Second, within the subset appearing in the media, a yet smaller subset is selected for the construction of social science data. Thus, in addition to whatever distortions are introduced by media selection in general, additional selection effects are added by a focus on one or a few elite media outlets. This latter selection process is the focus of the current study.

In the collection of event data from newspapers, the *New York Times* is the undisputed default source. Just as the *Times* can dominate public news consumption, so it dominates event-based social science data. Whether the events are riots, coups, assassinations, wars, or nonviolent protests, the *Times* has been the singular, or else the core, element in many event data sets and the hundreds of studies drawn from them. As such, the *Times* has been alternately attacked and defended as a valid and reliable data source. It is clear that the *Times* is the best single newspaper source for political event data, because a number of studies have shown that in comparison with some other newspaper, the *Times* almost always reports more events and provides better detail about them (Jackman and Boyd 1979; Olzak 1982; Olzak 1992; Olzak and Olivier 1994; Paige 1975; Taylor and Jodice 1983).

Unfortunately, the *Times* is not free from selection effects just because it is the best source.

To assess selection effects in the *Times*, some analysts have compared data from it with data from a small number of other newspapers (usually one to four) (e.g., Jackman and Boyd 1979; Jenkins and Perrow 1977). The results of these studies generally show that the addition of one or two other sources does not change the overall picture or the substantive conclusions drawn from the *Times* alone. Moreover, because substantial costs are incurred from the addition of even one other source, these studies recommend against supplementing the *Times*. Yet, as real as these cost-benefit concerns are, they do not provide adequate reassurance about selection effects in the *Times*. The data may not be changed much by the addition of one supplementary newspaper, but this does not mean that the *Times* data are a transparent conduit of information in the first place. Furthermore, although the gains associated with adding one or two newspapers may be negligible, consulting a larger number might make a substantial difference.

In the current study, we took a different strategy, comparing the *Times* record with event data created by hundreds of local newspaper sources.³ This strategy also has its limits because all sources of data are media sources. We cannot detect the selection of events into any media from the universe of events. Thus, we limited our focus to the differences between the data carried by all newspapers and the data carried by the *Times*, emphasizing that these selection effects occur in addition to those found in recent studies. The first central research question in this study then was this: If an event exists in the local media record, what makes it more likely that this event will be covered by a national source such as the *New York Times* (and thus also appear in data sets derived from it)?

³ Unfortunately, the police data strategy used in recent studies is not much help because it is workable only on a local level. For a national or international study, it would be impossible to locate comparable police records for the hundreds of locations involved.

ASSESSING SELECTION

RECORDS OF NEWSPAPER COVERAGE

To construct a nationally comprehensive set of events from local media sources, we used the civil disorder data collected by the Lemberg Center for the Study of Violence, which operated from 1965 to 1974 at Brandeis University. The Lemberg Center was established for the purpose of studying social violence, broadly defined. But as racial rioting continued to break out during the 1960s, the Center realized that it was uniquely positioned to record and analyze race-related civil disorder, and by 1967 had focused its activities completely on rioting and urban race relations. During its early years, the Lemberg Center was unquestionably the nation's premier node for research on racial civil disorder, producing important data that have been used in a large number of important social science studies.

One of the most important data-gathering undertakings of the Lemberg Center was the compilation of a comprehensive tabulation of race-related civil disorders. The Center collected these data from 1967 to 1972 using newspapers as the primary data source. To cast as wide a net as possible, the Lemberg Center entered into a contract with the Luce Press Clippings service, which has a distinguished history of providing clipping services for a variety of research purposes. Throughout the period in question, trained Luce employees read every daily newspaper published in the United States and extracted clippings according to guidelines constructed by the Lemberg Center. The criteria were broadly defined so that Luce employees were unlikely to exclude potentially relevant events. Once the clippings were forwarded to the Lemberg Center, its staff reviewed each clipping and determined whether the event described met the Center's established criteria for a race-related civil disorder. A civil disorder was defined as an event involving crowd behavior that resulted in either property damage or personal injury, defiance of civil authority, or "aggressive disruptions which violate[ed] civil law." The latter description was primarily intended to capture building seizures. To be considered race-related, events had to include "aggressive or violent behavior by members of one racial or ethnic group against members of another or their

symbolic equivalents" (see Baskin et al. 1971 for further detail). At least four participants were required for an event to be included in the Lemberg Center tabulations.

After the clippings had been collected by the Center, the Lemberg staff compiled all the articles related to each event. Using this set of articles, the staff wrote a brief summary of each event, extracted and recorded key information (e.g., our intensity indicators), and distributed this information so it could be used in analyses by other scholars.⁴ For 2 years, 1968 and 1969, the Lemberg Center published these data—as the Riot Data Review for 1968 and as the retitled U.S. Race-Related Civil Disorders for 1969. We were able to uncover additional details about many events in the Lemberg Center's archival material. Each event in the Lemberg data was reported in at least one local newspaper, so data for these 2 years are unparalleled in terms of completeness and geographic scope. Altogether, the center identified 1,114 race-related civil disorder events from 1968 to 1969.⁵

To construct the subset of the data to be tested in the current study for selection effects, we identified which of the events were reported in the *New York Times* (and secondarily in the *Washington Post*). In addition to the clipping service, several members of the Lemberg staff monitored the *Times* and the *Post* daily and recorded whether the event was covered in the two newspapers or not. To ensure accuracy, we cross-checked the Center's records by examining the actual news clippings in the Center's records, conducting a full-text read of the *New York Times* for 1968, and using LexisNexis to identify candidate articles in

⁴ The Lemberg newspaper data have been used in whole or in part in a number of important studies of racial disorder including those of Baskin et al. (1971), Carter (1983, 1986, 1990), Jiobu (1971), Kelly and Isaac (1984), Kelly and Snyder (1980), Lieske (1978), McAdam (1982), Myers (1997), Myers (2000), and Myers and Buoye (2001), Olzak and Shanahan (1996), Spilerman (1970, 1971, 1976).

⁵ Despite the relatively comprehensive nature of these data, they are not, of course, bias-free. Because our data are derived from local newspapers, all the factors that have been identified by analysts of local newspapers and local events bear on our data.

the *Times* for 1969, which then were read in full text.⁶ We also conducted a full-text read for 1 month of 1969 to ensure that the Lexis search procedure produced the same results as the full-text read. Once the sets of data were compiled, we computed selection models using logistic regression to predict coverage from the series of hypothesized covariates discussed in the following sections.

PREDICTORS OF COVERAGE

EVENT CHARACTERISTICS: INTENSITY. The recent resurgence of attention to newspaper data has identified a number of factors that affect the chances that a collective event will be covered by the media. Most of these factors are related to the model of media selection presented by Snyder and Kelly (1977; see Mueller 1997b for a more detailed history and explication of the model). This model clusters selection variables into two general factors: event characteristics and media sensitivity.

Among event characteristics, Snyder and Kelly (1977) identified three aspects of event intensity that contribute to newsworthiness: size, violence, and duration. The empirical link between intensity and media coverage of protest is well documented (McCarthy, McPhail, and Smith 1996; Oliver and Maney 2000; Oliver and Myers 1999), and because civil disorders are a form of protest, a similar relation should exist in the current study. In our study, we examined five indicators of civil disorder intensity⁷: the number killed, the number arrested, the number injured, the presence of arson (as a proxy for property damage), and the duration of the event in days.⁸ Because these intensity indicators

overlap significantly, and because a single intensity indicator would simplify interaction analysis, we created a composite index using all five intensity indicators. Following Carter (1986) and Myers (2000), we log-transformed the individual indicators, subjected them to an iterated principle axis factor analysis, and combined them using the resulting factor scores.

POLITICAL SIGNIFICANCE: ACTORS AND LOCATIONS. Since Snyder and Kelly (1977), the notion of newsworthiness has expanded to a more comprehensive notion of news value, which incorporates parts of what they called media sensitivity. Recent news value definitions include the prominence or importance of the actors involved, the level of conflict or controversy, physical proximity, human interest, and the number of people affected by the event (Oliver and Maney 2000). Of the large variety of news value factors, we examined the political significance of the actors, the frequency of events, and proximity.

Differences in the significance of actors can be difficult to ascertain, especially when participants are similar across events. Among the civil disorders we examined, for example, the race, economic status, and class status of participants varied little from event to event. There are, however, two event characteristics that may indicate the public significance of the actors. First, both the press and social scientists have tended to neglect events involving secondary school students, viewing their actions as whimsical and derivative rather than politically purposive. Therefore, disorders occurring at secondary schools or involving primarily secondary school students should be relatively underrepresented in the *Times*.⁹ In contrast, the

⁶ This same procedure could not be used for 1968 because the Lexis data base for the *New York Times* extended back only to 1969, so an actual full-text read was conducted.

⁷ Intensity indicators were collected mainly from the set of newspaper articles reporting each event. Some intensity information was supplemented by surveys sent by the Lemberg Center to the police chiefs of cities from which a disorder had been reported.

⁸ For all events, there was complete information for the number killed, duration, and arson. There were significant amounts of missing data for the number injured and the number arrested. As a result, we conducted analyses four different ways. First, we used

only the three indicators for which there were no missing data. Second, we replaced the missing values for arrested and injured with mean values. However, because the data were extracted from newspaper stories, it is plausible that missing values came mainly from events for which there were no arrests or injuries. Therefore, we also conducted analyses replacing the missing values with zeros. Because results were not substantively dependent on which replacement values were used, our analysis proceeded using the zero-plugged variants.

⁹ A parallel set of all hypotheses will be examined combining data from the *New York Times* and the *Washington Post*.

highest status likely is given to college students, as compared with prison inmates, secondary school students, and the residents of urban ghettos, thereby causing a relative overrepresentation in *Times*-derived data.

Events also can differ in significance because of their location. Some cities, for example, are simply more culturally and politically central than others (Myers 2000). Given the intensity of the nation's focus on race during the period studied, the media may have considered cities with large black populations to be central hot spots for newsworthy events. We hypothesized, therefore, that events in cities with larger black populations were reported at higher rates than events in cities with smaller black populations.

The black population is an important variable for another reason. Almost without exception, prior studies of these disturbances show that black population size is the single most important determinant of civil disorder (Carter 1986; Spilerman 1970, 1976; Jiobu 1971; Myers 1997). Although recent studies have added some variables (Myers 1997; Olzak and Shanahan 1996), black population size and southern location are well established as the core predictors in the literature. Given its centrality, it is doubly important to determine whether black population size inflates coverage. If it does, the relation between civil disorder and black population size may have been overstated. For this same reason, we examined a southern region indicator.¹⁰ If southern location reduces coverage, then the depressed rate of disorders in the South may have been exaggerated.

NEWS HOLE AND EVENT FREQUENCY. Events of all types compete with each other for media coverage. When many newsworthy events occur in a short period, the chances of any particular event receiving coverage drops (Hocke 1998; Oliver and Maney 2000; Oliver and Myers 1999). This "news hole" effect links increased likelihood of coverage to slow news days. Because Mondays are considered slower news days and Fridays are considered heavier days, we expect that civil disorders occurring on

Mondays will be overreported, as compared with those occurring on Fridays (Oliver and Myers 1999).

In addition to this general news hole effect, we also expect to find a more specific news hole effect in which an event competes with similar events for coverage: When many other events of the same type have occurred recently (operationalized as the count of disorders in the preceding 2 weeks),¹¹ we expect the likelihood of coverage to drop because this type of news hole has already been partially filled.

PROXIMITY. Whether rooted in news value or media sensitivity, the distance of an event from a newspaper is expected to influence coverage. Snyder and Kelly (1977) reasoned that newspapers are less likely to report distant events because they are less aware of them and because they lack the staff to investigate them. In addition, distant events may lack coverage because they are less important to the newspaper's audience.¹² It is not clear how much distance influences the *Times*, however, because the technology of the wire services reduces infrastructure difficulties and the *Times*' audience is less geographically concentrated than the audiences of many newspapers.

Attention to proximity effects has been a weak point of prior studies, if addressed at all. Snyder and Kelly (1977), for example, proxied distance using two regional dummy variables. Even the most thorough distance tests (e.g., Mueller 1997a) measure distance at only three or four points, and the results are confounded by other cultural difference factors such as language (Barranco and Wisler 1999). Because the data we used were drawn from hundreds of local newspapers across the United States, we had a unique opportunity to examine distance effects in a more direct way. We hypothesized, therefore, that the chances that any event will appear in the *Times* decrease as the distance

¹⁰ The definition of the South follows Spilerman (1970) and includes Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

¹¹ We tested a variety of lags ranging from 3 days to 8 weeks. The results showed that events occurring within 2 weeks before an event mattered, whereas those older than 2 weeks did not.

¹² Recent investigations into the diffusion of collective disorders also suggest that media sources emphasize civil disorders that occur in their own areas (Myers 1997, 2000).

from the event location to New York City increases.

When geographic sensitivity is considered, simple linear distance may not capture all of the effects. The *New York Times*, after all, has a special obligation (and ability) to provide information about events occurring in the city. For the same reason, it also may provide more coverage of events in New York state. We hypothesized, therefore, that after controlling for distance, events in New York City and New York state will receive higher coverage. In addition, the United States is sometimes characterized as having a bicoastal nature. That is, the public and the media care more about the east and west coasts than about what is in between. This suggests that the effect of distance on coverage may be curvilinear, decreasing as we move west, but recovering to higher levels as we approach the west coast.

INTENSITY-PROXIMITY INTERACTION. Some analysts have speculated that selection based on event intensity is conditioned by distance: Newspapers are less likely to report low-intensity events that occur far away than they are to report those in their own backyards (Hug and Wisler 1998; Mueller 1997a). Evidence is scant, however. When comparing American, British, and West German coverage of East German events, Mueller (1997a) did find that British and American newspapers were more sensitive to intensity than West German newspapers, but a similar difference between American and British papers did not exist. Our more detailed distance data allowed a thorough test of this interaction.

BASIC PATTERNS OF EVENTS AND COVERAGE

Table 1 displays key descriptive information about the events located by the Lemberg Center.¹³ One characteristic of these events that distinguishes them from the nonviolent protests examined in prior studies is the distribution of the events across days of the week. Although reported events are somewhat less likely to occur on Saturdays and Sundays, the distribution across days is considerably more consistent than the distribution for nonviolent protest events (e.g., Barranco and

Wisler 1999). This is important because some analysts (e.g., Kreisi et al. 1995) have advocated a sampling strategy using only Monday editions of newspapers. This strategy captures events efficiently because nonviolent protests are heavily concentrated on Saturdays, with the result that Monday newspaper editions report a large proportion of events (Barranco and Wisler 1999). The Monday strategy would, however, have been less effective for the current study, because the events it investigated were not concentrated on any particular day of the week.

Our key question, however, was how well did the *Times* and *Post* cover these events? Altogether, 418 (37.5 percent) of the events were reported in the *Times*. Adding the *Post* increased coverage to 498 events (44.7 percent).¹⁴ It is not surprising, of course, that the *Times* record is incomplete—the more important question is whether the sample provided by the *Times* differs substantially from the more comprehensive data—providing a different impression of the events to both scholars and the public.

Do these data sets differ with respect to the location of reported events? We first calculated the rate of coverage by the *Times* and *Post* for each state (Figure 1). We found that the highest coverage is clustered on the east coast, and that coverage generally decreases toward the west coast. Of the states that had events, California, Arizona, and Oregon all were in the lowest quartile of coverage, with Nevada and Washington in the second lowest quartile. On the east coast, only Pennsylvania was in the second lowest quartile. This pattern suggests that distance does indeed have a direct effect on determining what is covered in newspapers. Furthermore, the map does not suggest a bicoastal coverage pattern. There are few events from the middle section of the country in the *Times* and *Post*, but this seems simply to reflect a lower base rate in these areas. For example, no events in Idaho, Montana, North Dakota, South Dakota, Utah, and New Mexico were reported, even in the local newspapers of these states.

¹⁴ By itself, the *Washington Post* reported 22 percent of the events. For brevity of presentation and because the *Post* is used more often as a supplement to the *New York Times* than as a singular data source, separate results for the *Post* are not presented.

¹³ See the Appendix for correlations among key variables.

Table 1. Descriptive Statistics

Variable	Mean or Proportion	SD	N	Minimum	Maximum
Coverage					
New York Times	0.375	0.48	1114	0	1
Either NYT or WP	0.447	0.50	1114	0	1
Distance Factors					
Distance from NYC	766	752	1114	0	4964 ^b
Event occurs in NYC	0.06	0.23	1114	0	1
Event occurs in NY State	0.11	0.32	1114	0	1
Event occurs in Washington DC	0.02	0.14	1114	0	1
Intensity Indicators					
Number killed	0.10	0.65	1114	0	11
Event duration	1.77	1.65	1114	1	19
Arson	0.32	0.46	1114	0	1
Number injured	9.78	59.1	714	0	1113
Number arrested	45.0	361	902	0	8236
Number injured ^a	6.27	47.5	1114	0	1113
Number arrested ^a	36.5	326	1114	0	8236
Intensity composite	-0.32	0.83	1114	-1.66	1.98
Location/Type					
Secondary school	0.34	0.48	1114	0	1
College or university	0.15	0.35	1114	0	1
Street event	0.50	0.50	1114	0	1
Prison event	0.01	0.09	1114	0	1
City Characteristics					
Total population	889,112	1,930,159	1114	646	7,894,851
Proportion black	0.23	0.16	1114	.0001	.984
City in south	0.25	0.43	1114	0	1
Event Density					
Number of events in prior 2 weeks	32.6	32.3	1114	0	181
Day of the Week					
Sunday	0.09	0.28	1114	0	1
Monday	0.15	0.36	1114	0	1
Tuesday	0.16	0.36	1114	0	1
Wednesday	0.13	0.34	1114	0	1
Thursday	0.18	0.39	1114	0	1
Friday	0.19	0.39	1114	0	1
Saturday	0.10	0.30	1114	0	1

^a Missing values replaced with zeros (see text for detail).

^b Without Honolulu, HI the maximum distance is 2575 miles.

Indicators of event severity also provide basic evidence about intensity hypotheses. For instance, 85 percent of the events in which someone was killed ($N = 47$) were covered by the *Times*. In bivariate analyses (not shown), each additional death tripled the odds of that event appearing in the *Times*. But even when multiple deaths occurred ($N = 24$), coverage was not complete. Only 83 percent of these were covered. Likewise, events with low numbers of injuries (fewer than 10) received relatively low coverage in the *Times* (32 percent covered), whereas more than 80 percent of the

events with 20 or more injuries were covered. Arrests, duration, and arson all showed similar links between intensity and higher levels of coverage.

MULTIVARIATE SELECTION MODELS

These simple relations may be confounded with each other and with other factors such as city characteristics, so we turn to multivariate models. Table 2, presents models examining the chances of coverage in the *Times* (Models 1 and 2) and in either the *Times* or *Post* (Models

Table 2. Logistic Regression Models Predicting Coverage in Newspapers

		1. NYT	2. NYT	3. NYT/Post	4. NYT/Post
Distance Factors	Distance from NYC	-.00125*** (.00033)	-.00113*** (.00033)	-.00191*** (.00040)	-.00167*** (.00039)
	Distance from NYC ²	2.74×10^{-7} * (1.1×10^{-7})	2.33×10^{-7} * (1.2×10^{-7})	5.27×10^{-7} *** (1.5×10^{-7})	4.46×10^{-7} ** (1.5×10^{-7})
	Event occurs in NYC	1.79** (.64)	1.75** (.64)	1.62* (.64)	1.63* (.64)
	Event occurs in NY State	1.43*** (.32)	1.21*** (.32)	1.03*** (.32)	.869** (.32)
	Event occurs in Washington DC			1.58* (.80)	1.54 (.79)
Event Intensity	Composite variable	.804*** (.10)	.323 (.18)	.762*** (.10)	.344 (.18)
	Intensity \times distance		.00111* (.00045)		.000851* (.00043)
	Intensity \times distance ²		2.66×10^{-7} (1.9×10^{-7})		1.72×10^{-7} (1.8×10^{-7})
Location/Type	Secondary school	-.582*** (.18)	-.586*** (.18)	-.829*** (.17)	-.839*** (.17)
	College or university	1.36*** (.22)	1.39*** (.23)	1.05*** (.22)	1.08*** (.23)
	Street event (excluded)				
	Prison event	-.590 (1.0)	-.517 (1.0)	-1.13 (1.0)	-1.16 (1.0)
City Characteristics	Proportion black (sqrt)	1.20** (.46)	1.33** (.46)	.761 (.46)	.864 (.47)
	Total population (ln N)	.0131 (.046)	.00702 (.046)	.0133 (.044)	.00593 (.045)
	City in south	.0798 (.20)	.0767 (.20)	.375 (.20)	.357 (.20)
Event Density	Events in prior 2 weeks (ln N+1)	-.227* (.10)	-.215* (.10)	-.286** (.10)	-.272** (.10)
Day of the Week (Friday excluded)	Sunday	.193 (.30)	.153 (.30)	.069 (.29)	.026 (.29)
	Monday	.600* (.25)	.616* (.25)	.452 (.24)	.456 (.24)
	Tuesday	.0526 (.26)	.0245 (.26)	.0390 (.24)	.0123 (.24)
	Wednesday	.0988 (.27)	.110 (.27)	-.00645 (.26)	.00210 (.26)
	Thursday	.326 (.24)	.346 (.25)	.158 (.24)	.170 (.24)
	Saturday	.212 (.28)	.223 (.29)	-.0528 (.28)	-.0513 (.28)
	Constant	-.149 (.67)	-.259 (.68)	1.01 (.66)	.895 (.66)
Model χ^2 (df)	320.86 (18)	333.46 (20)	325.31 (19)	335.65 (21)	
Pseudo R ²	.218	.226	.212	.219	

Note: SE in parentheses. ln = natural log; NYC = New York City; NYT = *New York Times*; NYT/Post = *New York Times* or *Washington Post*; sqrt = square root.

* $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed tests).

have less than a 20 percent chance. The combination of the *Times* and the *Post* produces higher coverage overall, but a substantial distance effect is still apparent. The graphs (based on a polynomial model) also show that there is little support for the bicoastal hypothesis. Although the negative slope of the curve is attenuated as distance increases, the rate of coverage beyond 1,500 miles is essentially constant. Adding the *Post* data increases relative coverage of the west coast, but only slightly.

Given that the *Times* and *Post* also are local-regional papers, it is not surprising that events in New York City had a much greater chance of receiving coverage, as did events occurring in New York state. Even after controlling for distance and including a New York state dummy, the odds of coverage for New York City events were six times higher than for any other location. Events in the state had four times greater odds of coverage (Model 1, Table 2). The same kinds of patterns appeared when we added the *Post* data and a dummy for Washington DC, although the effects were somewhat reduced.¹⁶

¹⁶ The distances from Washington DC and New York are highly collinear for these data ($r = .98$), and thus could not be included in the same model.

Thus, although the *Times* might be a good source for events in New York, it is much less complete for the United States. Adding a second newspaper, such as the *Post*, reduces the distance effects slightly, but also contributes special sensitivity to its local events.

Second, consistent with prior studies, event intensity was shown to have a strong positive effect on coverage (Models 1 and 3, Table 2).¹⁷ As hypothesized earlier, the results also indicate that the effect of event intensity is conditioned on distance. Models 2 and 4 of Table 2 show a significant interaction between intensity and distance (likelihood ratio tests comparing Model 1 to Model 2 and Model 3 to Model 4 were significant at $p < .01$). Figure 3 displays this relation graphically, showing the effect of distance at three different levels of intensity: moderate (the mean of the intensity composite), mild (one standard deviation below the mean), and severe (one standard deviation above the mean). The

¹⁷ We tested additional models using individual intensity indicators and various imputed values for missing data. All the intensity indicators were consistently significant except where reduced by collinearity with each other, and the other variables in the models were stable.

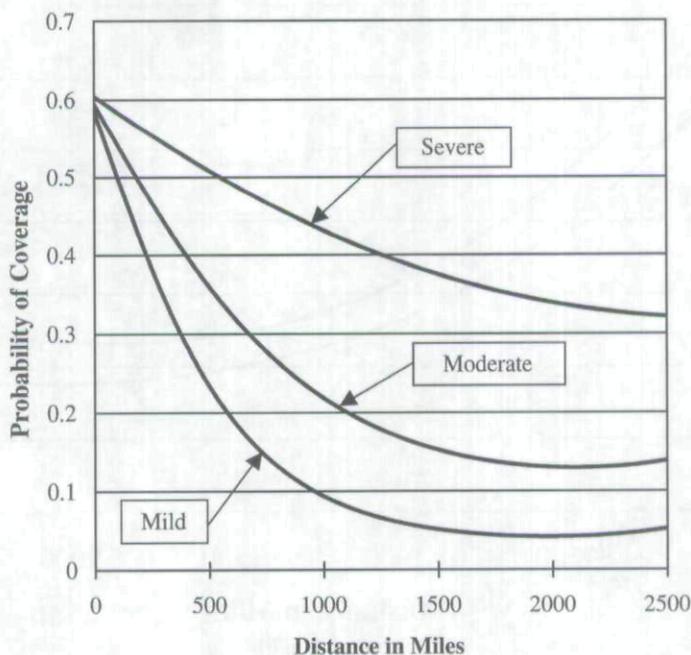


Figure 3. Distance-Severity Interaction

graphs show that distance decreases coverage, that intensity increases coverage, and that the effect of intensity on coverage increases as distance grows. In other words, the *Times* always underreports faraway events and small events, but as the distance grows, it becomes even less likely to report small events.

Event types also played a role in coverage. Both newspapers had considerably less interest in secondary school events than street riots, and the *Times* emphasized college events. The college effect was reduced to some degree by the addition of the *Post* data. Besides the low political significance of secondary school students, these findings also may reflect the political leanings of the two newspapers or differences in readership.¹⁸

Bivariate analyses showed that events in larger cities had a much greater chance of being covered, but the multivariate analysis showed that this was primarily because of collinearity between total city size and black population size. Once a control is used for the proportion of blacks in the city, the total population size is not significant in any model, but for the *Times*, the effect of the black population is significant. Given the potential attention cycle bias and the "beat"-related issues discussed in prior work, it seems likely that newspapers considered blacks to be important newsmakers during the period studied—either as political actors or alternatively as criminals, hooligans, and threats to social order (Jefferies, Turner, and Morris 1971). If so, the newsmakers paid closer attention to concentrations of black population and left cities with smaller numbers relatively less covered.¹⁹ When the *Post* data were added (Models 3 and

4), neither population indicator was significant, thus demonstrating the one substantial correction achieved by adding the *Post* data. Finally, southern location did not influence the chances of coverage.

With respect to news hole effects, the day of the week has an effect on coverage, consistent with prior studies and the slow/heavy news day explanation: Monday events have a slight advantage over Friday events. Additionally, event density has a significant negative effect both for the *Times* and for the combined data: When there is more competition from similar events, the chances of coverage decrease.²⁰

SELECTION EFFECTS ON SUBSTANTIVE ANALYSIS OF CIVIL DISORDER

These findings about event selection by the *Times* and *Post* reinforce earlier fears about the validity of newspaper-based data and doubts about findings derived from such data. Nevertheless, no study has yet demonstrated that these selection effects, in fact, change the outcomes or interpretation of substantive event analyses. Just because the media select relatively severe events, for example, does not necessarily mean that the event selection distorts the relation between civil disorder and hypothesized covariates. In the second part of our analysis, we undertook a direct examination of this question.

DATA AND ANALYSIS

To produce some direct evidence about the effects of omitted events on analyses of civil disorders, we used three separate data sets to rean-

¹⁸ We also thought that the college effect might be an attention cycle pattern because college protest and collective violence was accelerating during this period. We tested via a dummy variable distinguishing 1968 events from 1969 events and an interaction term for the college indicator and the year. If this attention cycle process was operating, college events should have received more attention in 1969 than 1968. The results did not show such a pattern.

¹⁹ Some observers have suggested that these kinds of city effects result simply from the distribution of reporters. If there is a stringer or a wire office in that town, then its events are more likely to be reported. Even if this is true, there still is the question of why reporters were concentrated in cities with large black populations.

²⁰ It is possible that the event density effect came only from the week of extreme civil disorder that followed the assassination of Martin Luther King in April 1968. Because there was such a large number of events that week, it may have been impossible for newspapers to cover them as well, thereby producing the event density effect. Figure 4 (discussed later) shows that this is unlikely because the events in April 1968 were covered by both papers at a slightly higher than average rate. We also inserted a dummy variable for the King events into a variety of multivariate models. When significant, the variable had a slight positive effect on coverage, and it did not diminish the event density effect.

alyze a series of covariates previously found to predict civil disorder. The primary data set contained all the events in our data from all newspaper sources. The other two data sets were subsets of the first: all the events reported in the *New York Times* and all the events reported in either the *Times* or the *Washington Post*. The results from these latter two data sets represent findings that could have been produced using the national newspaper or newspapers strategy. A comparison of results from these three data sets demonstrates what kinds of differences in findings and interpretation can occur if a single source strategy is used.

For these tests, we selected a series of covariates that relate the effects of local conditions to the occurrence of civil disorder. Admittedly, most attempts to link local conditions with civil disorder have largely been failures (see especially Spilerman, 1970, 1971, 1976), but recently, several studies have revived this link (Olzak and Shanahan 1996; Olzak, Shanahan, and McEneaney 1996; Myers 1997; Myers 2000). In particular, these analyses found that structural covariates related to ethnic competition theory, and that diffusion processes were important in producing disorder. From among the covariates tested in these studies, we selected those that were the most robust and produced the most straightforward findings. The structural indicators included the black population of each city, a dummy indicating whether the city was located in the South, the proportion of the population that was foreign born, the number of unemployed blacks, and the median black income.²¹ Each indicator was collected from 1970 Census tabulations.

We also tested for effects over time and geographic diffusion effects such as those recently found by Myers (1997, 2000). The fundamental notion driving diffusion analyses is that collective events are clustered systematically in time and space because these events are

in some sense "contagious." To test for differences in diffusion effects, we used three covariates: the number of events in the preceding week (temporal clustering), the number of events in the preceding week conditioned on the age of each event (temporal clustering with decaying influence), and the number of events each week conditioned on the distance of the event from each city (spatial clustering). The first diffusion indicator simply means that the greater the number of recent events, the more likely there is to be an additional outbreak. The second indicator is similar to the first except that it recognizes that the imitation-inducing effect of an event wanes daily, in effect, decaying over time. The third indicator recognizes that events far from a particular city may be considerably less influential in producing imitation than those occurring nearby.²²

To estimate these models, we used Cox (partial-likelihood) regression. Cox regression is one type of survival or event history analysis (Allison 1984; Tuma and Hannan 1984; Yamaguchi 1991). Instead of differentiating cities on the basis of the presence or the number of disorders, event history analysis focuses on the individual risk or hazard of disorder. By approaching the analysis of events in this way, researchers can examine time-invariant covariates (e.g., southern location) and time-varying covariates (e.g., the number of events in the past week) in the same models. Although this advantage of survival analysis is not particularly consequential for examining the city-level structural covariates, it becomes critically important in the analysis of diffusion processes (Greve, Strang, and Tuma 1995; Davis and Greve 1997; Soule 1997; Soule and Zylan 1997; Strang and Tuma 1993). The coefficients generated can be interpreted by taking e^b , which produces the

²¹ Many other variables drawn from ideas about structural conditions, inequality, population characteristics, and political structures have been tested over the past 30 years, but, as demonstrated in Spilerman (1970, 1976), Myers (1997), and Olzak and Shanahan (1996), these variables perform poorly when predicting city-level differences in civil disorder occurrence.

²² Because our purposes in this article are to examine the effects of bias on the estimated relations among variables rather than to examine theories of civil disorder and diffusion, we have given only brief summaries of these substantive issues and the relevant literature. Thorough presentations of links between the economic indicators we used and competition theory are available in Olzak and Shanahan (1996) and Myers (1997). Details on the role of diffusion in this series of riots and on the calculation of the diffusion indicators may be found in Myers (1996, 2000).

amount by which the hazard is multiplied for each unit increase in the related independent variable.

Because analysis of collective violence demands inclusion of repeated observations on the same unit, and because it is unlikely that estimated models account for all sources of intra-unit dependence, unobserved heterogeneity may introduce a downward bias in standard error estimates. Therefore, a control variable, the number of prior events that have occurred in a city, was included in all the models. The inclusion of variables that represent the history of the individual unit is a practical procedure that minimizes the effects attributable to correlation within the same city and does not demand the restrictive assumptions of more general methods used to correct for unobserved heterogeneity (Allison 1984).

FINDINGS: THE EFFECTS OF SELECTION ON SUBSTANTIVE MODELS

In the remaining analyses, we report three sets of models, each predicting the city-level hazard

of disorder. Each model is estimated first using all of our data, then using only those events reported in the *New York Times*, and then again using events reported in either the *Times* or the *Washington Post*. In addition to presenting the Cox regression results, each table also compares each of the restricted sample models with the full sample model. Each cell of the table reports the coefficient, standard error, and *p* value for the respective covariate. The second and third columns also compare the estimated coefficient with the coefficient reported in the first column. This comparison is accomplished by indicating with a dagger those coefficients outside the 95 percent confidence interval indicated by the results in column one.

Table 3 presents the results of models that use the city-level covariates to predict the hazard of a disorder. Model 1 uses only the two covariates Spilerman (1970) found to be important: Black population and the south dummy (plus the disorder history control variable). Model 2 adds the economic/competition variables. The findings resulting from the more comprehensive data are consistent with those of prior studies: Strong,

Table 3. Cox Regression of the Disorder Hazard on City Characteristics

	All Events	<i>p</i>	In NYT	<i>p</i>	In NYT or Post	<i>p</i>
Model 1						
Black population (logged)	.321 (.019)	.000	.418† (.028)	.000	.401† (.026)	.000
City in south (dummy)	-.605 (.073)	.000	-.666 (.12)	.000	-.604 (.11)	.000
History of disorder (Control)	.0245 (.0033)	.000	.0289 (.0048)	.000	.0277 (.0047)	.000
Model χ^2 (<i>df</i>)	681.03 (3)		436.14 (3)		456.92 (3)	
Pseudo R ²	.0459		.0802		.0702	
Model 2						
Black population (logged)	.334 (.019)	.000	.414† (.029)	.000	.396† (.027)	.000
City in south (dummy)	-.596 (.11)	.000	-.776 (.18)	.000	-.573 (.16)	.000
Proportion foreign born	2.15 (.58)	.000	4.49† (.79)	.000	3.40† (.78)	.000
Black median income (logged)	-.345 (.18)	.049	-.826† (.30)	.007	-.379 (.28)	.171
Proportion blacks unemployed (logged)	.309 (.066)	.000	.185 (.13)	.144	.184 (.112)	.102
History of disorder (Control)	.0215 (.0034)	.000	.0214 (.0051)	.000	.0223 (.0049)	.000
Model χ^2 (<i>df</i>)	714.95 (6)		467.55 (6)		475.73 (6)	
Pseudo R ²	.0482		.0860		.0731	

Note: SE in parentheses; *p* value of .000 indicates $p < .0005$. NYT = *New York Times*; Post = *Washington Post*.

† Coefficient is outside the 95% confidence interval indicated by column one.

statistically significant relations exist between these predictors and the disorder rate. The black population size, the proportion of foreign-born individuals, black income, and black unemployment all have positive relations with disorder, whereas southern location reduces disorder.²³

A comparison of these findings with the results derived from the restricted data sets (Columns 2 and 3) shows some consistencies and some inconsistencies. On the consistent side, the coefficients all maintain the same sign across the three models. The magnitude and statistical significance of the effects, however, differ substantially. In Model 1, for example, the *Times* coefficient for black population size is more than five standard error units larger than the estimates given in the all-events data, indicating that the importance of the black population variable may have been overstated in past research. The *Times* data also indicate much stronger effects of the foreign-born variable and black income (Model 2). Each of these coefficients is more than twice those estimated in the more comprehensive data. Differences of this magnitude in coefficients can mean substantial differences in the interpretation of the results, and in other circumstances (depending on the size of the original coefficients), could produce completely different findings for a variable, causing shifts in direction or significance.

Differences in statistical significance are also of concern in Table 3. To begin with, most of the standard errors are unexpectedly larger in the restricted models. Whereas some upward shift in the standard errors comes simply from having fewer events in the data,²⁴ the differences in this case are substantially higher. In this context, the standard errors in the *Times* models should be approximately 63 percent higher, and those in the combined *Times* and *Post* models should

be about 50 percent higher. But across the models shown in Tables 3 and 4, the increase in standard errors usually is higher, and in some cases, higher by factors of two or more. Although this does not mean that the estimated coefficients are biased, it does mean that our ability to detect relations in the data is reduced.²⁵ In fact, we see that although the black unemployment effect is significant at a *p* value less than .001 in column one, it is not significant in either of the restricted-data models. The black income effect is significant in the all-events model and when the *Times* is used, but it is not significant when the *Times* and *Post* combination is used. This kind of problem is particularly important in the current empirical context because the riot literature is so strongly dominated by null findings (e.g., Spilerman 1970, 1976). Given these results, we must consider the possibility that hypotheses about the effects of structural and economic conditions on civil disorder may have been incorrectly rejected.

One source of the increased standard errors appears to be the additional collinearity introduced by use of the restricted data sets. For example, in bivariate analyses (not shown), the black unemployment variable retains significance in both the *Times* and the combined *Times* and *Post* data. Thus, when other variables are added to these models in Table 3, collinearity between them and black unemployment eliminates the black unemployment effect, whereas this does not occur when the full data are used. This kind of effect can occur if the *Times* reports more events in cities where some of the substantive indicators overlap and less events in cities where economic indicators are relatively neglected because economic indicators are more mixed. Perhaps the *Times* was more vigilant in looking for events in places where ghetto conditions were consistently bad, or more likely to report disorders that occurred where conditions seemed consistent with popular understandings of the riots. In either case, the media process would hamper attempts by social scientists to discover the underlying conditions associated with racial civil disorder.

²³ See Myers (1997) and Olzak and Shanahan (1996) for a full interpretation.

²⁴ Although the actual *N* in this analysis does not change given that the same number of city-days is examined in each model, the change in the number of events recorded for a binary dependent variable (i.e., the number of zeros versus the number of ones) affects the standard errors such that in this case, the relatively smaller numbers of events increases the standard errors.

²⁵ Even those few variables (e.g., foreign born) that produce changes in standard errors smaller than the expected increase are problematic because they are overestimating the significance of the results.

Combining the *Times* and *Post* data generally reduced the differences from the larger data set, but the change was marginal for most coefficients. The most convergence occurred when the *Times* and *Post* differed in opposite directions from the more comprehensive data, with the combination canceling out much of the difference. On the one hand, this may testify to the usefulness of combining multiple data sources. On the other hand, to achieve the helpful effect, data sets that deviate in opposite directions must be combined. If the *Post* differences were in the same direction as those of the *Times*, combining the two data sets could have exacerbated, rather than reduced, the differences.

Table 4, presents the diffusion analysis. The coefficients presented come from models that also included the city covariates examined in Table 4. To simplify the presentation, the results from those covariates are not shown. Once again, the news is mixed. The two models in Table 4 show that the effects were all in a consistent direction,²⁶ but restricting the data to the *Times* and the combined *Times* and *Post* consistently increased the estimates of all three kinds of diffusion effects: The total number of recent events was found to be more influential

(Model 1); these effects were found to decay more over time (Model 2); and they were found to be more limited by distance (Model 2). The differences in the time decay and the distance decay effects were the most extreme because the estimated coefficients were up to 5.5 times more than the value found using the complete data set.

These results suggest a somewhat mixed picture for single- or dual-source newspaper data. On one hand, the results show that across the different data sets, there is consistency in the direction of significant coefficients. This is encouraging news for those who wish to use single-source data. On the other hand, if one is concerned about the magnitude of the effects rather than direction alone, the results suggest that substantial distortion can occur across the different event samples. In other circumstances, changes of this magnitude could reverse effects in different samples, especially if regional variation is strong.

DISCUSSION

In summary, the results in our study suggest that the selection problems with single, national media sources may be more problematic than previously thought. Although we examined only one type of American collective violence over a relatively short period, when we add our findings to the selection effects other scholars have

²⁶ Again, detailed interpretations of the pattern of coefficients is available elsewhere (Myers 1996, 1997).

Table 4. Cox Regression of the Disorder Hazard on Diffusion Indicators

	All Events	<i>p</i>	In NYT	<i>p</i>	In NYT or Post	<i>p</i>
Model 1						
Total events in prior week	.0122 (.0011)	.000	.0270† (.0043)	.000	.0235† (.0034)	.000
Model χ^2 (<i>df</i>)	819.46 (7)		502.28 (7)		517.17 (7)	
Pseudo R ²	.0552		.0924		.0795	
Model 2						
Total events in prior week	-.0362 (.012)	.002	-.0245† (.063)	.000	-.0201† (.050)	.000
Time decay	.0506 (.0066)	.000	.117† (.024)	.000	.0917† (.019)	.000
Distance decay (1/distance)	.0277 (.011)	.012	.214† (.057)	.000	.179† (.046)	.000
Model χ^2 (<i>df</i>)	885.01 (9)		547.38 (9)		562.12 (9)	
Pseudo R ²	.0596		.101		.0864	

Note: SE in parentheses; *p* value of .000 indicates $p < .0005$. Coefficients for city structural covariates not shown. NYT = *New York Times*; Post = *Washington Post*.

† Coefficient is outside the 95% confidence interval indicated by column one.

documented, it is clear that the use of newspaper data is not always as straightforward as we would like it to be, especially when there is a reliance on a single source such as the *New York Times*. These results also suggest selection problems for other kinds of events besides civil disorders. The selection mechanisms we examined (distance, regional focus, event intensity, political significance of actors, and news holes) are relevant across events ranging from assassinations to riots and protests to earthquakes. In fact, other events may produce even greater selection effects than civil disorders. For example, nonviolent protest probably is reported far less, simply because it lacks the drama of violence and overt conflict (Mueller 1997a; Oliver and Maney 2000; Oliver and Myers 1999).

CORRECTIVE METHODOLOGY

What can be done to address these selection problems? A number of suggestions for improving the treatment of newspaper data are beginning to emerge, focused either on changing how data is collected or on changing data analysis and interpretation. The most obvious and satisfying solution is simply to collect more and better data by expanding the number of media sources consulted. Adding just a small number of sources is not enough, however, because adding only one or two sources produces only marginal gains and may even make matters worse.²⁷ Collecting data from a large number of sources, however, is neither cheap nor easy, and in some cases (e.g., long-term historical studies), multiple sources that cover the necessary temporal and geographic scope simply are not available. For more recent events, however, the possibilities for affordable collection of comprehensive, or at least representative, data grow with the electronic compilation of media sources (e.g., via LexisNexis). Although searching electronic media compilations comes with its own set of problems that scholars have yet to solve (Maney and Oliver 2001), these sources even-

²⁷ For example, as Table 2 shows, the neglect of secondary school events is greater in the analysis combining the *Washington Post* and *New York Times* data.

tually may allow cost-effective comprehensive data collection.

In the absence of comprehensive data, some have suggested that a selective reduction of the data might help. Because, for example, event intensity is so important in producing coverage, bias may be reduced by analyzing only relatively intense events (Snyder and Kelly 1977). Although bias might be reduced by this strategy, our analysis shows that, at least in the current empirical circumstances, selection effects would not be eliminated—the effects in Table 2 exist after control is used for intensity. We further tested this strategy by dropping all events with less than the median intensity score. When we examined these relatively intense events, we found that both the *Times* and *Post* did cover more of the events (45 percent for the *Times*, and 29 percent for the *Post*). However, when we recalculated the selection analysis, the results paralleled Table 3, even for the intensity indicators.²⁸

In the end, bias in the data sometimes cannot be avoided, so adjustments to analyses also have been considered. Hug and Wisler (1998) have suggested assessing bias during one brief period, then using that information to produce controls in other analyses. Unfortunately, such strategies depend on bias being consistent across time. If it is not, the correction may fail or even overcorrect, thereby obscuring important relations. In the current study, the required consistency did not exist. The upper panel of Figure 4 plots events over time in all newspapers and in the *Times* and *Post*. If such plots are reasonably parallel, then relatively constant bias is thought to hold. In the current case, the peaks and valleys in the event counts seem reasonably consistent.

²⁸ Another possibility is to limit analyses to large cities. We recalculated our results using only cities with populations of 25,000 or more, but because we controlled for city size in our original analyses, the only appreciable difference was that the event density coefficient lost significance. As Myers (2000) has shown, civil disorders in smaller cities tend to follow events in larger cities. Therefore, eliminating small cities reduces the temporal clustering that drives event density and thereby masks social contagion effects. It is not, therefore, a recommended procedure.

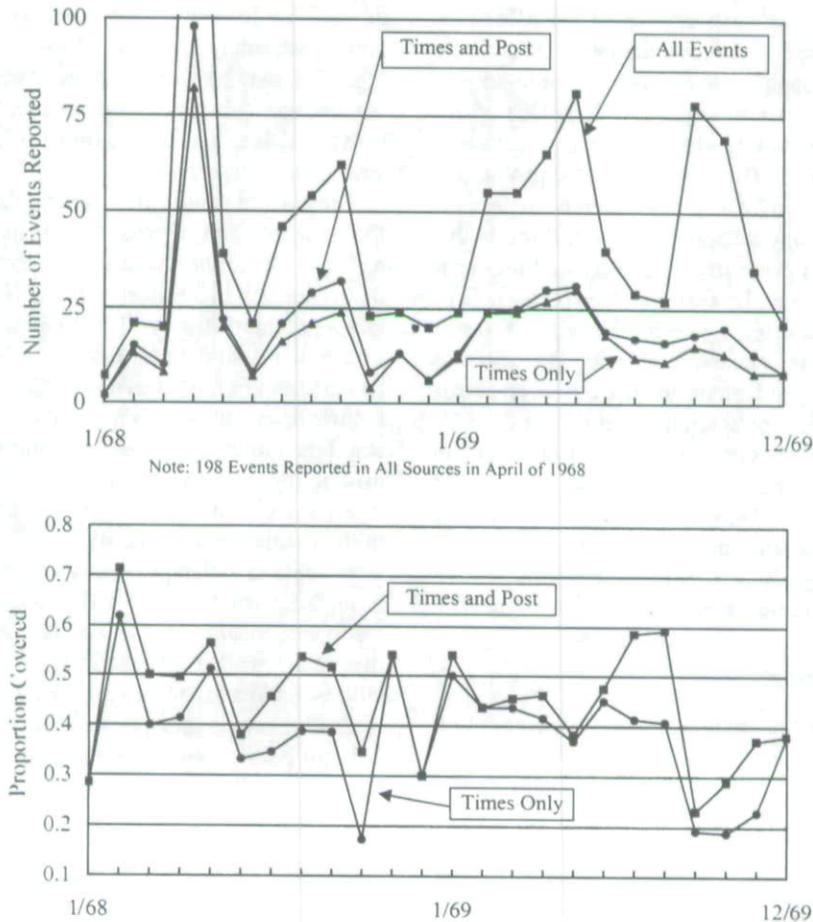


Figure 4. Number and Proportion of Events Reported in New York Times and Washington Post by Month, 1968-1969

Unfortunately, this representation of the data is misleading. If we display the proportion of events covered over time instead of raw numbers (the lower panel of Figure 4), we see that coverage is extremely inconsistent over time: The *Times* coverage, for example, ranges from more than 60 percent covered to less than 20 percent.²⁹ This inconsistency makes it impossible to assess bias in one period and confidently use that information to correct for unknown bias in other periods.³⁰ Besides these short-term fluctuations

in coverage patterns, there also may be longer-term changes to address. In the current case, the period of 1968 to 1969 was extraordinarily conflictive, both domestically and internationally, and was at the peak of a protest cycle. Thus, the available news hole may have been relatively small, as compared with that during more tranquil periods, thereby reducing the chances of coverage for any individual event relative to a similar event in more peaceful times. The assumption of consistent bias is therefore quite tenuous, and the usefulness of corrective strategies that depend on it is suspect.

²⁹ Both trends deviate significantly from consistency: $\chi^2 = 47.4$; $df = 23$; $p < .01$ for the *New York Times* trend and $\chi^2 = 47.8$; $df = 23$; $p < .01$ for the *Times* and *Washington Post* trend.

³⁰ Comparison of the *Washington Post* and the *New York Times* shows that coverage patterns are not

consistent across newspapers either. Thus, selection detected in one paper is unlikely to provide adequate correction for data collected from others.

Given the uncertainty about the effectiveness of these corrective strategies, event analysts must approach *Times* or other single-source newspaper data warily, considering carefully how selection effects may influence results and interpretations. But how serious the problem is for any individual analysis depends, in part, on what kinds of questions are asked. If the analysis is aimed primarily at identifying long-term surges in political contention, then perhaps there is less reason for concern. Likewise, if *Times* event data is used as an independent variable representing information that has been introduced to elite policymakers, it may indeed be an accurate proxy. If, on the other hand, one is interested in predicting events on the basis of structural variables and diffusion influences, the challenge appears to be considerably greater, particularly if one is interested not only in the direction of effects, but also in their magnitude.

CONCLUSION

Relying on mass media sources for information inevitably produces a simplified, distorted, and incomplete picture of the world around us. But what do the media miss and why are some types of events neglected more than others? Past models of media selection identify three clusters of factors. First, certain characteristics of events make them important or newsworthy. These include the intensity and uniqueness of the event, and the notoriety or political significance of the actors. Second, contextual elements can increase the difficulty of reporting the event. These include proximity, news-gathering routines, and censorship. Finally, attention cycles reflect changing demands from an audience, which shift from excitement to fatigue as a topic is reported repeatedly.

The current findings clearly support these past models. For example, no matter what aspect of riot severity we examine, higher levels of intensity increase the chances that the event will be reported by the *Times*. Thus, the selection process exaggerates the typical amount of violence in civil disorders by emphasizing intense outbreaks and ignoring mild ones, leading to a distorted view of protest among policymakers, the public, and scholars. At the same time, the intensity bias understates the geographically pervasive scope of unrest by ignoring events occurring in smaller cities that simply

do not have the critical mass necessary to sustain an extremely severe riot. Responses to rioting, then, may be targeted more toward ending the violence (via repression) in a few key locations and less on addressing the pervasive sources of discontent.

The current results also suggest that the role the audience plays in producing media selection has been underemphasized. A key judgment that reporters and editors make is how important a potential story will be to their audience. The demand for a particular kind of story may be real, assumed, or even induced by the media, but whatever way the news staff comes to understand its audience, this understanding ends up driving its assessment of newsworthiness, and thus its decisions about what will be included in the media record. Past studies, for example, have suggested that proximity is fundamentally an infrastructure issue: Because of limited resources, local media will be less sensitive to distant events. But beyond infrastructure difficulties, local audiences also are less interested in distant events, and, as a result, local media will not bother to report them, even when they have the needed information. Local civil disorders, for example, are more salient to the local audience because they may affect travel in the city, influence local government action and resource distribution, or even provide opportunities for participation in further collective behavior. For these and related reasons, attention to international events likely suffers even more from selection processes. In addition to even greater distances and the accompanying infrastructure challenges, cross-border political, cultural, and language differences reduce relevance to local audiences, thereby reducing coverage and comprehensiveness.

One audience effect notion more clearly developed in earlier research is the effect of attention cycles (McCarthy, McPhail, and Smith 1996), which inordinately increases coverage when an issue becomes "hot" news and then neglects related events as the audience loses interest. In the current study, we identified an event density effect that may partially offset the attention cycles phenomenon. Because newspapers have limits on how much protest or rioting they will cover, when there are many events available to fill this news hole, the chances of any particular event receiving coverage decrease. This produces pressure on cov-

erage exactly opposite that of attention cycles, tending to result in overreporting at the beginning and end of a protest cycle and underreporting in the middle. Thus, the event density effect may extend the life of a story despite a relatively constricted period of audience interest, and it is a dynamic that may help get protest cycles started at points where they have yet to produce critical interest and resources.

Whereas attention cycles and event density may influence selection decisions in the shorter term, selection will change over longer periods because of technological advances. As the ability to distribute news over a wider geographic region increases (via satellite transmission of broadcasts and newspaper content, live coverage of news events, and Internet news delivery), the audience grows and the demand for broader geographic coverage grows as well. Moreover, as information-gathering technology (wire services, search engines, cellular phones, and networks of personnel) improves, the ability to detect events—even geographically distant events—grows as well. Whereas these two effects of technological advance have the potential to reduce the geographic bias in a newspaper such as the *New York Times*, they also produce inconsistency in selection patterns over long periods. Thus, one oft-cited advantage of newspaper records, their continuity, may not be all that it seems: Trends in newspaper-based data may be less trends in the empirical events and more reflections of changing technology.

Finally, audience interest also helps to determine selection practices by defining who the politically and culturally significant actors are. If a political actor's scope of influence overlaps with a newspaper's perceived audience, then the newspaper will be more likely to report that actor's words and behavior. In our study, for example, secondary school students' activities were least reported, probably because readers of the *Times* do not typically consider the behavior of high school students politically significant. During this same period, however, college students had considerably more notoriety because of consistent and dramatic campus protests about many social issues. This notoriety made their actions more relevant to readers and subsequently increased attention to their collective behavior.

Notoriety does not necessarily imply positive attitudes toward the actors, however. But even

when attitudes are negative, notoriety can drive up coverage. Early studies of foreign protests (e.g., Azar et al. 1972) found that American coverage focused on regions in which U.S. foreign policy interests were at stake, but clearly this was not because U.S. interests were supported by the protests. More recently, Richards and McCarthy (2002) found that Louis Farrakhan's Million Man March received much more media attention than a very similar event, the Promise Keeper's rally. A major part of the difference is attributable to the negative notoriety of Farrakhan and the Nation of Islam for the largely white readerships of most U.S. newspapers. In our study, we found that events in cities with larger black populations received more coverage, and we suggest that newspapers were keying in on blacks as significant political actors. This does not mean that the newspapers necessarily supported the actions and goals of protesting blacks, but given the recent history of the civil rights movement, the destructive violence between blacks and whites in 1967, and the general state of race relations, blacks were undoubtedly significant newsmakers and drew extra attention to cities in which they were highly concentrated.

Race also may have driven reporting in other ways. For example, it is possible that reporters may have selected activities that fit received stereotypes. Whites and the white media tend to couple blacks and violence, consequently overreporting, for example, black-on-white violent crime (e.g., Jacobs 2000). Inner-city civil disorders in which black participants destroy property and loot stores are "culturally resonant" for whites, illustrating, highlighting, and reinforcing prior suspicions and stereotypes about blacks, and thereby providing a well-fitting news "peg" for white audiences (McCarthy, McPhail, and Smith 1996).

Our analysis shows that media selection is an important process that must be carefully examined and accounted for in research using newspapers. But in the end, the effects of selection may be even more important for their influence on the social and political world. The current study examined a set of events considered newsworthy by some newspapers in the United States and tried to understand how it became more important news by virtue of appearing in the *Times* or *Post*. Reported events in the two newspapers have large audiences and are more like-

ly to catch the attention of elites and policymakers. In fact, this characteristic of the *Times* has been offered in defense of the data, under the logic that the events that really matter are only those that influence elite policymakers. Although this logic is arguable on a number of grounds, it reinforces the fundamental notion that events become more socially

significant by appearing in the *Times*. These events, then, have greater power to construct and distort social reality than those that languish in their local newspapers. Moreover, when social scientists subsequently use the selected events as their data, they both accept and reinforce media standards about what is "fit to print."

APPENDIX:

Table 1. Correlation Coefficients for Variables Used in Coverage Analysis and Disorder Hazard Analysis

	(1)	(2)	(3)	(4)	(5)
Coverage Variables					
(1) Distance from NYC	1.000	—	—	—	—
(2) Event in NYC	-0.254	1.000	—	—	—
(3) Event in NY State	-0.341	0.694	1.000	—	—
(4) Event in Washington, DC	-0.104	-0.035	-0.050	1.000	—
(5) Intensity composite	0.065	-0.081	-0.120	0.036	1.000
(6) Proportion black (sqrt)	-0.204	0.018	-0.066	0.315	0.051
(7) Total population (ln N)	0.031	0.492	0.261	0.114	0.038
(8) City in south	0.038	-0.142	-0.204	-0.079	0.024
(9) Events in prior 2 weeks (ln N+1)	-0.002	-0.031	0.042	-0.106	0.007
	(6)	(7)	(8)	(9)	
(5) Intensity composite	—	—	—	—	
(6) Proportion black (sqrt)	1.000	—	—	—	
(7) Total population (ln N)	0.178	1.000	—	—	
(8) City in south	0.245	-0.284	1.000	—	
(9) Events in prior 2 weeks (ln N+1)	-0.085	-0.120	0.007	1.000	
	(1)	(2)	(3)	(4)	(5)
City Characteristics					
(1) Black population (logged)	1.000	—	—	—	—
(2) Proportion foreign born	-0.022	1.000	—	—	—
(3) Black median income (logged)	-0.117	0.452	1.000	—	—
(4) Proportion blacks unemployed (logged)	-0.421	-0.020	0.067	1.000	—
(5) City in south	0.168	-0.460	-0.714	-0.166	1.000

ln = natural log; NYC = New York City; sqrt = square root.

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