PUBLIC OPINION AS A MOVEMENT OUTCOME: 
THE CASE OF THE U.S. WOMEN’S MOVEMENT*

Lee Ann Banaszak and Heather L. Ondercin†

We demonstrate that an important outcome of social movements is public opinion change, particularly in the case of the U.S. women’s movement. We argue that contentious events associated with the women’s movement provide informational cues that prime the public. This process then leads to changes in attitudes regarding gender. We use quarterly time series data on contentious events of the U.S. women’s movement ranging from 1960 to 1992 and public opinion about gender attitudes in the United States to examine whether public opinion moves in response to social movement events. Using an error correction model, we demonstrate that social movement events have a significant effect on gender attitudes. Citizens adopt more liberal gender attitudes as the U.S. women’s movement increases its activity. These results suggest that social movement scholars should be paying more attention to public opinion when assessing the outcomes of social movements.

In the last ten years, there has been an explosion in literature examining the question of how much social movements influence policy (Amenta, Caren, Chiarello, and Su 2010). Scholars have analyzed social movement influence and its relationship to other factors that lead to successful policy outcomes (Amenta, Carruthers, and Zylan 1992; Amenta, Dunleavy, and Bernstein 1994), as well as examined the different stages of policy and social movements’ influence on these stages (Banaszak 1996; King, Dahlin and Cornwall 2005; Soule and King 2006). Many of these analyses have either controlled for public opinion as they explored social movement outcomes or examined the intersection of social movement action and public opinion. Change in public opinion as an outcome of social movements has yet to be rigorously examined.

We examine public opinion change as an outcome of social movements by focusing on the second wave of the U.S. women’s movement. In addition to policy change, a central goal of the women’s movement had been changing attitudes toward gender roles. We argue that the women’s movement changes opinion by priming the public with potentially new and different viewpoints on women’s roles and gender expectations. We see social movements functioning similar to other political elites, such as elected officials and political leaders, in shaping public opinion through opinion leadership. With exposure to multiple viewpoints, there are more opportunities for the public to shift their opinion. Using an error correction model on aggregate U.S. data from 1960 to 1992, we find that the number of women’s movement events have both a short-term and long-term effect on gender role attitudes, even after controlling for other sources of attitude change. Our empirical finding that public

* The authors would like to thank Paul Kellstedt, Tiffany Barnes, Jeff Carter, John McCarthy, Eric Plutzer, and the reviewers for their helpful comments on the earlier draft of this paper. We also thank David Iles for his work as research assistant on this project. Earlier versions of this paper were given at the Outcomes of Social Movements Protest Conference at the Wissenschaftszentrum Berlin, and to the Penn State Social Movement Reading group. We thank participants of both groups for their helpful comments.

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DOI 10.17813/1086-671X-20-3-361
opinion is moved by these events suggests the importance of including social movements in analyses of macrolevel opinion changes and the necessity of examining public opinion change as social movement outcome.

PUBLIC OPINION AS AN OUTCOME OF SOCIAL MOVEMENT ACTION

Social movement scholars have examined the consequences of social movements by focusing on both intended and unintended consequences. For example, studies of social movement outcomes have examined social movement effects on public policy (Amenta et al. 1992; Amenta et al. 1994; Banaszak 1996; Taylor, Kimpor, Van Dyke, and Andersen 2009), corporate stock prices (King 2011; King and Soule 2007), corporate behavior (Ingram, Yue, and Rao 2010), other social movements (Meyer and Whittier 1994), and even the definition of disciplines in universities (Rojas 2006). Despite the fact that social movements often use protests to reach a wide audience (Lipsky 1968; McAdam 1996), scholars have tended to ignore social movements’ influence on public opinion. Instead, they have tended to consider public opinion as an alternative explanation for policy outcomes (Agnone 2007; Costain and Majstorovic 1994; McAdam and Su 2002; Soule and Olzak 2004). The few social movement scholars that have examined the effect of social movement activity on public opinion have done so in the context of policy outcomes (Agnone 2007; Burstein 2014; Guigni 2004, 2007; McAdam and Su 2002).

In addition to policy change, social movements pursue changes in public opinion or cultural norms at least part of the time (Meyer 2006; Rochon 1998; Van Dyke, Soule, and Taylor 2004). For example, women’s movement protest events targeted governments only forty percent of the time, and sixteen percent of the protest events recorded in the New York Times were explicitly aimed at the general public (Van Dyke et al. 2004). Movement organizations devote particular attention to the public when they choose their rhetoric and framing (Ferree, Gamson, Gerhards, and Rucht 2002; Rohlinger 2002; Rose 2011). Thus, movement organizations strategically aim to alter public attitudes when they mobilize for events.

Even when social movements have sought policy change, public opinion shifts have often occurred as a consequence of their activity. In some cases, movements intentionally try to shape public opinion in order to affect policy (Lipsky 1968; McAdam 1996). For example, McAdam (1996) argues that part of the civil rights strategy was to stage compelling media events that created public opposition to segregation, thereby forcing the federal government to intervene. Civil rights organizations often claimed credit for shifts in public opinion on race as well (Meyer 2006). But movements can also have unintended effects on opinion. In analyzing the failure of the Equal Rights Amendment, Mansbridge (1986: 188) notes that the campaign “forced Americans to keep thinking about these issues. . . . The result was both creeping feminism and creeping antifeminism. But most of those who pondered these issues have moved in a feminist . . . direction.” Scholars also note that social movements are often cultural influences on later movements (Meyer and Boutcher 2007; Meyer and Whittier 1994; Soule 1997). Through their protest activities, social movements alter attitudes and cultural norms.

Movements themselves, particularly “identity movements” characterized by their focus on the interests or goals of groups defined by ascriptive characteristics, also emphasize that they seek to change societal values. In the case of the U.S. women’s movement, there are numerous examples of contentious events specifically designed to alter cultural norms towards women (Faderman 1991; Katzenstein 1999; Taylor 1996). For example, at the 1968 demonstration against the Atlantic City Miss America Pageant, feminists protested the objectification of women by tossing high heels and bras into a trash can and staging guerrilla theater on the boardwalk (Curtis 1968; Freeman n.d.). The clear focus of the protests, as reflected by the signs carried by protestors and the drama that feminists staged on the boardwalk, was to alter gender norms about youth and beauty (New York Times 1971, 1972), and to highlight the limited roles that women were allowed to play in society. Although this is
but a single example, many other protests during the history of the women’s movement focused on changing social norms towards women and/or gender attitudes.

In sum, social movements’ effect on public opinion warrants attention. The public has often been an important target of social movement activity, but even when not explicitly targeted, case studies suggest that public opinion shifts result from movement activity. Particularly in the case of the U.S. women’s movement, we have shown, first, that these cultural shifts were part of the movement’s view of what they were trying to achieve, and second, that observers of the movement argued that the movement influenced public opinion.

SOCIAL MOVEMENTS AND CUES FROM POLITICAL ELITES

We argue that the women’s movement influences public opinion by priming individuals to think about gender norms and roles. Social movements function similarly to political elites and opinion leaders who bring issues to the public forum, provide informational cues to the public, and/or frame issues in particular ways. These actions, in turn, help align macrolevel public opinion with elites’ political positions (Jacobs and Shapiro 2000; Levendusky 2010; Shapiro and Jacobs 2002; Winter 2008; Zaller 1992). While the literature often focuses on the roles of the media, political leaders, and corporate leaders in influencing public opinion, we suggest that social movements—particularly those with strong collective identities, elite leaders, or strong formal organizations—function like other elites in shaping public opinion.

Multiple studies already show that information moves public opinion (Erikson, Mackuen and Stimson 2002a; Lau and Redlawsk 2006; Lenz 2009; Page and Shapiro 1992; Zaller 1992) and that information from political elites influences the positions of voters (Arceneaux 2008; Bullock 2011). While political parties and members of Congress are important to American politics, social movements have at times held an important place in the American discourse. For example, Kellstedt (2003) notes that the civil rights movement received more news coverage than did the Supreme Court’s ruling in Brown v. Board of Education. Hence, social movement protest also provides useful information to influence the attitudes of the American public.

Protests reported by mass media indicate dissatisfaction with a policy, institution, or process. Mobilizing a protest is difficult and often comes with serious costs, so when a protest occurs it suggests to the broader public the significance of the issue. Absent such protest, citizens may know that an issue exists, but not understand that divisions on the issue exist among citizens. Women’s movement protest events prime individuals to think about gender equality and gender roles. These events also contain additional information. First, they indicate dissatisfaction with the status quo: media coverage of a protest often gives an indication of the grievance that led to the initial event. Second, the events also provide cues to the public that help them determine their own position on gender issues. These cues need not be detailed, explicit, or contain a particular frames for the public to reconsider gender-role attitudes, because even general cues about gender provide important information.

All women’s movement events, we argue, prime the public in ways that lead to gender-role attitude change. We begin with the proposition that extensive messages about the appropriate gender roles for women already exist, and we label them traditional gender roles (Lorber 1994; Sapiro 1983). These are readily available to all citizens because they are prevalent in all aspects of citizens’ lives—in the clothes people wear, in the discussions among neighbors and friends, in implicit messages given in schools, and in books, magazines, and other media. Even those who disagree with these traditional gender roles know their characteristics. When women’s movement protest events are reported in the newspaper, alternatives to this dominant view become salient. Thus, any reports of women’s movement events provide informational cues. At a minimum, women’s protests challenge traditional gender roles, particularly in terms of their private-sphere aspects. If, in addition, citizens glean that there is disagreement among women about any aspect of traditional gender roles, it suggests that
nontraditional gender-role attitudes receive at least some support from some ordinary citizens. Even when the media highlights antifeminist events, it raises the idea that there are multiple positions on gender roles. As such, even antifeminist events indicate that traditional gender role attitudes are being challenged.

Accounts of the U.S. women’s movement fit well with this theoretical perspective. Women’s movement activists often emphasize consciousness raising to bring about changes in gender-role attitudes. Although focusing on small group interaction, consciousness raising is the process by which people, in discussing their own lives, discovered that these represent a common condition and begin to question that condition. Discovering that others are dealing with similar issues leads participants to question existing gender roles. Few people actually participate in or directly witness movement events. Rather, they experience such events by reading about them in the media. We believe that this constitutes an analogous consciousness-raising process where these informational cues increase public awareness of the different grievances that the social movement articulates, in turn drawing connections to the lives of some individuals.

We expect that events related to the women’s movement will result in an aggregate shift in attitudes about gender equality. This does not mean that every individual will react the same way when exposed to women’s movement events. Some may shift their attitudes in a more liberal fashion, but some may react against the movement and become more traditional. Given that women’s movement events provide informational cues about egalitarian gender roles, we simply expect to observe a net movement in the liberal direction as the public systematically adjusts their attitudes.

ALTERNATIVE EXPLANATIONS FOR PUBLIC OPINION CHANGE

While our major interest is the relationship between social movement activity and public opinion, we also need to consider alternative influences on public opinion. Three alternatives are particularly prevalent in the literature: opinion leadership by political elites, people adjusting their attitudes in reaction to public policy change, and actual lived experiences and socialization that might influence gender attitudes. As we note above, political elites, independent of social movements, also send signals to the public that cause shifts in their opinions (Erikson, Mackuen, and Stimson 2002b; Jacobs and Shapiro 2000; Shapiro and Jacobs 2002; Winter 2008). One likely source of opinion leadership on this issue is Congress. Members of Congress engage in a variety of behaviors to publicly demonstrate their positions, and this behavior sends cues that influence public opinion in ways similar to social movement events. During the second wave of the women’s movement, numerous bills concerning women’s rights were introduced in both the House of Representatives and Senate (Wolbrecht 2000). Introduction of this legislation may make the public more aware of issues associated with gender equality and thereby cause attitudes to shift. Moreover, over time more women have been elected to (and run for) both the House of Representative and Senate. Women serving in the U.S. Congress have typically been stronger supporters of feminist legislation and have highlighted issues of women’s equality as well (Dodson, Carroll, Mandel, Kleeman, Schreiber, and Liebowitz 1995; Swers 2002; Swers and Larson 2005). As a result, women serving in Congress might provide the necessary opinion leadership to shift gender attitudes.

A second alternative is that public opinion may react to public policy (Page and Shapiro 1983; Wlezien 1995, 2004). In addition to the government heeding the opinion of the population, scholars find that the public reacts to government actions and adjusts their opinion after policies change (Erikson, Mackuen, and Stimson 2002; Pacheco 2012; Page and Shapiro 1992; Soroka and Wlezien 2009). Moreover, this relationship has been demonstrated across a wide variety of spending policy areas (Soroka and Wlezien 2009). Thus, the public could be taking its cue from government actions on women’s rights rather than from the women’s movement.

Finally, political socialization plays a key role in shaping our attitudes. Each new generation is socialized in a unique environment that may affect its attitudes in particular ways...
Social, economic, and demographic changes have fundamentally changed the lived experiences of men and women. Over the past century, women’s roles in society have changed considerably. Women have entered the paid labor force, moved from working primarily within the home, obtained higher levels of education, and delayed marriage and children until later in life. Many of these changes are linked to changes in gender attitudes at the individual level (Banaszak and Plutzer 1993; Bolzendahl and Myers 2004; Page and Shapiro 1992; Schreiber 1978; Welch and Studlar 1986). Due to the importance of these trends in explaining public opinion, we include them all in our model.

MEASURING GENDER ATTITUDES

Scholars interested in including public opinion as a dependent (or explanatory) variable face many challenges. Relevant opinion questions are not asked often or on a consistent basis. The timing of women’s movement events and the administration of relevant survey questions do not coincide in a convenient fashion, making it difficult to assess any connection between specific movement events and public opinion. For example, Agnone (2007) analyzes the connection between social movement events and public opinion with only thirty-nine observations. Other authors have even fewer observations (Guigni 2004, 2007; McAdam and Su 2002). Because of the limited number and inconsistent timing of survey questions, social movement scholars often utilize single questions despite the fact that these do not capture the complete range of movement goals or consequences. Even in these cases, scholars often are forced to interpolate between years (McAdam and Su 2002; Soule and Olzak 2004) or face a large number of missing cases (Guigni 2004, 2007). We use a different tactic to test the relationship between social movement events and macrolevel public opinion change. We assume that various survey questions on gender roles, gender norms, and public policy relating to women’s issues tap a common latent attitude about appropriate gender roles. We use a multitude of survey questions about gender to produce a single time series of gender attitudes.6

To build our measure of gender attitudes, we start with the fact that public opinion researchers have asked a lot of questions relating to gender over time. Thus we gathered relevant questions from iPoll, the Roper Center’s online archive of public opinion data, and the National Election Studies. We used eight Roper-defined categories to identify relevant questions: women, men, equality, work, family, rights, abortion, and sex. While this does not represent the universe of all survey questions ever asked about gender, it does capture a large share of those questions.

We eliminated any questions that were not asked more than once by the same survey house, using the same question wording. Questions needed to be asked more than once because we use response changes to extract our latent measure of gender attitudes. Using items with the same question wording and administered by the same survey house ensured that response changes were not a function these factors. This resulted in a series of 219 survey questions and 1,040 observations of public opinion data on gender attitudes. A list of all questions available in the online appendix at http://www.heatherondercin.weebly.com/movement-opinion.html.

The questions can be classified into two types: those measuring attitudes towards women’s roles and status and those designed to capture attitudes towards policies supported by the women’s movement. Questions about the role of women and men in society spanned many different topic areas, such as the workplace, family, politics, and military, but did not reference specific public policies. For example, the General Social Survey asks the following question about women’s role in the family and workforce:

(Now I’m going to read several more statements. As I read each one, please tell me whether you strongly agree, agree, disagree, or strongly disagree with it.) . . . It is much better for
everyone involved if the man is the achiever outside the home and the woman takes care of the home and family?

Policy questions included maternity and paternity leave, Title IX, the Equal Rights Amendment, abortion, and affirmative action. For example, CBS News and the New York Times surveyed the population about their attitudes regarding the Equal Rights Amendment:

Do you favor or oppose the Equal Rights Amendment—also known as ERA—the constitutional amendment concerning women?

Only questions requiring respondents to take a clear position on a gender issue were included in the measure. Responses that indicated greater equality between men and women or minimized the difference between the sexes were treated as liberal responses. For policy questions, responses that reflected support for policies advocated by the women’s movement and or feminist women’s groups were coded as liberal. The resulting measure is coded such that higher scores reflect more liberal attitudes. We acknowledge that discussing public opinion about gender attitudes as liberal and conservative is imperfect. This terminology is not used to indicate that the measure aligns with specific political or feminist ideologies. Rather, the measure incorporates aspects of multiple different strands of feminism.

We then used the dyadic ratio algorithm developed by James Stimson to combine the questions into a single time series measure of gender attitudes (Stimson 1999). This algorithm utilizes the logic of principal components factor analysis to combine multiple opinion series by extracting their shared variance and estimating a single time series of a latent measure. The dyadic ratio algorithm has a number of advantages in creating an index of public opinion. First, it creates a single continuous series out of the number of opinion questions, none of which are asked consistently over the entire period. Second, because it utilizes questions that are not asked in every time period, a wider range of questions that reflect movement goals are incorporated into our measure. This reduces the bias associated with any specific individual question.

The underlying logic of this method assumes that the survey questions asking about gender roles, expectations, and policies are tapping an underlying, common attitude about gender. Theoretically, given the pervasiveness of gender in our lives, both as a macro social structure and an individual identity (Beckwith 2005, Lorber 1994), it makes sense that our attitudes and opinions about gender roles and public policies would be related to some underlying trait. But we can also empirically test this assumption. First, the index explains about 48.33 percent of the variation of the items included. This is similar to the amount of shared variance found by others who have used the algorithm to model public opinion in other policy areas (Erikson, Mackuen, and Stimson 2002a, Kellstedt 2003). In fact, we explain more of the variance in gender attitudes than Stimson’s public policy mood, which only explains 40 percent of the variation in survey marginals (Erikson, Mackuen, and Stimson 2002a). We explain slightly less of the variance than Kellstedt’s (2003) measure of racial public policy attitudes, which explains about 52 percent of the variance in the set of survey responses. Second, forty-three percent of the individual questions correlate with the overall measure at 0.75 or greater (http://www.heatherondercin.weebly.com/movement-opinion.html). These diagnostics indicate that the index of gender attitudes captures a considerable amount of shared variation across a wide variety of questions regarding gender roles, expectations, and policies, producing a valid public opinion measure of gender attitudes to use in our analysis. Additional information and robustness checks associated with the gender attitudes measure can be found at http://www.heatherondercin.weebly.com/movement-opinion.html.
ADDITIONAL DATA AND MEASURES

We draw data from a variety of sources for other measures in the analysis (see http://www.heatherondercin.weebly.com/movement-opinion.html for more information about the coding and sources for control variables). The unit of analysis is a three-month period (quarter) and the data run from the first quarter of 1960 to the fourth quarter of 1992. While finer-grain units of time might indicate additional dynamic relationships among our variables, we are limited by the frequency at which our measures are available. Basic descriptive statistics for all variables can be found in table 1.

Table 1. Descriptive Statistics of Key Variables

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Mean Δ</th>
<th>Standard Deviation</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender Attitudes</td>
<td>61.67</td>
<td>0.06</td>
<td>3.56</td>
<td>54.93</td>
<td>68.12</td>
</tr>
<tr>
<td>Feminist Events</td>
<td>5.10</td>
<td>0.03</td>
<td>4.53</td>
<td>0</td>
<td>26</td>
</tr>
<tr>
<td>Net Bill Introductions</td>
<td>103.12</td>
<td>-0.06</td>
<td>66.59</td>
<td>18</td>
<td>274</td>
</tr>
<tr>
<td>Women in Congress</td>
<td>22.72</td>
<td>0.27</td>
<td>11.41</td>
<td>11</td>
<td>57</td>
</tr>
<tr>
<td>Feminist Laws</td>
<td>0.39</td>
<td>0.01</td>
<td>0.72</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Women’s Workforce Participation</td>
<td>48.62</td>
<td>0.16</td>
<td>7.21</td>
<td>36.90</td>
<td>59.10</td>
</tr>
</tbody>
</table>

Movement Events

Our measure of women’s movement events utilizes data from the Dynamics of Collective Action data set, which includes all collective action events from 1960 to 1995 mentioned in the daily editions of the New York Times. We use the subset of events that made claims related to the women’s movement or abortion, which were then coded as either supporting or opposing feminist positions. Our analysis focuses on pro-women movement events. This data set focuses on recording events, not media attention to the events. Thus, if an event generates considerable media attention and multiple mentions in the New York Times, the event is only recorded once in the data set. This data structure limits the possibility that our results are purely a result of media effects and allows us to focus on the influence of movement events on gender attitudes. However, it results in a more conservative test of our hypotheses because we would expect greater media coverage to increase the informational cueing of social movement events.

We aggregate the 1331 individual events by quarter to create a count of the number of women’s movement events by quarter. On average, we observe just over five events in a quarter (mean = 5.1). There are twenty-nine quarters where we observe no events. The peak of events takes place in the second quarter of 1992, when we observe twenty-six events. We acknowledge that in any given quarter the number of events is not large; however, this is because our measure taps only those events that are visible in the New York Times. The events reported in the New York Times are a biased sample of all movement events (McPhail, Smith 1996; Oliver and Myers 1999; Oliver and Maney 2000), but we contend that it serves as a general indicator of the women’s movement events that were reported in the mass media. Our theory suggests that opinion change will occur when individuals are exposed to information about social movement activity. Because the mass media is the means by which most of the public experience social movements, these visible, media-reported events are most likely to influence aggregate opinion.

Control Variables

We control for the effects of opinion leadership, policy change, and long-term demographic change. To examine whether politicians and elected officials lead the public to adopt
more progressive opinions, we include two different measures of public opinion leadership: net feminist bill introductions in Congress and the number of women serving in the U.S. Congress. Our measure of net feminist bill introductions uses Wolbrecht’s data (2000) on the number of feminist and antifeminist bills introduced into each session of Congress. We simply subtracted the number of antifeminist bills from the number of feminist bills to achieve our measure of net feminist bill introduction. Our second control for opinion leadership is a measure of the number of women elected to the U.S. Congress.

We include a measure based on the passage of feminist legislation to examine whether changes in opinions follow changes in policy. We started with Wolbrecht’s (2000) data on bill sponsorship and co-sponsorship of feminist legislation to create a list of feminist bills proposed in each session of Congress. We then researched the legislative history of each bill to determine which bills became law. Our feminist-laws measure is a count of the number of feminist bills signed into law each quarter. Data are only available until 1992, so inclusion of this variable reduces the length of our time series.

Finally, we use the workforce participation rate of women sixteen years or older to capture the massive demographic and lifestyle changes that have occurred over the last century. While there are multiple indicators that could tap these changes (e.g., the proportion of women obtaining college education or the proportion of single women), women's workforce participation has several advantages. It is available on a quarterly basis for the entire length of our study. Additionally, it is highly correlated with many of the other possible indicators of lifestyle changes such as the percent of single women and the percent of women with four-year college degrees. As a result we feel it is a good indicator of these larger changes that may socialize one generation different than the next.

We view women’s workforce participation as a proxy for generational replacement. The key mechanism working for generational replacement is that one generation is socialized differently than the generation before it. Women’s workforce participation allows us to more directly capture this process. While generational replacement is often measured based on birth cohorts, population measures really measure death rates and birth rates, not the socialization process.

MODELING GENDER ATTITUDES AS AN ERROR CORRECTION PROCESS

We begin with the assumption that aggregate gender attitudes change as a result of some exogenous influence (e.g., a demographic change or women’s movement event). When the women’s movement holds an event, we expect gender attitudes to react in two ways. First, events can cause immediate or short-run change to public opinion. Second, events could have a much longer impact causing change to occur over several time periods in the future.

To test our expectations about the relationship between social movement events and public opinion we use an error correction model (ECM). The basic ECM framework places changes of the dependent variable on the left of the equation. On the right side we include a lag of the dependent variable in levels (the error correction rate), lags of the exogenous variables (long-run effects) and changes in the exogenous variables (short-run effects).

These three components of the error correction specification make this model a good fit theoretically and empirically for our data. First, the ECM is a general class of time series models that is valid for both stationary and nonstationary data (Beck 1992; De Boef and Keele 2008). Our dependent variable, gender attitudes, is nonstationary, which increases the possibility of spurious regression results (Granger and Newbold 1974; Ostrom and Smith 1992). To minimize the spurious-regression issue when modeling nonstationary series, researchers often take the first difference of the series. Unfortunately, this purges the series of long-run dynamics making it impossible to estimate long-run effects. Our dependent variable is still specified as the first difference of gender attitudes mitigating the spurious regression issue, but an ECM specification allows the estimation of short-run and long-run effects.
Second, the ECM also includes an error correction rate, which is the coefficient of the lag of the dependent variable included in the model. The error correction rate tells us how fast the series returns to equilibrium after experiencing a shock. Larger error correction rates indicate shocks fade quickly, meaning a fast return to equilibrium. A smaller error correction rate means only a small portion of the shock fades away each time period and the return to equilibrium is slower.

Third, as suggested above, we want to model both the immediate or short-run impact of events and long-run impact of events on public opinion. To capture the short-run effects, our exogenous variables will be specified as their first difference. Short-run effects are only experienced in the quarter the change occurs; the effect does not persist into the future. Long-run effects are modeled by including a lag of the exogenous variable. We include measures of both long-run and short-run effects for our main independent variable: women’s movement events. Here we report only long-run effects for our control variables as a way to preserve model parsimony.18 The error correction rate, together with the long-run effect, indicates the total influence of an exogenous variable. This is done by looking at the long-run multiplier, which combines both measures to indicate the total influence of a shock to public opinion.19

RESULTS

We begin with a graphic view of our dependent variable, gender attitudes, and key independent variable, women’s movement events. Figure 1 displays both of these quarterly time series from 1960 to 1995, with the solid line representing the gender attitudes series (range reported on the left y-axis) and the dashed line indicating the number of women’s movement events (scale on the right y-axis). The metric of the gender attitudes scale is artificial, meaning that when the index is at 56 points we cannot say that 56 percent of Americans are supportive of some position. Rather, it is relational; hence, we can only say that public opinion in 1960 (at 56 points) is slightly less feminist than in 1965 when it was 58 points. Nonetheless, we can see that there has been steady growth in the liberalness of public gender attitudes. The low point in the series occurs in 1963, but there is fairly substantial change over the next several decades, as attitudes grow more egalitarian. Attitudes reach their most liberal position

Figure 1. Gender Attitudes and Women’s Movement Events, Quarterly 1960-1995
for the time period of the study in 1991 at 68 points. In addition to the persistent movement over time towards attitudes supporting more liberal positions, there is also fluctuation around this general tendency. Both types of change fit our theoretical expectations.

We observe only a few feminist events each quarter between 1960 and 1965, but the number of feminist events increases each year starting in 1966, with larger increases in 1970. The number of feminist events peaks in the third quarter of 1977 at seventeen. After 1980, the number of events declines somewhat, although there are some periods of high activity in 1981-1982 and again in the early 1990s. Comparing the two series, there appears to be shared movement between the gender attitudes measure and the number of women’s movement events in figure 1. This provides some support for our expectation that women’s movement events cause a shift in aggregate opinion about gender attitudes. To test this relationship and control for other possible explanations we turn to a multivariate analysis.

Table 2 reports both the coefficients and the long-run multiplier for the error correction model. Women’s movement events have a positive and significant influence on public opinion about gender. The short-run effects are modeled by the change in feminist events. If there is an increase in one event from one time period to the next, the result in an immediate shift in gender attitudes of 0.03 points, which is about a half of the average change in the gender attitude per quarter (0.06). The long-run effect of women’s movement events, modeled by the lag of feminist’s events, has larger substantive impact on gender attitudes. The coefficient for feminist events in the previous period is significant and equal to 0.05. The long-run multiplier explains the total effect of a feminist event over time—including short-

| Table 2. Error Correction Model: Gender Attitudes, 1960(q1) – 1992(q2) |
|-------------------------------------------------|------------------|
|                                                   | Coefficient (S.E.) | Long-Run Multiplier (S.E.) |
| Gender Attitudes<sub>t-1</sub>                  | -0.17***          |                               |
| Feminist Events<sub>t-1</sub>                   | 0.05**            | 0.29**                       |
| Δ Feminist Events                               | 0.03*             |                               |
| Net Bill Introduction<sub>t-1</sub>             | 0.001             | 0.005                        |
| Women in Congress<sub>t-1</sub>                 | -0.0001           | -0.0004                      |
| Feminist Bill Passage<sub>t-1</sub>             | 0.17*             | 0.97*                        |
| Women’s Workforce Participation<sub>t-1</sub>   | 0.06**            | 0.35***                      |
| Constant                                        | 7.27***           |                               |
| N                                               | 132               |                               |
| R<sup>2</sup>                                   | 0.10              |                               |
| Dickey Fuller Test (β)                          | -11.21***         |                               |
| Breusch-Godfrey LM (χ<sup>2</sup>)               | 0.04              |                               |
| Breusch-Pagan Test (χ<sup>2</sup>)               | 2.44              |                               |

Notes: The Dickey Fuller tests assess the null hypothesis that the residuals contains a unit root. The Breusch-Godfrey LM test assesses the null hypothesis that no serial correlation exists in residuals. The Breusch-Pagan test assesses the null hypothesis of constant variance in the residuals. p-value ≤ *0.10; **.05; ***.01
run, long-run, and error correction effects together. Altogether, the long-run multiplier suggests that one women’s movement event shifts public opinion on gender attitudes by 0.29 points. To put this in some perspective, the standard deviation for change in gender attitudes is 0.72. Thus a single women’s movement event causes aggregate opinion on gender attitudes to shift about two-fifths of a standard deviation. On average, just over five women’s movement events occur each quarter. This average level of women’s movement mobilization results in a 1.45-unit shift in gender attitudes, or just over two standard deviations.

To better understand the substantive impact of the variable, we can think about this relationship in terms of changes in the attitudes associated with a single survey question that makes up the gender attitudes measure. Using standardized regression coefficients, we calculated the standardized long-run multiplier, which is 0.39. A one standard-deviation shift in women’s movement events therefore causes about four-tenths of a standard-deviation shift of gender attitudes. For example, the General Social Survey asked the question, “If your party nominated a woman for president, would you vote for her if she was qualified for the job?” thirteen times between 1972 and 1991. Over that time period public support for a female president increased from 73.68 percent to 90.62 percent, representing an increase of 16.96 percent. One quarter of this change, or 6.6 percent, can be attributed to the influence of the women’s movement.

This relationship is dynamic, meaning that the long-run effect occurs over a number of time points. Figure 2 presents the cumulative effect of a single event on gender attitudes over time. When a women’s movement event occurs at time \( t = 1 \), we see an initial impact on public opinion. Moreover, as the long run impacts start to compile, the impact compounds because the effect is carried forward by the error correction mechanism (the lagged dependent variable). The error correction rate is estimated to be -0.17. The negative sign indicates that the series is in the process of returning to an equilibrium. The magnitude of the error correction rate suggests this return to equilibrium is slow, with only about seventeen percent of the shock dissipating after each quarter. Figure 2 shows then how the small effect of one event slowly accumulates as it is carried forward into the future by the lagged dependent variable. After a year, only about half of the total effect of the event has been felt on gender attitudes. It takes around twenty-four quarters, or six years, to reach its full impact.

**Figure 2.** Substantive Effect of One Women’s Movement Event on Gender Attitudes
Turning to the control variables in the model, we find no evidence of opinion leadership by other political elites once social movement events are in the model; both of our measures for opinion leadership by political leaders, net bill passage and the number of women in Congress, are insignificant. However, we do find evidence that policy influences the level of gender attitudes. When the women’s movement has policy successes, measured as feminist legislation becoming law, public attitudes about gender also grow more liberal. The long-run multiplier shows the total effect of 0.97 for every piece of feminist legislation that successfully becomes law. This represents almost a whole point shift in gender attitudes every time a piece of feminist legislation becomes law. A total of thirty-eight feminist laws were enacted during the time span of our data, or 0.38 laws enacted each quarter. As a result the average effect for feminist laws is only a 0.37 points shift in gender attitudes. The changing social, political, and economic context represented by women’s workforce participation also has a positive and significant effect on gender attitudes. Here a one percent increase in women’s workforce participation causes attitudes to grow 0.35 points more liberal over the time period (i.e., this is the long-run multiplier), which is about a half of a standard deviation shift in gender attitudes. The average change each quarter for women’s workforce participation is only 0.16, thus its substantive impact on gender attitudes is approximately 0.06 points.

In addition to the model presented above, we tested the robustness of our findings using several alternative specifications. We describe the results of those robustness checks briefly here, and more details can be found at http://www.heatherondercin.weebly.com/movement-opinion.html. The women’s movement did not occur in isolation; in addition, a strong antifeminist movement was organized in response to the mobilization and success of the feminist movement and changes in political opportunity structure (Banaszak and Ondercin forthcoming; Meyer and Staggenborg 1996). Unfortunately, our data are not fine enough to fully disentangle the role that feminist and antifeminist events play in the model. Every quarter in which an antifeminist event occurs also has a feminist event and the counts of pro-feminist and antifeminist events are correlated at 0.53, suggesting a fairly strong relationship. Interestingly, antifeminist events were also positively and significantly related to more liberal gender attitudes. This is consistent with our general theory, which argues that contentious events simply prime individuals to think about gender roles and expectations and could lead to attitude change. It appears that when movement events cause people to think about gender roles and expectations it leads to more liberal attitudes. However, further research is needed to disentangle the effects of feminist and antifeminist movements on public opinion.

Second, we consider the possibility that different types of events may have different effects. McAdam and Su (2002) show that police violence and large events both influence movement outcomes. In our data, large demonstrations, defined as events having 10,000 participants or more, occur in only twelve percent of quarters, and only seven quarters (or five percent of all quarters) contain events with police action, defined as events where police use physical tactics, violence or attack protestors. Our models show no additional effect for quarters when larger events were held or when police employed physical tactics. Finally, we considered the impact that two key nonprotest events had on public opinion: the Supreme Court’s decision in *Roe v. Wade* and congressional passage of the Equal Rights Amendment. Dummy variables indicating these events are insignificant, leading us to conclude that neither event caused a temporary or permanent shift in gender attitudes. Rather, any shift in public opinion associated with these nonprotest events is likely a function of the increased mobilization of the women’s movement that resulted from these events.

The results above suggest that even controlling for other factors that might influence aggregate opinion about gender roles, such as the changing nature of women’s lives, policy shifts, and congressional opinion leadership, that events of the women’s movements have a persistent effect on public opinion over time. We find evidence that social movement events influenced gender attitudes, more so than the reigning alternative theory that citizens follow the lead of political elites. Indeed, perhaps most surprising, when social movement events are
Public Opinion as an Outcome of the U.S. Women’s Movement

included in the model we find little evidence of political elites leading public opinion, as has been suggested by other work. Our analysis suggests that those who argue that Congress leads public opinion may need to incorporate social movements into their theoretical perspective before they conclude that opinion is driven by elected political elites. While many of these authors informally acknowledge the importance of social movements, empirical analyses of whether public opinion is led by policy or opinion leaders have not included social movements.

CONCLUSION

This article examines changes over time in aggregate opinion about women’s roles, focusing on the effect that the U.S. women’s movement had on these shifts. We start from the premise that changing public opinion is an important goal of many social movements, and especially of the women’s movement. Although feminists also pursue policy change, changing social norms and beliefs about women’s roles has been equally important. In taking seriously the idea that movements influence social change, we found that there were both direct long-run and direct short-run effects that social movement events had on public opinion. These effects persisted even when controlling for lifestyle changes, political-elite leadership on issues, and the effect of policy changes. Moreover, these effects are not just short-term fluctuations, but rather the effects of social movements on gender attitudes persist—even many years after the initial events occur. This may explain suggestions by other scholars that the movement generated long-term changes in attitudes (Mansbridge 1986: 188; Page and Shapiro 1992: 353; Rochon 1998).

These results suggest that politics in the streets plays a large role in public opinion formation above and beyond what is occurring in the halls of Washington DC. Despite a host of research that focuses on how political elites influence public opinion, we found that political-elite opinion leadership was not a significant predictor in the case of gender attitudes. Our findings serve as a minor adjustment to the view that political elites have a major influence on public opinion. If public opinion responds to social movements as well as to cues from elites, this suggests that as long as the mass media report major protest events, there is room for citizens to move opinion as well. For scholars exploring how political or media elites lead opinion, our results suggest the importance of considering social movements when looking at issue areas where citizen mobilization has occurred. Our findings also suggest that social movement scholars need to revisit studies of the social movement outcomes. First and foremost, the literature on social movement outcomes has focused on policy change. This focus, while important, ignores many social movement activists’ view that they are themselves a source of opinion change. Without taking this view seriously, understanding social movement outcomes is difficult. Equally important, social movements are often juxtaposed against public opinion in explanations of policy outcomes. However, our findings indicate that such analyses underestimate the effects of social movements since movements also change opinion, even as they also seek policy change. Social movement scholars have been hampered in exploring the role of public opinion by the limited availability of consistent measures over time. Our method for combining individual survey questions into a single scale has less stringent requirements in terms of missing time periods. We hope this method leads to a revisiting of the relationship between movement mobilization and public opinion in the understanding of policy outcomes and a blossoming of research on public opinion as a social movement outcome.
introduction and bill passage variables. for weak exogeneity. Overall this supports our use of ECM, but suggests some caution in interpreting the bill Congress, and women’s workforce participation are weakly exogenous. Bill introductions and bill passage fail the test long-run equilibrium” Enders (2004: 368). Based on the VECM gender attitudes, feminist events, women in VECM specification also allows us to test for weak exogeneity using a lack of response to “the discrepancy from We use the seasonally adjusted series. The short-run effect on feminist events is also no longer significant in the VECM compared to the ECM. The possibility we also ran the models as a system of equations using a Vector Error Correction model (VECM). The coefficients are positively signed and fail to reach significance. Our finding about the effect of feminist movement walls, and Diaz 2005: 399). Because the variance coding in these data can be misleading (Olzak 2010), the event data were coded by hand by the authors and a graduate assistant using the What, Where, Why, and How fields, as well as the title of the article. Using Cohen’s kappa statistic, a robust measure of intercoder reliability across multiple coders (Fleiss 1973; Landis and Koch 1977; Lombard, Snyder-Duch, and Bracken 2002), which incorporates the probability that coders could attach similar values by chance, we found high levels of intercoder reliability for profeminist events (k=.81, p=.000).

9 Because the variance coding in these data can be misleading (Olzak 2010), the event data were coded by hand by the authors and a graduate assistant using the What, Where, Why, and How fields, as well as the title of the article. Using Cohen’s kappa statistic, a robust measure of intercoder reliability across multiple coders (Fleiss 1973; Landis and Koch 1977; Lombard, Snyder-Duch, and Bracken 2002), which incorporates the probability that coders could attach similar values by chance, we found high levels of intercoder reliability for profeminist events (k=.81, p=.000).

10 The extensive literature on the bias of event data gathered from newspapers suggests that our list of events are likely to represent large, dramatic events involving physical violence, formal organizations or elites involved in policy making (McCarthy, McPhail, and Smith 1996; Oliver and Myers 1999; Oliver and Maney 2000; Ortiz, Myers, Walls, and Diaz 2005: 399).

11 We ran alternative specifications using the total number of feminist bills introduced, the total number of antifeminist bills introduced, and both pro- and antifeminist bills introduced. Across all the alternative specifications, the coefficients are positively signed and fail to reach significance. Our finding about the effect of feminist movement events on gender attitudes remains unchanged.

12 These data were downloaded from the Bureau of Labor Statistics, www.bls.gov/oes/. Series id: LNS11300002Q. We use the seasonally adjusted series.

13 We performed an alternative set of analyses that used a birth-cohort measure instead of women’s workforce participation. When we include the proportion of the population that came of age politically after the start of the second wave of the women’s movement, the sign for both the long-run and short-run effects of women’s movement events remains positive, although the magnitude of the long-run effect shrinks slightly and falls below traditional standards of statistically significance (p = 0.11). The short-run effects remain significant. In addition, the generation measure is positive and significantly related to gender attitudes in the long run; but negative and significantly related in the short-run to gender attitudes.

14 See De Boef and Keele (2008) for greater detail about the use and properties of error correction models.

15 It is possible that endogenous relationships exist among the variables specified in the model. Because of this possibility we also ran the models as a system of equations using a Vector Error Correction model (VECM). The long-run relationships reported here are robust in the VECM specification with one exception: allowing for endogenous relationships, bill introductions are significant in the long-run in the VECM but not in the single equation ECM. The short-run effect on feminist events is also no longer significant in the VECM compared to the ECM. The VECM specification also allows us to test for weak exogeneity using a lack of response to “the discrepancy from long-run equilibrium” Enders (2004: 368). Based on the VECM gender attitudes, feminist events, women in Congress, and women’s workforce participation are weakly exogenous. Bill introductions and bill passage fail the test for weak exogeneity. Overall this supports our use of ECM, but suggests some caution in interpreting the bill introduction and bill passage variables.

16 A stationary time series has a constant mean and variance.
The auto correlation function (ACF) for the gender attitudes series shows strong and persistent correlations suggesting the series is integrated. Both the Augmented Dickey Fuller test and the KPSS test indicate the series is nonstationary. The first difference of the series is stationary based on these same tests. As a result, we conclude the series is a first-order integrated series. As required when using an error correction model with nonstationary data, we confirm the presence of a co-integrating relationship among our long-run variables.

The results reported here are robust even with the inclusion of both short-run and long-run effects of the control variables. None of these short-run effects are statistically significant, nor do they improve model fit.

The long-run multiplier = $\beta_1/\alpha_1$ (De Boef and Keele 2008).

Our analysis of public opinion is constrained to the time period 1960-1995 because of the limited availability of women’s movement event data. Although gender attitudes peak in 1991 in our data, Cotter, Hermens, and Vanneman (2011) note further increases in the liberalism of public opinion about gender after the 1990s. In another project utilizing the same data, we extended our gender attitudes measure to 2008 and find continued liberalization of gender attitudes (Ondercin 2011).

The standardized coefficients used are gender attitudes, t-1 = -.82 and feminist events = .32.

These findings also support calls that public opinion needs to be included in more studies within political sociology (Manza and Brooks 2012).

REFERENCES


