

The Suffragist Peace

Joslyn N. Barnhart[†]

Allan Dafoe^{††}

Elizabeth N. Saunders^{†††}

Robert F. Trager^{††††}

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Preferences for conflict and cooperation are systematically different for men and women. At each stage of the escalatory ladder, women prefer more peaceful options. They are less apt to approve of the use of force and the striking of hard bargains internationally, and more apt to approve of substantial concessions to preserve peace. They impose higher audience costs because they are more approving of leaders who simply remain out of conflicts, but they are also more willing to see their leaders back down than engage in wars. Unlike men, most women impose audience costs primarily because a leader behaved aggressively in making a threat, not because the leader endangered the states bargaining reputation through behaving inconsistently. Many of these differences, and possibly all, span time periods and national boundaries. Women have been increasingly incorporated into political decision-making over the last century through suffragist movements, raising the question of whether these changes have had effects on the conflict behavior of nations consistent with their large effects in other areas, such as the size and competencies of governments. We find that the evidence is consistent with the view that the increasing enfranchisement of women, not merely the rise of democracy itself, is the cause of the democratic peace.

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[†] Wesleyan University, joslyn.b@yahoo.com.

^{††} Yale University, allan.dafoe@yale.edu.

^{†††} George Washington University, esaunders@gwu.edu.

^{††††} University of California, Los Angeles, rtrager@ucla.edu.

In Aristophanes' play *Lysistrata*, the women of Greece famously decide to withhold sexual privileges from their husbands and lovers to force the men to negotiate peace in the Peloponnesian War. Perhaps less well-remembered is that much of the rest of the play involves a confrontation between the sexes that ultimately results in peace talks, but not before the women make their own preferences for peace heard (Aristophanes 1925). Public opinion research in the contemporary United States is consistent with this ancient gender divide on the use of force. It is well-established that women, while not completely dovish, are generally less supportive of war than men. Indeed, Brooks and Valentino assert that “the divergence between men and women in support for the use of force represents the largest and most consistent gender gap measured since the advent of systematic public opinion polling” (Brooks and Valentino, 2011, 270-286).

Yet, as with other studies of public opinion, a significant question is whether and how public opinion cleavages actually influence foreign policy decisions and international outcomes. Public opinion research in international relations generally struggles with the so-called “aggregation” problem, moving from individual preferences to policy outcomes, via politics that filters through institutions, strategic context and regime type (Hafner-Burton et al., 2017). How, exactly, do differences in male and female preferences matter for international relations?

In this article, we use data from both the individual and international levels to show how the increasing enfranchisement of women influenced behavior in the international system. We analyze the average difference between men and women in their political preferences at each international crisis decision point; we show how extending suffrage to women changes the composition of the electorate; and we show how these changes interact with domestic political institutions and strategic contexts to influence state decisions to make threats and engage in war. We find that the evidence is consistent with the view that the increasing enfranchisement of women, not merely the rise of democracy itself, is the cause of the democratic peace. Our analysis bridges between the individual and international

levels to show how the gender gap on the use of force matters, contributing to the growing positivist study of gender and international relations (see Reiter 2015 for a review).¹

At the individual level, we perform a meta-analysis of survey experiments that test public opinion on issues of war and peace. Although the gender gap on the use of force has been explored extensively in polling data (see, e.g. Eichenberg 2003, 2016, Hudson et al. 2012, Goldstein 2003, 303-5, 329-30), the analysis of survey experiments allows for a fine grained analysis of sex differences in popular preferences over the range of international crisis bargaining outcomes. These experiments are designed to target the sources of preferences for war and peace precisely and therefore allow us to isolate differentiated impacts of gender differences. We examine how the sexes view the standard crisis bargaining outcomes: staying fully out of a conflict, coercing a negotiated outcome, backing down and engaging in a successful or unsuccessful war. The experiments cover a wide geographic area, including four continents and both developed and developing countries, allowing us to verify that gender effects are not specific to North America and Western Europe. The results at the individual level are unequivocal: women are more hesitant to approve of the use of force, less desirous of negotiated outcomes that appear as substantial impositions on adversaries, and more willing to see their government back down rather than use force once a threat has been made. Though women also impose audience costs, unlike men they primarily do so because a leader behaved aggressively in making a threat, not because the leader endangered the state's bargaining reputation by saying one thing and then doing another (Kertzer and Brutger 2015).

We then develop a theory of how these changes in the composition of the electorate influence international policy. We describe how democratic institutions interact with the electorate's preferences to produce shifts in state preferences. The composition of the electorate determines the general will

¹We use the term "gender" in describing literature and theory that emphasizes the social construction of sexual differences; we use the term "biological sex" in reference to the individual level data, which asks respondents to self-identify as male or female. We recognize that both terms have short-comings. See Goldstein (2003, 2) for a discussion.

but political institutions determine the extent to which the general will determines state preferences and actions. Extensions of suffrage changed the balance of preferences over conflict and cooperation in voting populations and these shifts resulted in changes in state preferences to the extent that other democratic institutions caused state preferences to align with popular preferences. We show that such shifts in state preferences are likely to produce both monadic and dyadic effects internationally as a result of strategic interaction. The theory of the effects of shifts in public preferences that we present is consistent with the finding that female *leaders* may participate more in international conflict (Dube and Harish 2017).

Finally, we estimate the effect of the preference shifts that resulted from the extensions of women's suffrage on state aggression. Using original, cross-national data on suffrage, we find evidence that the extension of suffrage is associated with both monadic and dyadic reductions in the use of force. As theorized, these effects are particularly strong in the presence of strong democratic institutions. Democratic institutions by themselves are not associated with a dyadic peace. Thus, the evidence is consistent with the theory that the enfranchisement of women, alongside other advances in democratic representation, are jointly responsible for the reduced levels of conflict among democratic counties. These effects hold across time periods and do not appear to result from other confounding factors, such as extensions of suffrage generally (De Mesquita et al. 1999) as opposed to the extension of suffrage to women. In fact, other extensions of suffrage have no discernible effects on conflict behavior.

Although the scope of this paper does not allow for a full exploration of the sources of gender differences in preferences over the use of force or of the many possible ways that women's preferences influence national policy, we show clearly that these gender differences at the individual level generate important national-level constraints that affect international outcomes. The findings are strongly suggestive that as women entered the political sphere, they changed the composition of national

electorates in ways that influenced national leaders. Consistent with past research, and separate from the effects of female enfranchisement, we also find evidence that societies that protect women’s civil liberties are less likely to fight each other (Caprioli and Boyer 2001, Caprioli 2003, Hudson et al. 2012). We speculate in the conclusion about future research to probe the mechanisms through which gendered socialization processes and women’s preferences on using force might affect political decisions for war.

Gender and Public Opinion: Aggregate- and Individual-Level Evidence

Beginning at early ages and spanning cultural contexts, males are more aggressive, across a range of measures of aggression (Tapper and Boulton 2004, Hyde 1984, Whiting and Whiting 1975). Consistent with these differences in individual behavior, there is a well established gender gap in U.S. surveys of support for the use of force As Conover and Sapiro (1993, 1079) argue, “for centuries the dominant gender images of war have been limited and relatively stable,” with men as “the militaristists and perpetrators” and women as “the pacifists and victims.” Public opinion research complicates this story with considerable nuance, but “although American women as a group can hardly be classified as pacifist, they certainly appear less militaristic than American men” (Conover and Sapiro, 1993, 1079).

In perhaps the most comprehensive assessment of polling data to date, Eichenberg (2016) analyzes gender differences in U.S. public attitudes toward the use of military force in twenty-four cases from 1982 to 2013, including the wars in Afghanistan and Iraq and the crisis in Syria. He consistently finds that women are less supportive of using force; this result holds across time, the size of interventions (including smaller operations such as the deployment of Marines in Lebanon in 1983 or the airstrikes in Libya in 1986), and the partisanship of the president, although the magnitude of the gender gap varies. Across 965 polling questions between 1982 and 2013, Eichenberg finds an average gender gap

of 10 percentage points for the actual or hypothetical use of force (Table 1).²

This trend has continued beyond the end of Eichenberg’s timeline, even in a renewed era of concern over terrorism and the rise of the Islamic State. For example, a CNN/ORC poll taken in August 2015 asked respondents, “Do you favor or oppose the United States sending ground troops into combat operations against ISIS forces in Iraq or Syria?” 56% of men favored sending ground troops, while only 39% of women supported sending ground troops, a gap of 17 percentage points, even during a political campaign that frequently highlighted terrorism.³

Given the consensus that there exists a gender gap on the use of force, scholars have explored the sources and limits of the gap. In a wide-ranging study of gender and war, Goldstein provides significant evidence that the “gendering of war” is a near-universal phenomenon, with war associated with men across cultures and time (Goldstein, 2001). Although his study focuses mainly on war fighting rather than political preferences, the consistency of gender roles in war across time and space is striking and undoubtedly relevant to understanding public attitudes.

Focusing on public opinion in the context of the first Gulf War, Conover and Sapiro (1993, 1080) usefully categorize explanations for the gender gap in public attitudes on the use of force into those that focus on the fact of gender itself— “maternalism,” or the experience of motherhood—and “feminism,” which can take several forms but generally emphasizes political activation of gendered views of war. Within the gender explanation, as they note, some early studies focused on explanations rooted in biological differences, but many studies moved away from biological determinism and emphasize instead “early differential socialization and experience.” Whether biological or social, however, the gender-based explanations “share an important implication,” namely that “differences between women’s and men’s orientations to war are founded in childhood or earlier and cannot be

²See also

³<http://www.pollingreport.com/isis.htm>

explained away by any other aspects of their lives.” They find the most support for the gender explanation and some for feminist arguments, but little support for maternalism.

As Eichenberg (2016, 139-140) notes, the persistent gender gap in polling data over time suggests that gender is the cause of this gap, rather than some time-varying factor such as partisanship, ideology, or changes in women’s skill, labor, or education profiles. For example, in the context of political economy, Iversen and Rosenbluth (2006) find that women’s labor market opportunities, which vary over time, have affected their support for left-leaning parties and thus the gender gap in political preferences. The stability of the aggregate-level gender gap, coupled with individual-level observational data suggesting the importance of gender itself as a driver of the gap, suggest that the gap is not driven primarily by political or social factors that women encounter as adults.

Yet important nuances in gender gap findings suggest that politics retains a role in moderating the gender gap. Using experimental data, Brooks and Valentino (2011) find that the gender gap can be moderated under some conditions related to political feminism, such as whether the war stakes are humanitarian rather than strategic. Indeed, Eichenberg (2016) also found some evidence that women are more supportive of the use of force under humanitarian circumstances, and that during the wars in Iraq and Afghanistan, the gender gap decreased as men became more sensitive to casualties.⁴

Additionally, in a separate analysis of the gender gap on defense spending - an important ingredient of deterrence, among other things - Eichenberg and Stoll (2012) found that women were less supportive of defense spending on average, but that men and women’s support for defense spending co-moved over time and were responsive to similar factors. These findings suggest that at the individual level, women are not wedded to an extreme pacifist position but rather have a more baseline dovish preference in most contexts; women, like men, are responsive to informational and political

⁴Chaney, Alvarez and Nagler (1998) find that different views on the use of force contribute to the gender gap in presidential elections.

cues and arguments in favor of building and using the military.

Still, most of the findings to date - with the notable exception of Brooks and Valentino (2011) - employ observational data, which, as Eichenberg notes, is sensitive to question wording and context. The answers to survey questions are revealing, but responses can be interpreted in a variety of ways. When a respondent supports sending troops to a particular war, for instance, it may be because the respondent prefers to see the country fight in the war instead of remaining out of the conflict. But the support of the respondent may also be tied to the fact that in the previous week, the President of her country committed to fighting the war. The respondent thus may be ready to impose an “audience cost” for backing down and may not prefer conflict over cooperation in general, only holding that preference contingently following the president’s statement (Fearon 1994, Tomz 2007, Trager and Vavreck 2011). Similarly, when a respondent declines to support a war, that may indicate that the respondent would be more supportive of a particular negotiated solution. It is also possible, however, that the respondent would be equally frustrated by a decision to stay out of a conflict and would instead approve of fighting if the troops were better supported and funded. Alternatively, the respondent may not in fact have a strong preference for peace or for war because their frustration derives from the leadership’s decision to make threats and become involved internationally in the first place (Kertzer and Brutger 2015). Thus, when a respondent indicates that they would or would not support conflict, it is often unclear what alternative policies they would support.

Meta-Analysis

To understand the on average differences between men and women more precisely, we turn to a meta-analysis of the many survey experiments conducted in the field of international relations. These experiments provide a unique source for drawing inferences about the effects of sex because they are designed to isolate the factors the field considers among the most important determinants of conflict or cooperation decisions. This allows us to examine sex differences at each stage and with respect

to all the options in the canonical international relations escalatory decision tree. We are able to analyze sex differences not just over war and peace, but over negotiated solutions, government backdowns and successful and unsuccessful uses of force.

Survey experiments also ask questions that directly relate to international relations theories. We analyze, for instance, a series of four comparable experiments from four countries that examine how respondent preferences differ over shares of a disputed good. This allows for a cross-national, theory-driven analysis of sex distinctions that is impossible with existing survey data. We are able to examine not just whether war is approved of, but how male and female preferences differ over shares of a disputed good achieved in negotiations. We can compare whether war is preferred vis-a-vis specific peaceful outcomes. We can determine whether audience and reputational costs are specific to one sex, whether the sexes differently evaluate backing down versus engaging in war, and how they evaluate more and less successful uses of force against peaceful outcomes. Further, the geographic breadth of these experiments enables inferences about the cultural specificity of the connection between sex and international preferences.

For the meta-analysis, we use the universe of experiments conducted by international relations scholars on representative samples of national populations that describe a potential or actual international conflict and ask respondents about their preferences over crisis bargaining outcomes. All experiments in this universe recorded the sex of respondents and thus the analysis includes all such experiments for which data was available.⁵ Some of these experiments included a conflict treatment alongside other treatments, and other experiments included only a question about a choice to engage in conflict following a description of an international context. We also conducted four original experiments in four different countries. In total, we analyze eighteen studies comprising more than

⁵We exclude convenience samples and MTurk studies because the joint distributions of sex and a variety of other demographic characteristics that influence conflict preferences are skewed in MTurk studies vis-a-vis the general population (Huff and Tingley 2015, 4). There is some evidence that the effect of sex on conflict preferences may be attenuated in MTurk populations, which we discuss in Online Appendix AA.

20,000 respondents from 6 countries and 4 continents.

The survey vignettes of these studies offer diverse reasons for the use of force across a range of contexts. Tomz and Weeks (2013) study the response of British and U.S. populations to using force to prevent nuclear weapons acquisition, while Flores-Macías and Kreps (2015) study the support in those same populations for protecting an ally, humanitarian intervention and regime change. Tago and Ikeda (2015) examine Japanese support for the use of force alongside the U.S. in the service of democratic regime change in the Middle East, while Grieco et al. (2011) examine action in East Timor. Gottfried and Trager (2016) analyze a conflict with Russia in the Arctic, while Press, Sagan and Valentino (2013) study an attack on an Al Qaeda nuclear weapons lab in Syria.⁶ The original data we collect come from experiments in Egypt, Israel, Turkey and the United States. All of these experiments ask similar questions about a resource conflict in the Mediterranean or, in the case of the U.S, in the Arctic.⁷

We turn first to an examination of sex differences in preferences for the use of force. To perform the meta-analysis, we restrict attention to vignettes that describe either a use of force in the future or a successful use of force in the past, and we show that the effects of sex differences are robust to analyzing either set of studies separately. We exclude vignettes describing unsuccessful uses of force because reactions to these may derive from the use of force itself or from the defeat. When participants were asked if force should be used or should only be used under a more restrictive set of conditions, we only coded the unrestricted use of force option as advocating the use of force.

In every study, support for the use of force is higher among men than among women. The average level of support among men is just over half while the average support among women is only 38%, a 14 percentage point difference which is significant far beyond any conventional level ($p = 5.2 \times 10^{-57}$).

⁶An appendix describing the universe of experimental studies in the field of international relations, from which our studies are drawn, is available in Online Appendix BB.

⁷These studies are described in detail in Online Appendix CC.

These effects span the globe to a remarkable degree. The difference between the sexes in approval of the use of force over Mediterranean resources is 14% ($p < .01$) in Egypt and 12% in Turkey ($p = .0001$).⁸ Each of the U.S. and U.K. studies are individually significant at conventional levels.⁹ In the two studies from Japan, the difference in approval levels by sex is a remarkable 23 percentage points ($p = 8.8 \times 10^{-28}$). In fact, the difference between male and female support is highly significant in each study with the sole exception of our original study conducted in Israel ($p = .1$). These results are presented in Table 1.

Thus, across cultural contexts and regions, women are less approving of the use of force vis-à-vis a peaceful alternative. In every region we examined - North America, Europe, the Middle East and Asia - the difference in preferences is statistically significant, often at extreme levels. The results of the meta-analysis also suggest differences across regions. The effect appears largest in Japan and smallest in Israel, for instance. Cultural factors certainly influence the construction of gender preferences, and we believe international conflict preferences are no exception. Nevertheless, we must be cautious in drawing conclusions about cultural difference from this data. Many of the studies ask different questions, and even where they ask the same questions, the differing contexts mean that the questions will be interpreted differently. In spite of this important caveat, we did test whether the gender divide in Israel was less than in the other two countries, Egypt and Turkey, who were asked exactly the same questions. To do this, we ran a simple linear regression of approval on the sex variable and a dummy variable coded 1 for Israelis and 0 otherwise and the interaction of these two. The populations have very different conflict preferences overall, but the interaction of the sex

⁸For Egypt, Israel and Turkey, approval was coded as evaluating the use of force as a number greater than 5 on a 10-point scale. The p-values in parentheses were calculated on average approval levels on the full ten point scales. We used a 10-point scale in Egypt and Turkey because responding directly with approval or disapproval in these countries might be, or be perceived to be, dangerous to participants in the studies. The Israel study employed the same format for greater consistency across countries.

⁹The overall difference of 12% among the U.S. studies is significant at $p = 2.4 \times 10^{-25}$.

Study	Country	Approval of Force		Sex	Study N [†]	Reason for Use of Force
		Male	Female	Difference		
Brutger and Kertzer (2016)	United States	46%	38%	7%	489	Protecting foreign state.
Flores-Macias and Kreps (2015)	United States	47%	36%	12%	2,500	Protecting ally, humanitarian, or regime change.
Flores-Macias and Kreps (2015)	United Kingdom	46%	33%	13%	2,122	Protecting ally, humanitarian, or regime change.
Grieco et al (2011)	United States	53%	38%	14%	1,036	Protecting East Timor.
Ikeda and Tago (2014)	Japan	49%	28%	21%	1,001	Stopping autocratic repression.
Press, Sagan and Valentino (2013)	United States	72%	67%	5%	766	Al Qaeda nuclear weapons lab in Syria.
Tago and Ikeda (2013)	Japan	53%	26%	26%	1,001	Democratic regime change in Middle East.
Tomz and Weeks (2013)	United States	54%	42%	12%	1,273	Nuclear weapons acquisition.
Trager and Gottfried (2016)	United States	44%	33%	11%	177	Resource conflict with Russia.
Trager and Vavreck (2011)	United States	70%	40%	30%	173	Protecting strategic country.
Original Data						
Egypt (2016)		54%	41%	14%	513	Mediterranean resource conflict.
Israel (2016)		41%	37%	4%	687	Mediterranean resource conflict.
Turkey (2016)		68%	55%	12%	554	Mediterranean resource conflict.
United States (2016)		51%	33%	18%	1,017	Arctic resource conflict.
Overall Average (Weighted by Study Size)		51%	38%	14%	13,309	

* $p < .05$, ** $p < .01$, *** $p < .001$. Egypt, Israel and Turkey original data indicates percent of respondents marking above 5 on a 10-point scale.

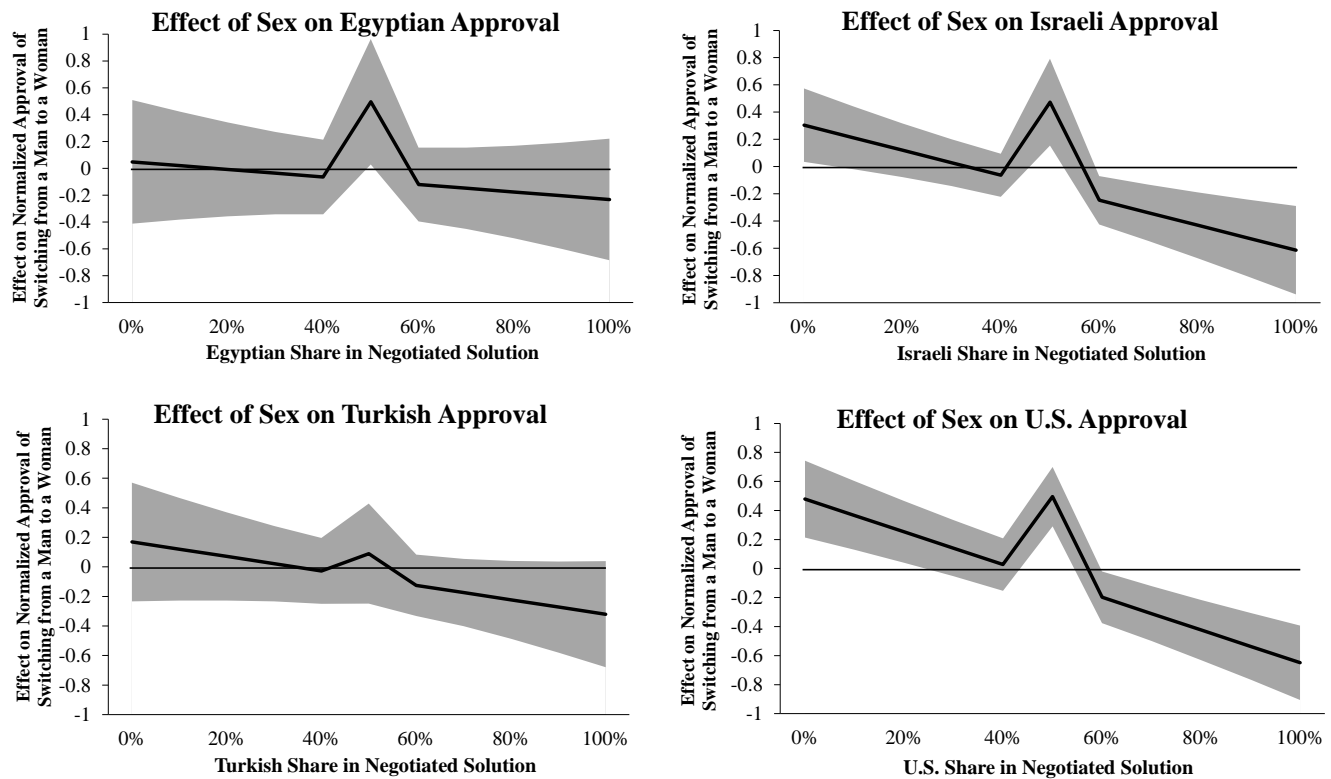
[†] Indicates number of respondents asked about the use of force or administered a use of force treatment, which is often less than the total respondents in the study.

TABLE 1: CONFLICT PREFERENCES BY SEX IN FOURTEEN EXPERIMENTS.

and Israel variables is not significant at conventional levels. We conclude that the data are consistent with differently constructed gender divides, but the evidence is far from conclusive.

We now turn to an evaluation of sex differences in the evaluation of compromise outcomes. To do so, we use the four original experiments conducted in Egypt, Israel, Turkey and the United States, alongside data from Gottfried and Trager (2016), which all collected data on respondent approval at shares of negotiated outcomes. We hypothesized that women would be more accepting of lower shares of a negotiated outcome and less approving of higher shares. We theorize that pacific preferences lead people to be more accepting of lower shares, but also less approving of higher shares because “greedy” foreign policy incurs a greater risk of war. In spite of interesting cross cultural differences in approval, the effects of sex differences in each country are consistent with this hypothesis. This can be seen graphically in Figure 1, which shows predicted effects from linear regressions of approval of negotiated outcomes in terms of differences from country-gender-means. Each country regression included the first three terms of the Taylor series of the country share in the negotiated outcome, a dummy variable for a 50% share, respondent sex and respondent sex interacted with the 50% dummy and the country share variables. The figure shows the predicted effects on approval of switching from a man to a woman at levels of the negotiated share variable. In all four countries, women are estimated to have higher approval at lower shares of the negotiated outcome (relative to the country-gender-mean) and lower approval at high shares of the negotiated outcome. The effects of gender are strongest in the United States and Israel, where more data was also available, but the effect of sex in the other two countries was consistent with the same overall pattern. Women also show consistently higher approval levels at a 50% share. Further analysis of these findings is available in Online Appendix CC.

We conduct two formal tests of the hypothesis. We first compare the difference in female approval at 0% and 100% shares to the same difference in male approval. We then perform the same test



Note: Approval of Egyptian, Israeli, Turkish and U.S. preferences measured on a 10-point scale to avoid direct "disapproval" of government policy. Graphs represent predicted values from linear regressions on approval levels in terms of distance from gender means. The regression equation included the first three terms of the Taylor series of the country share, a dummy variable for a 50% share, respondent sex and respondent sex interacted with the 50% dummy and the country share variables.

FIGURE 1: SEX DIFFERENCES IN PREFERENCES FOR NEGOTIATED OUTCOMES.

on the differences in approval between a 50/50 split of the disputed resources and a 100% share. Pooling data from the four countries, both tests are significant at the .0001 level. In tests on each representative country sample, all differences between men and women are in the predicted direction and at least one of the two tests was significant at conventional levels. While the effect is strongest in Israel and the United States, we do not have sufficient data to detect a systematic difference between those countries and the other two.

We next turn to how men and women evaluate leaders who back down from a threat versus those who remain out of a conflict entirely, which is known as the audience cost. To do so, we examine four studies conducted on representative samples of the U.S. population and comprising over 7,000 respondents in total. The results are shown in Table 2. It is apparent that both men and women impose audience costs: approval for both is much higher for leaders who remain out of a conflict and do not threaten force than for leaders who make a threat on which they do not follow through. In each of the studies, the audience cost imposed by the women is higher than that imposed by the male population, but in no study considered in isolation is the difference between the sexes statistically significant. When we pool the data from all four studies, however, we see that the sex difference in audience costs is highly significant at the $p < .001$ level. As we shall see in a moment, however, women tend to impose these audience costs for a different reason than men.

Lastly, we examine sex differences in evaluations of the decisions at the final stage of the game tree: using force versus backing down. Only two studies examine popular reactions to this crucial leadership decision. We pooled experimental conditions that describe a use of force without describing the result with those that describe a successful use of force; only one study included an unsuccessful use of force condition. The results are shown in Table 2. In spite of the relatively small numbers of respondents, the differences between the sexes are striking and highly statistically significant. Well over half of men approve of a successful or an unsuccessful war whereas only 39% of women approve

Study	Male Approval		Female Approval		Audience Cost (SO-BD)		Audience Cost Dif.	Study N [†]
	Stay Out	Back Down	Stay Out	Back Down	Men	Women		
Brutger and Kertzer (2016)	51%	30%	61%	26%	21%	35%	13%	453
Horowitz and Levendusky (2012) [‡]	30%	13%	36%	15%	17%	21%	4%	1,108
Tomz (2007) [§]	29%	21%	30%	17%	8%	13%	5%	3,123
Trager and Vavreck (2011) ^{§§}	37%	19%	45%	22%	18%	24%	6%	2,336
Weighted Average	33%	20%	38%	19%	14%	19%	6% ***	7,020

* $p < .05$, ** $p < .01$, *** $p < .001$.

† Indicates the number of respondents given the Stay Out or Back Down treatments. ‡ Includes all audience cost conditions that do not involve new information arising during the crisis. § Includes Back Down conditions that do not involve the use of force since those that do could be categorized as Unsuccessful War. §§ Pools data for studies 1 and 2 from this article.

TABLE 2: SEX DIFFERENCES IN STAYING OUT VERSUS BACKING DOWN.

of a use of force that is successful or whose outcome is not described. 29% of women approve of the unsuccessful use of force treatment condition.

Most telling is to compare how men and women weigh the choice between backing down and conflict. Women are nearly indifferent between an unsuccessful use of force in which nothing is gained and their country’s leader backs down after threatening force. Men, by contrast, would much rather see force used unsuccessfully than see the country’s reputation endangered through backing down. Approval among men is fully 36% higher for a use of force that achieves nothing and in which over 4,000 U.S. soldiers die than when the U.S. president backs down and the same objective outcome is achieved without loss of life. The difference between backing down and engaging in an unsuccessful war for men versus women is significant at the $p < .001$ level. We find similar results when we compare backing down to successful uses of force. Thus, on average, while women do not approve of backing down relative to simply staying out of conflicts in the first place, they are much more willing than men to see their states back down rather than engage in violent conflict.

Following the procedure used in Kertzer and Brutger (2015), we can use the data from this study to decompose audience costs into a cost for saying one thing and doing another (inconsistency) and

Study	Approval			War - Backdown	Unsucc. War - Backdown	N [†]
	Back Down	Engage Mil. / Successf. War	Unsuccessf. War			
Men						
Brutger and Kertzer (2016)	30%	46%	-	16%	-	384
Trager and Vavreck (2011) [§]	18%	70%	54%	52%	36%	231
Overall Average (Weighted)	25%	55%	54%	30%	36%	
Women						
Brutger and Kertzer (2016)	26%	38%	-	12%	-	334
Trager and Vavreck (2011) [§]	27%	40%	29%	13%	2%	279
Overall Average (Weighted)	27%	39%	29%	13%	2%	
Difference in Male Versus Female Averages	-1%	16% ***	25% ***	17% ***	34% ***	

* $p < .05$, ** $p < .01$, *** $p < .001$.

† Indicates the number of respondents given the Back Down or War treatments. § Data from Study 2 because only that study contains both Back Down and War treatments.

TABLE 3: SEX DIFFERENCES IN FIGHTING VERSUS BACKING DOWN.

a cost for making a threat in the first place (belligerency). The results are striking: while most men impose audience costs because of inconsistency and the threat to reputation that this implies, most women impose audience costs for belligerency. This analysis is presented in Online Appendix XX.

Overall, the analysis of international conflict experiments demonstrates that biological sex implies substantial differences in preferences for conflict and cooperation, and that these difference are not limited to a few cultural contexts or geographic regions. While we do observe cross-national variation in the degree of preference difference between the sexes, most of these are not large enough to support the conclusion of systemic cross-national variation.¹⁰ Across all four regions from which experimental data were available, women are less supportive of the use of force. In two of those regions, the Middle East and North America, women are more likely to withhold support from highly favorable negotiated outcomes that appear as dramatic impositions on adversaries. In the United States, where the most

¹⁰Nevertheless, these differences are suggestive that future research may yield insights into varying gender-construction of conflict across societies as well as situations in which male and female preferences over international outcomes are more and less aligned.

studies were conducted, women's preferences imply less support for more conflictual options at each stage of the escalatory ladder. While women impose larger audience costs for backing down versus staying out, relative to men, they nevertheless show higher approval for backing down versus engaging in any form of conflict. Thus, the balance of the evidence suggests that across geographic and cultural domains, and across the range of international conflict decisions, including women in the voting public increases electorate support for less aggressive policies.

Gender, Politics, and War

While public attitudes are important in their own right, a significant question is the degree to which they are relevant to war and peace in democratic societies. As Eichenberg suggests, what we really want to know is not simply whether there are on average preference differences over international outcomes, but the conditions under which these differences matter for political outcomes and policy (Eichenberg, 2016, 147). The question of how individual preferences aggregate to national policy and international outcomes has long loomed over studies of individuals in international relations (Hafner-Burton et al., 2017).

To move from the individual level to the national and international levels requires a mechanism for changes in electorate preferences to influence state behavior and ultimately, international outcomes. Are democratic leaders sensitive to the different preferences of women? We argue that the extension of suffrage changes the composition of democratic electorates and thus the distribution of war preferences that democratic leaders confront. Of course, scholarship on public opinion and foreign policy in democracies suggests that elite cues are important for activating issue preferences (see Aldrich et al. 2006 for a review). But public opinion serves as an important constraint or outer bound on democratic leaders (Russett, 1990). Adding a large pool of voters with structurally different preferences is likely to change the calculus of political leaders as they contemplate the use

of force. As Caprioli and Boyer (2001, 511) put it, “by gaining political influence through voting, women’s values should influence leaders’ decisions.”

The conditional nature of women’s individual-level preferences on the use of force suggest that politicians can make arguments that will convince women that the use of force is necessary. But the presence of women voters makes the decision to present such an argument a politically different calculation for leaders. Indeed, Oneal and Russett (1999*b*, 12) note that differences in the franchise, especially for women, are a complicating factor in measuring democracy and that

the consequences of these restrictions on political participation may not be trivial. In the contemporary United States, for example, women are significantly more averse to the use of military force than are men and vote in part on this basis. Thus the exclusion of women from the franchise in earlier periods could have profoundly reduced the tendency of even the most ‘democratic’ states to avoid conflict.

The extension of suffrage is thus a plausible factor restraining states from using force. Thus far, however, few studies have investigated the link between suffrage and peace. In a study of female leaders and conflict intensity, Caprioli and Boyer (2001) include suffrage in their study of crisis severity, but explicitly treat it as a control, focusing instead on female representation in the legislature as a measure of gender equality. In Hudson et al. (2013), suffrage is one of many factors connecting gender and peace.

We argue that suffrage plays a direct and important role in generating more peaceful interstate relations by altering the political calculus of democratic leaders. This implies that the influence of public preferences on international policy is conditional on the degree of democracy. The more democratic the polity, the more influence public preferences have on leader incentives. In particular, political debate must be sufficiently open to give women’s preferences a voice. The level of democracy therefore determines the extent of public influence, and the existence of suffrage determines whether

the voting public includes women; thus it is the two together that jointly determine whether and how much the gender gap on the use of force restrains state behavior. This argument—that it is the interaction of democracy and suffrage that matters—echoes recent arguments in the literature on democracy and war. For example, Baum and Potter (2015) argue that the process of generating democratic constraint on the use of force is not automatic, but crucially depends on features such as the number of political parties or access to free media that provide citizens with sufficient information to exercise their ability to hold democratic leaders accountable.¹¹

The literature on the democratic peace has also debated whether the more pacific behavior of democracies manifests only in disputes with other democracies (the dyadic democratic peace), or in democracies' interactions with all states (the so-called monadic democratic peace). This debate suggests that women's suffrage might be a constraint on democratic leaders in all potential uses of force and that women's more pacific preferences will constrain the other side's leadership, likely reinforcing the tendency to resolve disputes peacefully within a dyad. In such a case, state decisions would depend not only on the state's own preferences, but on what they perceive the preferences of others to be. A state with a strong peace lobby will still define its interests and security policy to counter perceived threats. And those perceived threats are likely to do the same, creating the potential for conflict. Depending on the model of the conflict process, reducing conflict may require dyadic rather than monadic preference shifts, or monadic changes may be sufficient to change outcomes.

Such dynamics can be seen readily in simple two-by-two conflict games. Suppose players simultaneously choose a conflictual or a moderate strategy, that peace obtains if and only if both sides choose the moderate strategy, and that there is a benefit to one side in a conflict if the other chooses the moderate strategy. Finally, suppose the players are uncertain about their opponents' values for

¹¹One might wonder whether the effects of suffrage extensions are felt immediately or only over time as social and institutional changes increase women's voice in a society. Indeed, Caprioli and Boyer (2001, 512-513) operationalize their suffrage variable as the duration of suffrage at the time of a crisis. Below, we model the effects of suffrage as immediate for simplicity but we agree that this is an important question for future research.

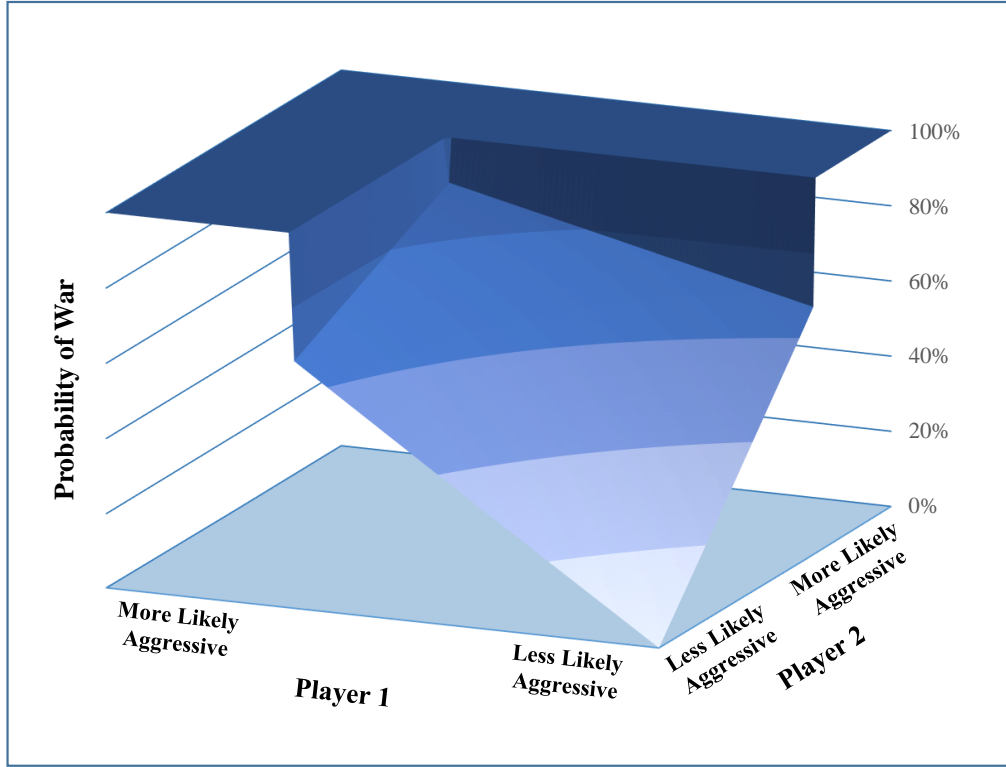


FIGURE 2: IMPLICATIONS OF MONADIC PREFERENCE SHIFTS.

the peaceful outcome.¹² In models of this sort, the peace loving preferences of one state may only influence the outcome when they are matched on the other side. The dynamics of a formal model demonstrating this (described and analyzed in the appendix) can be seen in Figure 3. If Player 2 is believed to be very aggressive, factors that influence the preferences of Player 1 will have no affect on the outcome at all. If Player 2 is not thought to be so aggressive, however, a shift in Player 1's preferences toward the peaceful outcome will decrease the likelihood of conflict. Thus, the effects of preference shifts are moderated by the other player's (observable) preferences: making one player more peace loving will have the greatest effect on conflict outcomes when the other player is sufficiently peace loving. We call this the dyadic suffragist peace because the peace only solidly

¹²In this game, players have uncertainty over whether their adversary has Prisoner's Dilemma or Assurance Game preferences.

obtains between countries that both have women’s suffrage. In fact, however, the model predicts both monadic and dyadic effects of preferences in all areas of the parameter space except in those in which either player is perceived to be extremely aggressive. In the analysis below, we examine the evidence for both a monadic and dyadic effect of suffrage.¹³

Observational Research Design and Variables

We examine the effect of female suffrage in the framework of standard statistical tests of the democratic peace over the period 1816 to 1999. In keeping with prior approaches to the study of the democratic peace theory, we analyze the relationship between women’s suffrage and conflict using non-directed dyadic data omitting all but the first years of World War I and World War II. Unless noted, variables are coded as described in Russett and Oneal (1999).

Dependent Variable: Involvement in Militarized Disputes

Our primary dependent variable account is *Dispute*, which is coded 1 in the first year of a dyadic dispute in which one or both states threatened to use force, demonstrate the use of force, or used military force against the other and 0 in all other years. The data on dispute involvement is taken from the Correlates of War dataset on interstate conflict.

Independent Variable: Female Suffrage

We first created a binary variable *Suffrage* coded 1 if any women within a state have been granted the right to vote in national elections and 0 otherwise.¹⁴ Within 160 countries, women’s suffrage was granted to all women at the same time. Within 13 other countries, the right to vote was granted

¹³This theory of the interaction of unit preferences with the strategic context does not require that states understand that suffrage is a driver of state behavior that makes potential adversaries less threatening. This is because states signal their intentions in many ways and other states can interpret these signals without evolving theories of their underlying causes (Jervis 1970, Kydd 2005, Trager 2017). For alternative understandings of the dynamics that produce a dyadic peace, see Gartzke, Li and Boehmer (2001), Polachek and Xiang (2010) and De Mesquita et al. (1999).

¹⁴Data on female suffrage was collected primarily using the United Nation’s report on the *Progress of the World’s Women* which lists the voting status of women by year in all 196 countries.

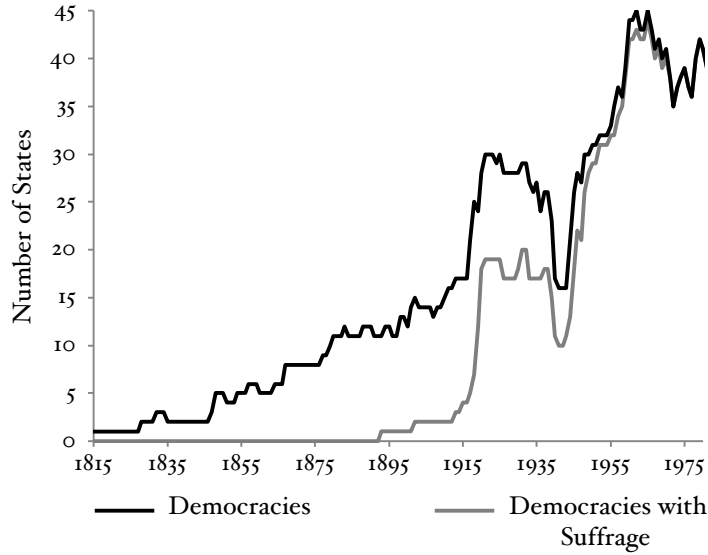
to women in stages according to different sets of conditions. Some constraints were unique. Within Belgium, for instance, war widows, mothers of those killed in war and female political prisoners were granted the right to vote in 1919 while all other Belgian women of an equivalent voting age of men were not given the vote until 1948. Other states, such as Australia, Canada and the US, first granted female suffrage on the basis of race while other states, such as Bolivia, Ireland, Romania and the United Kingdom, first granted female suffrage on the basis of literacy, property rights or education level and only later adopted legislation allowing full female suffrage at an equivalent age as men. We estimate that within all but six of these 13 countries which adopted suffrage in a piecemeal fashion, the first wave of women’s suffrage created voting populations in which women constituted at least 40% of all eligible voters.¹⁵ The first wave of suffrage, therefore, represents on average the largest overall shift in the gender balance of the electorate within all but six of the 198 states included within the analysis. Though the effect of this substantial shift is our primary interest for this study, we also assess the effect of other measures of suffrage, including universal women’s suffrage and whether a national election has been held in which women were eligible to vote, within section B.3 of the appendix.

Figure 4 illustrates the number of democracies that do and do not allow women’s suffrage within each year over the period 1815 to 2015.¹⁶ The figure shows that while the number of democracies grew slowly but gradually over the 19th century, no women held the right to vote until 1893 when New Zealand became the first state to grant universal female suffrage, followed by Australia in 1902, Finland in 1906 and Norway in 1913. The graph shows a sharp increase in the number of democracies both with and without female suffrage in the period 1915 to 1922. Denmark, Canada,

¹⁵These six countries are Belgium, Iceland, Ireland, Nigeria, Romania and the United Kingdom. Additional information about the waves of female suffrage, including the logic behind these estimates and the timeline of women’s suffrage, can be found on pages 1 - 5 of the appendix.

¹⁶Democracies within this graph are those states that receive a score from the Polity IV dataset of 7 or higher within a given year.

FIGURE 3: DEMOCRACIES WITH AND WITHOUT SUFFRAGE.



Austria, Germany, Ireland, the United Kingdom and the United States, amongst others, adopted women's suffrage during this period. By 1955, all but two democracies, Sudan and Switzerland, had granted women the vote.¹⁷

As discussed above, we hypothesize that the interaction between women's suffrage and a state's level of democracy will determine the degree to which female preferences on the use of force constrain state behavior.¹⁸ We predict that the adoption of women's suffrage will have a dyadic effect, in which the probability of disputes will be lower within democratic dyads with joint suffrage than within autocratic dyads or democratic dyads without joint suffrage, and a monadic effect, in which suffrage will lower the overall dispute propensity of states as they become increasingly democratic, regardless of the type of state they are interacting with.

¹⁷Sudan eventually granted female suffrage in 1958 and Switzerland in 1971!

¹⁸Women have been granted the right to vote in the vast majority of countries, including those that do not actively hold national elections. Only five states – Brunei, Saudi Arabia, Oman, Qatar, and The UAE – had not legalized women's suffrage by 1999.

To assess the potential differential effects of women’s suffrage as a function of the dyadic levels of democracy, we first analyze a set of models using continuous measures of democracy, matching the primary approach previously used in the literature, and then, for purposes of robustness, a model using binary measures of democracy and suffrage. For the continuous measure of suffrage, we utilize the standard DEM_L variable which is obtained by first calculating the Polity score of each state, a value which ranges from -10 for extreme autocracies to 10 for the most democratic states, and then taking the lower of these two calculations within each dyad.¹⁹ The values of our primary variable of interest, $Suffrage-Democracy_L$ range from 0 to 10. The variable is coded 0 if neither or only 1 state within a dyad has granted suffrage in national elections to any women or if the lowest democracy score in the dyad is zero or less. Within those dyads in which both states are thought to possess more democratic than autocratic features ($DEM_L > 0$) and in which both states have granted suffrage, the variable is coded as the lower dyadic democracy score. This coding enables us to assess the effect of female suffrage within countries with varying degrees of democracy. We also include a binary variable $Suffrage_L$, which is coded as 1 if both states have adopted suffrage and otherwise as 0. We then lag these variables by one year.

To assess the monadic effects of suffrage, we create the variable $Suffrage-Democracy_H$ which ranges from 0 to 10. The variable is coded 0 if neither state within the dyad has adopted suffrage or if the state with the highest democracy score has granted suffrage but its democracy score indicates that the state is more autocratic than democratic in nature ($DEM_H < 1$). If the most democratic state within the dyad possesses a democracy score of greater than 0 and has adopted female suffrage, the variable is coded as the higher dyadic democracy score. If the effects of suffrage are not solely

¹⁹This data is taken from the Polity IV dataset. As Oneal and Russett (1999a) notes, increases in the size of the voting population often do not correspond with increases in Polity scores. There are in fact numerous examples of states with Polity scores of 10 which have not granted women the vote. An analysis of the relationship between Polity scores and extent of suffrage is presented in section A.3 of the appendix. See also ? on issues of democracy measures and female suffrage.

dyadic but also monadic, we would expect the adoption of suffrage by more democratic states to correlate with lower rates of dispute propensity regardless of the characteristics of states they interact with. We also include in the models the binary variable *Suffrage_H* which is coded 1 if one or both states within the dyad allow women’s suffrage and 0 otherwise, and *DEM_H*, which lists the highest Polity score within the dyad. Prior analysis of the democratic peace has shown that increasing the highest democracy score while holding the lowest democracy score constant correlates with an increase in conflict propensity. This finding is credited to the idea that states with more similar regime types are less likely to fight each other.²⁰

We also created four dichotomous variables of suffrage and democracy. *Joint Democracy* is coded 1 if both states within the dyad are democracies (they possess a democracy score of 7 or higher) and otherwise as 0. *Joint Suffrage Democracy* is coded 1 if both states are democracies that have adopted women’s suffrage and is otherwise coded 0. The variable *At Least One Democracy* is coded 1 if at least one state in the dyad is a democracy and otherwise is coded 0. Finally, the variable *At Least One Suffrage Democracy* is coded 1 if at least one state in the dyad is a democracy that has adopted women’s suffrage. All of these variables are lagged by one year.

Measures of Gender Equality

We include two additional measures of gender equality in the analysis. In keeping with prior models of gender equality and conflict, we include a measure of the degree to which are women represented within formal political positions from 1900 to 2000, as collected by the Varieties of Democracy project.²¹ *Political-Participation_L* lists the lowest measure of political participation within the dyad lagged by one year. In addition to proxying as a measure of gender equality, this variable enables us to

²⁰See Oneal and Russett (1999a, p. 12).

²¹Prior measures of gender equality have focused on the percentage of women within lower chambers of government. We utilize the measure political participation more broadly largely because of the broader time frame and greater data availability within the VDem dataset.

test whether or not the gender gap in support for the use of force extends to the level of elite decision makers. We also include the variable *Civil-Liberties_L*, also taken from the VDem dataset, which provides a measure of the extent that women within the state have the ability to make meaningful decisions in their lives, lagged by one year.²²

Additional Variables

In keeping with the standard empirical approach to the study of the democratic peace theory, we also include the following control variables:

- *Cap Ratio* measures the natural logarithm of the ratio of the stronger state's military capability to the military capability of the weaker state in the dyad, lagged by one year. Capabilities are measured using the CINC scores of each state from the COW National Capabilities Data.
- *Ally* is a binary variable coded as 1 for dyads that hold any type of alliance, as indicated by the COW Military Alliance data, and are 0 otherwise. It is lagged by one year.
- *Either Nuclear* is coded 1 if either state in the dyad possesses nuclear weapons. *Joint Nuclear* is coded 1 if both states in the dyad possess nuclear weapons and 0 otherwise.
- *Depend_L* is a measure of economic interdependence which quantifies the bilateral trade-to-GDP ratio of the state that is least dependent upon trading with its dyadic partner. The variable is lagged by one year. The trade data was taken from Oneal and Russett (1999b).
- *Interest Similarity* lists the dyadic *S* score as compiled by Signorino (1999) and lagged by one year. The variable ranges between -1 and 1 and measures the degree of similarity in policy portfolios between the states.
- *Year* is included in all models so that we can assess the possibility that the probability of conflict has followed a consistently negative pattern over the time period in question.
- *Peace Years* is a variable which counts the number of years since a dispute within the dyad. Following Carter and Signorino (2010), we also include *Peace Years*² and *Peace Years*³.

Results

The results of five models of the relationship between suffrage and dispute involvement, estimated using logistic analysis on non-directed, dyad data from 1816 to 1999 and clustering by dyad, are presented within Table 3.²³ Model 1 in the table assesses the relationship between dispute propensity

²²See ? for more information on the coding of this variable.

²³For the sake of space, coefficients for the temporal controls and for the squared and cubed measures of distance are not presented within the table.

TABLE 4: DISPUTE MODELS.

<i>Variables</i>	<i>Model 1 Binary Model</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4 Fixed Effects</i>	<i>Model 5</i>	<i>Model 6 Male Suffrage</i>
<i>Dem_L</i>		-.061*** (.00)	-.019* (.01)	.017 (.01)	.018 (.01)	.008 (.01)
<i>Suffrage_L</i>			.271 (.20)	.102 (.27)	.379 (.28)	
<i>Suffrage-Democracy_L</i>			-.166*** (.03)	-.146*** (.04)	-.161*** (.04)	
<i>Dem_H</i>		.052*** (.00)	.086*** (.00)	.011 (.01)	.038* (.01)	.053*** (.01)
<i>Suffrage_H</i>			-.745*** (.17)	-.235 (.22)	.044 (.03)	
<i>Suffrage-Democracy_H</i>			-.003 (.02)	-.018 (.02)	.044 (.02)	
<i>Joint Democracy (0/1)</i>	-.583 (.31)					
<i>Joint Suffrage Democracy (0/1)</i>	-.502 (.34)					
<i>At Least One Democracy (0/1)</i>	.641*** (.17)					
<i>At Least One Suffrage Democracy (0/1)</i>	-.452** (.16)					
<i>Civil-Liberties_L</i>					-1.05*** (.24)	
<i>Political- Participation_L</i>					-1.44*** (.27)	
<i>Noncontiguity</i>	-2.15*** (.17)	-2.20*** (.12)	-2.14*** (.13)	-.932* (.37)	-2.24*** (.22)	-2.05*** (.15)
<i>Capability Ratio</i>	-.022 (.01)	-.015 (.01)	-.012 (.01)	-.202*** (.05)	-.042** (.01)	-.011 (.01)
<i>Alliance</i>	.192* (.09)	.116 (.07)	.174* (.07)	-.238* (.11)	.213 (.12)	.064 (.09)
<i>Minor Powers</i>	-.999*** (.12)	-1.09*** (.07)	-1.06*** (.08)	-.138*** (.18)	-1.02*** (.15)	-1.20*** (.11)
<i>At Least One Nuclear Power</i>	.801*** (.12)	.596*** (.09)	.735*** (.09)	-.259 (.14)	.687*** (.14)	-.60** (.20)
<i>Joint Nuclear</i>	-.189 (.54)	-.284 (.40)	-.236 (.41)	-1.17** (.35)	.073 (.53)	.493 (.91)
<i>Trade</i>	-14.27 (9.33)				4.06 (9.94)	
<i>Interest Similarity</i>	-1.21*** (.23)				-1.51*** (.27)	
<i>Year</i>	.003 (.00)	-.000 (.00)	.002** (.07)	.035*** (.00)	.02*** (.00)	.001 (.009)
<i>Distance</i>	-.000*** (.00)	-.001*** (.01)	-.000*** (.00)	.000 (.00)	-.000** (.00)	-.000*** (.00)
N = 302,889 447,369 447,369 29,756 210,594 239,556						

*** = Coefficients significant at the .000 level.

Robust standard errors clustered by dyad in parentheses below.

TABLE 5: PERCENTAGE DIFFERENCE IN PROBABILITY OF DISPUTE BY DYAD TYPE.

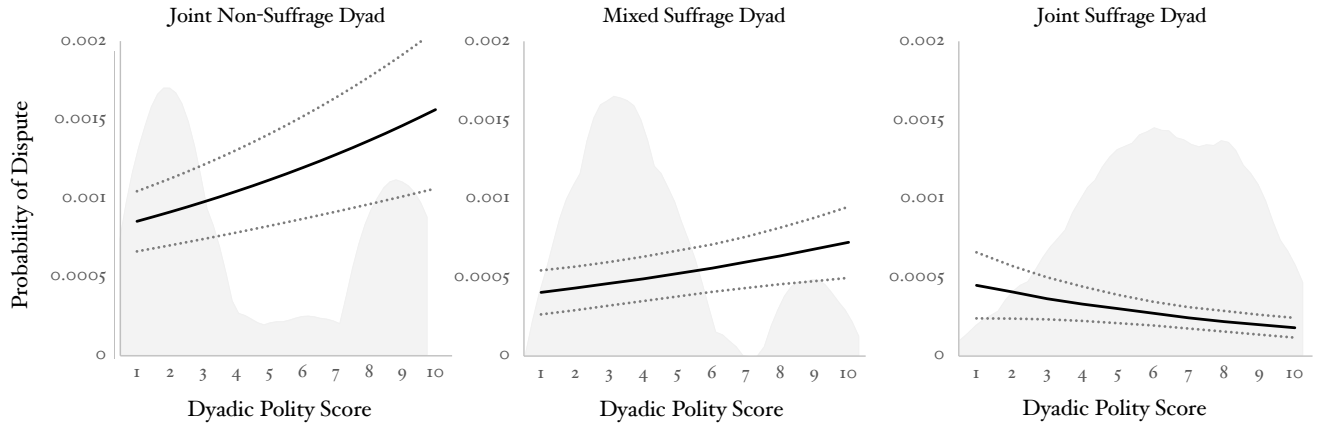
<i>Dyad Comparisons</i>	<i>Percentage Change</i>
Joint Autocracy → One Non-Suffrage Democracy/ One Autocracy	+ 89%*
Joint Autocracy → Joint Non-Suffrage Democracy	+ 5.6%
Joint Autocracy → Joint Suffrage Democracy	- 58%***
Joint Non-Suffrage Democracy → Joint Suffrage Democracy	- 60.2%***
One Non-Suffrage Democracy / One Autocracy → One Suffrage Democracy / One Autocracy	- 34.5%**

*** = Coefficients at the .000 level
 Results generated by holding all other dichotomous variables at 0 and all continuous variables at their means.

and the four dichotomous measures of suffrage and democracy. Substantive analysis of this model is illustrated in Table 4. The table presents the difference in the predicted probability of conflict as a function of dyadic regime type. The first row indicates that dyads in which there is one autocracy and one non-suffrage democracy are 89% more likely to experience conflict than joint autocratic dyads. In contrast, the probability of conflict within dyads in which both states are democracies with female suffrage is 58% lower than the probability of conflict within joint autocracy dyads and 60.2% lower than conflict propensity within dyads with joint non-suffrage democracy.

Models 2 through 6 in Table 3 analyze the relationship between the continuous measures of suffrage and dispute propensity. Model 2 largely replicates the standard model of the democratic peace from Oneal and Russett (1999a), with the inclusion of variables accounting for nuclear capabilities. In keeping with prior results, the model shows that dispute involvement and the lowest democracy score are negatively and significantly correlated while high democracy score is positively and significantly correlated with dispute activity. Model 3 includes within this standard model our continuous variables *Suffrage-Democracy_L* and *Suffrage-Democracy_H*, as well as the component variables *Suffrage_L*

FIGURE 4: THE PROBABILITY OF DISPUTE AS A FUNCTION OF DYADIC SUFFRAGE.



The left graph shows the effect of increasing the shared dyadic polity score when neither state has adopted women's suffrage. The center graph in the center shows the effect of increasing democracy within dyads in which one state has adopted suffrage. The right graph shows the effects of increasing democracy within dyads with joint female suffrage.

The grey areas are density plots of Dem_L for each type of dyad. The predicted probabilities in these graphs have been estimated for non-allied and non-nuclear minor power dyads, holding all continuous variables at their means.

and $Suffrage_H$. The coefficient for our primary dyadic variable of interest, $Suffrage-Democracy_L$, is negative and significant at the .001 level.

Figures 5 and 6 present the substantive interpretation of the relationship between dyadic suffrage and conflict propensity as estimated in Model 3.²⁴ The three graphs within Figure 5 each depict the probability of disputes in dyads in which both states share the same polity score.²⁵ As the graphs show, the effect of increasing dyadic levels of democracy on dispute propensity appears to depend significantly on the gender of eligible voters within the two states. An increase of dyadic democracy within male-only voting populations is associated with a significant increase in the likelihood of conflict while an increase of dyadic democracy within joint-suffrage dyads is associated with a significant decline in conflict propensity.

²⁴The inclusion of additional variables within Models 3 and 4 above results in a significantly truncated dataset which excludes all data prior to 1900 and many data points between 1900 and 1950 where trade data is missing. We focus on Model 2 in the manuscript because of the broader time frame it allows us to consider. The substantive interpretation of Model 5 is also, however, presented within Section ??? of the appendix.

²⁵Assessments of the effects of suffrage within great power dyads is assessed within section B.4 of the appendix.

FIGURE 5: CHANGE IN DISPUTE PROPENSITY AS A RESULT OF JOINT SUFFRAGE.

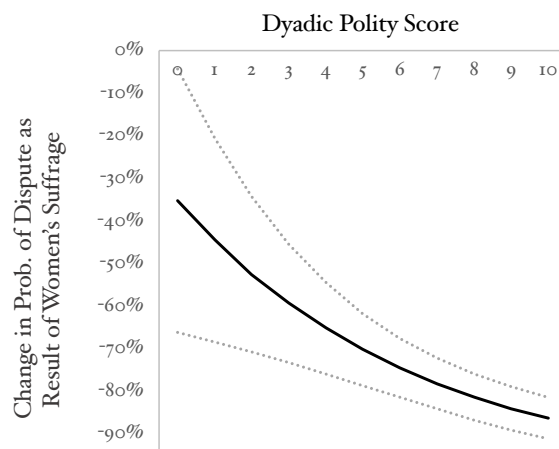


Figure 6 presents the percentage difference in the predicted probability of conflict between joint suffrage dyads and dyads in which neither state allows women's suffrage. The figure illustrates the significant decline in dispute involvement that correlates with the joint adoption of female suffrage within increasingly democratic societies. The probability of disputes within dyads in which both states possess Polity scores of 7 and in which neither state has granted women the right to vote is, for instance, 79% higher than in otherwise-identical dyads with joint female suffrage. The pacifying effects corresponding within dyadic women's suffrage become even more prominent as dyads become more democratic.

Models 4 in Table 3 show that the relationship between dyadic suffrage and dispute propensity exists when dyad-decade fixed effects are included. Model 5 shows that this is also true when controlling for trade, interest similarity, and measures of women's political participation and civil liberties. Model 5 also confirms prior findings, showing that both women's political participation and civil liberties are negatively correlated with dispute involvement.²⁶ Substantively, an increase in the measure of women's political participation in government by one standard deviation correlates

²⁶See Caprioli (2003); Hudson et al. (2012).

with a 38.4% decrease in the probability of conflict ($p < .001$). This finding suggests that the gender gap regarding the use of force may extend to the voting behavior of some political elites. A one standard deviation increase in women’s civil liberties similarly correlates with a 28.7% decline in dispute propensity ($p < .001$).

Model 6 provides further evidence that female suffrage convincingly explains the democratic peace. The model assesses the effects of the standard DEM_L variable on a subset of the dataset from which all dyads with at least one democracy (those with democracy scores of 7 or higher) with female suffrage have been omitted. The results of this model suggest that, in contrast to prior findings, increasing levels of democratization do not significantly correlate with a decline in dispute propensity. The coefficient for Dem_L is positive, though not significant at traditional levels.

In order to further probe the dyadic effects of democratization, we analyzed the the standard model of the democratic peace (Model 1 above) over the period 1816 to 1892 when all democratic states prohibited women from voting. We find that an increase in the low dyadic democracy score from 0 to 10 during that period was associated with a 38.8% *increase* in dispute propensity ($p < .05$).²⁷ The aggressive behavior of the United States, France and Great Britain, each of which had a democracy score of 7 or higher during this period, likely explains a significant proportion of this increase. And yet, as the results in the appendix show, omission of those three powerful states from this analysis does not significantly alter the results.

We also analyzed the effects of democracy and suffrage during the specific period of 1890 to 1930, a period in which half of the the number of democratic dyads had joint suffrage and in which half of democratic dyads did not. While the relative paucity of data during this period renders it is difficult to analyze Model 3 with confidence, the estimated conflict trends during this period roughly

²⁷The results of this analysis, as well as further analysis of democratic behavior within the 19th century, are presented in Section B??? of the appendix.

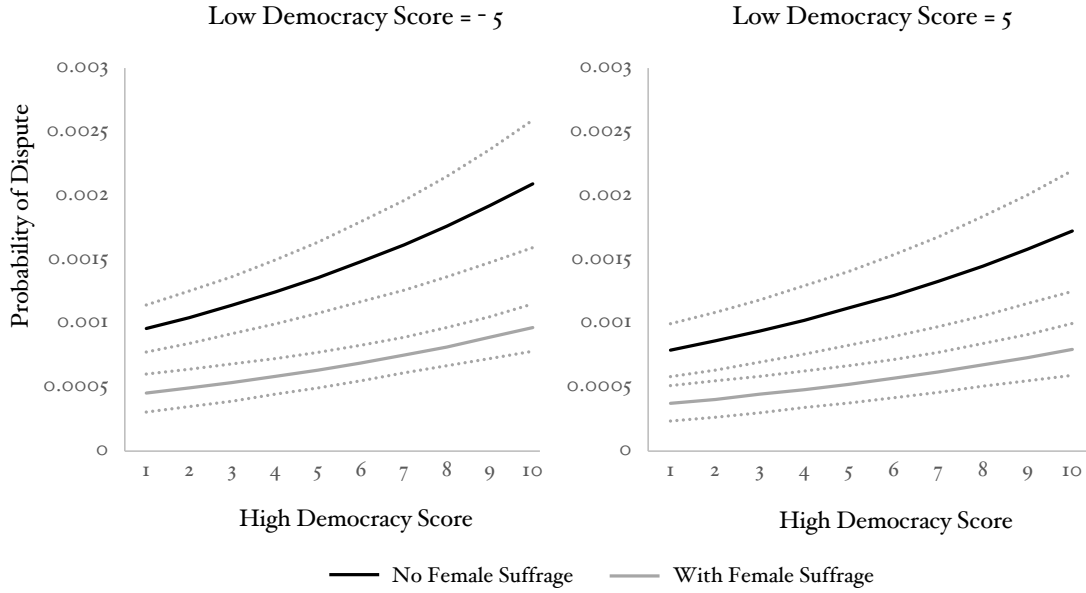
mimic those presented in Figure 5 above, as shown in Section B?? of the appendix. A one-tailed t-test of dispute propensity during this period also indicates the following. While all democratic dyads during this time were 38.9% less likely to experience a dispute than non-democratic dyads ($p = .0448$), democratic dyads in which neither state allowed female suffrage were 189% more likely to experience a dispute than a joint-autocratic dyad ($p = .0005$). Democratic dyads with joint suffrage were, in contrast, 93.2% less likely to experience a dispute than democratic dyads in which neither or only one state allowed female suffrage ($p = .0003$).

We turn next to the substantive interpretation of the monadic effects of suffrage, shown in Figure 7. The graph on the left illustrates the effects of holding the low democracy score at -5 and increasing the higher democracy score within states with women's suffrage (the grey line) and without women's suffrage (the black line). The graph on the right illustrates the same effects when holding the low democracy score at 5. Within both graphs, the state with the lower democracy score does not allow for women's suffrage. In keeping with prior research, we find that increasing the higher democracy score while holding the lower democracy score constant is associated with an increase in dispute propensity. The adoption of suffrage in increasingly democratic states, however, dramatically reduces this increase in conflict propensity, regardless of the democracy score of the state one is interacting with.

The additional analyses presented in section B of the appendix indicate that the results presented here are highly robust to alternative model specifications, including ???. The monadic results are also corroborated by a within-country analysis, presented within section B.1 of the appendix, which shows that a state's average rate of dispute involvement in the twenty years after allowing women the vote is 14% lower than a state's average rate of dispute involvement in the 20 years that precede the adoption of women's suffrage ($p = .02$).

Alternative Hypotheses

FIGURE 6: THE MONADIC EFFECT OF SUFFRAGE.

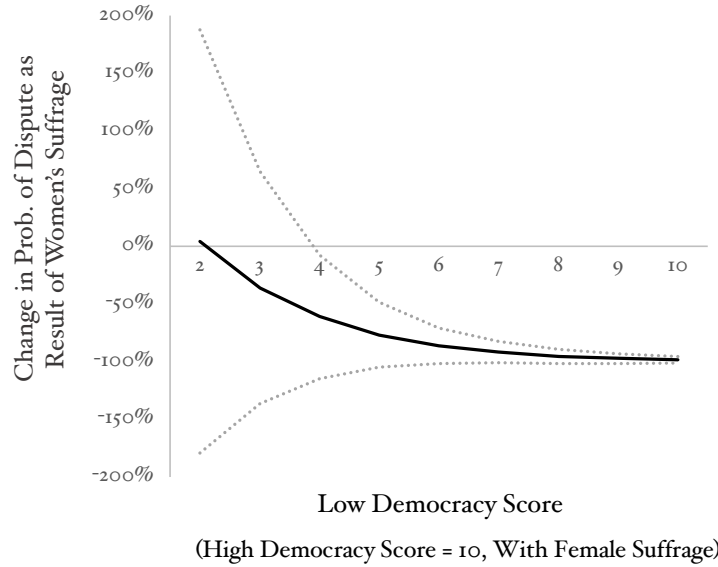


We have also examined the validity of a number of alternative hypotheses that might better explain the negative correlation we find between dyadic women's suffrage and dispute involvement. It is possible, for instance, that the timeline of women's suffrage simply serves as a proxy for the advent and institutionalization of more cooperative international norms during the interwar period and after World War II.²⁸ Analysis of the relationship between time and women's suffrage indicates, however, that women's suffrage is not an artifact of historical time period. First, the relationships between suffrage and conflict described above are found within models which include the *Year* variable, which would in part account for increasing passivity over time. Second, analysis of Model 2 in Table 3 for the time periods 1890 to 1930 and 1920 to 1938 finds similar results to those above.²⁹ Figure 8 illustrates the percentage change in the marginal effect of suffrage as a function of increasing the low democracy score while holding the high democracy score at 10 for the interwar period from 1920 to

²⁸Need cites here.

²⁹Prior to 1914, only five states had adopted women's suffrage. We were therefore unable to independently assess the period 1816 to 1914. Similarly, all but 2 democracies had allowed suffrage by 1950, preventing analysis of the post-war period.

FIGURE 7: CHANGE IN DISPUTE PROPENSITY AS A RESULT OF SUFFRAGE, 1920 - 1938.



1938.³⁰ The difference in dispute propensity between states that have and have not adopted suffrage is significant and negative amongst those states categorized as democracies (those with democracy scores of 7 and higher).

We also considered the possibility that women's suffrage is conflated in one of two ways with the strategic context of a state. On the one hand, states may be, for whatever reason, more likely to adopt suffrage following periods of conflict.³¹ The results described above, in such a case, might simply be capturing war weariness on the part of recent adopters. Numerous pieces of evidence speak against this hypothesis. First, the analysis of the interwar period indicate that significant differences in the dispute propensity of suffragist democracies and non-suffragist democracies existed during this period, suggesting that the difference the analysis is capturing is not explained by differences between pre and post-World War behavior. Also, as discussed within section C.3 of the appendix, we find

³⁰The details of this analysis, as well as additional analyses of the role of time, are presented in Section B.6 of the appendix.

³¹Ticchi and Vindigni (2006) argue that suffrage has often been extended as elites prepare for war. Their argument, however, was gendered, focusing on the principal of "one man, one vote, one gun."

TABLE 6: COMPARISON OF DISPUTES BEFORE AND AFTER GRANTING OF SUFFRAGE.

<i>Time Span</i>	<i>Female</i>			<i>Male</i>
	First Wave	Universal		Second Wave
+ / - 10 Years	-8.41% (<i>p</i> =.19)	-19.7% (<i>p</i> =.01)		+10.1% (<i>p</i> =.28)
+ / - 10 – 20 Years	-17.8% (<i>p</i> =.03)	-14% (<i>p</i> =.07)		+22.6% (<i>p</i> =.16)
+ / - 20 Years	-14% (<i>p</i> =.02)	-20% (<i>p</i> =.002)		+27.1% (<i>p</i> =.008)
	N= 49, 40	N = 50, 41		N = 16, 12

that the results presented in Figure 6 hold when omitting those states that adopted suffrage within three years following major war. Moreover, in the within-country analysis, only 3 of the 40 states examined extended suffrage to women within 5 years after the end of a war. After omitting those cases from the analysis, the average rate of dispute involvement in the twenty years after suffrage remains 20.4% lower than in the two decades prior to suffrage. Additionally, the average rate of dispute involvement in years $t-20$ to $t-10$ before the adoption of women’s suffrage is 17.8% higher than in years $t+10$ to $t+20$ after female suffrage ($p = .03$).³²

The within-country evidence also calls into question the converse hypothesis – that states with fewer strategic threats may be more likely to adopt women’s suffrage than states facing heightened security threats. In such a case, peace, rather than arising as a product of women’s suffrage, would instead facilitate the granting of women the vote. As just described, however, states typically experience significantly higher average rates of dispute involvement in the decades not only immediately before the adoption of suffrage than they do after suffrage, suggesting that suffrage does not typically follow a period of relative national calm but rather precedes it.

³²Complete analysis of strategic context and women’s suffrage is presented on pages 21 and 22 of the appendix.

Finally, it is possible that what affects conflict propensity is not the extension of suffrage *by gender* but rather the extension of suffrage more generally by class. Such extensions by class have typically involved the elimination of literacy, property or wealth requirements or the removal of racial barriers to voting. To assess the validity of this hypothesis, we performed a within-country analysis on the effects of extending suffrage by class amongst male voters using data on suffrage extensions presented in Przeworski (2009). The results of this analysis are presented in Table 5. As the table shows, the average rates of dispute involvement in the 10 years before and the 10 years after the extension of suffrage by class within all male electorates do not significantly differ. We also find no difference when comparing the dispute involvement in years $t-20$ to $t-10$ before suffrage and years $t+10$ to $t+20$ after suffrage. When comparing the twenty-year period before and after extensions of suffrage by class, however, we do find a significant difference – the average rate of dispute involvement in the two decades following an increase in the size of the male voting population increases by 27.1%. While these within-country results are based on a relatively small sample size, they provide little reason to think that the mere process of expanding the voting population lowers a state’s overall rate of conflict propensity.

Conclusion

The results above provide evidence that the divergent preferences of the sexes translate into a pacifying effect when women’s influence on national politics grows. The magnitude of this correlation is substantial, on par with the largest effects uncovered in the empirical literature on international relations. There remains much to understand about these political processes, however. The results presented above are consistent with greater female influence directly through voting, but perhaps also consistent with influence exercised through other societal channels whose existence correlates with female franchise. Another alternative explanation for our findings may be that suffrage is

confounded with liberal institutions and attitudes. While this possibility cannot be fully ruled out, we have illustrated the shortcomings of the liberal institutions argument in a variety of ways. The concerns of some scholars about the democratic peace may nevertheless apply to the argument we make here. To address these, we have shown that our findings are robust to a variety of specifications. We look forward to further investigation in these areas.

At the individual level, the evidence of a gender gap in so many existing survey experiments suggests that scholars should explore how men and women respond to different frames or primes. Such evidence would help illuminate how politicians might frame arguments for war or even choose to use force in different contexts depending on the constraint of women's more pacific preferences, or the necessity of expending political capital to overcome those constraints. The exploration of heterogeneous treatment effects is beyond the scope of this paper but a logical avenue for future research.

The links in the aggregation chain from the individual level to national policy and international interactions are also ripe for further exploration. There are potentially many paths from female suffrage to women's preferences influencing national policy and international outcomes. Some might be direct, for example if interest groups are able to exert direct pressure on politicians; some might be more indirect, for instance if institutional and electoral incentives in some countries make women a particularly important voting bloc. In the latter case, politicians may anticipate the reactions of female voters, either by consciously considering women's lower baseline preference for war or by treating it as one of part of a package of preferences. At the level of strategic interaction between states, process tracing might illuminate whether leaders in one state actively consider the extension of suffrage in adversary states when engaged in a crisis. More fine-grained analysis of how leaders seek to accommodate women's preferences in the wars they do fight could also follow, including an examination of other dependent variables such as war duration, casualties, or military strategy.

Yet another avenue for future research concerns the potentially differing effects of female enfranchisement and female political leadership. While this study focuses on the former, others have examined the latter, and some evidence exists that female leaders are *more* willing to participate in international conflicts (Dube and Harish 2017). Given the on average individual level differences between the sexes, this may be considered surprising. Future research should probe the extent to which this tension is explained by one of two factors. The first is whether female political leaders are systematically different from female population averages in ways that relate to political decisions to engage in conflict (Fukuyama 1998, 32). The second is the extent to which female leaders, who have often been a gender minority among their peers, have been influenced by incentives to mimic or even exceed the aggressive norms of male peers (Goldstein 2003, 124-5. Doing otherwise might have been interpreted as a form of “weakness” in the conduct of foreign affairs.³³ In effect, as Ehrenreich (1999) point out, the “tough” international actions of Indira Gandhi and Margaret Thatcher may have been a form of “male posturing.”³⁴

As the field of international relations has returned to studying individuals and their preferences over foreign policy and international issues, the long-understood gender gap has been glossed over, if acknowledged at all. Yet this persistent feature of individual preferences over war and peace changes the composition of the electorate in states that give women the vote. This article represents an important step in establishing the link, across space and time, between the gender gap at the individual level and peace at the international level. Democracy gives the public a voice, but the public is not homogeneous. This article suggests that women’s preferences exert a significant and independent effect on state behavior in war, conditional on the existence of political institutions

³³For discussions of incentives to “hide type” in foreign affairs, see Schultz (2005), Trager and Vavreck (2011) and Saunders (2015).

³⁴A third possibility is that female political leaders are more likely to be attacked rather than more likely to initiate conflict, but Dube and Harish (2017) provide evidence against this view.

that allow women's voices to be heard. Early suffragist movements, including those that successfully expanded suffrage following the First World War, were closely linked to peace movements (Goldstein 2003, 322-31). They hoped to make world politics more pacific by giving women greater say in political affairs via the vote; their hopes were fulfilled.

References

- Aldrich, John H., Christopher Gelpi, Peter D. Feaver, Jason Reifler and Kristin Thompson Sharp. 2006. "Foreign Policy and the Electoral Connection." *Annual Review of Political Science* 9:477–502.
- Aristophanes. 1925. *Lysistrata*. Auckland: Floating Press.
- Baum, Matthew A. and Philip B.K. Potter. 2015. *War and Democratic Constraint: How the Public Influences Foreign Policy*. Princeton: Princeton University press.
- Brooks, Deborah Jordan and Benjamin A. Valentino. 2011. "A War of One's Own: Understanding the Gender Gap in Support for War." *Public Opinion Quarterly* 75(2):270–286.
- Caprioli, Mary. 2003. "Gender equality and state aggression: The impact of domestic gender equality on state first use of force." *International Interactions* 29(3):195–214.
- Caprioli, Mary and Mark A. Boyer. 2001. "Gender, Violence, and International Crisis." *Journal of Conflict Resolution* 45(4):503–.
- Carter, David B. and Curtis S. Signorino. 2010. "Back to the future: Modeling time dependence in binary data." *Political Analysis* 18(3):271–292.
- Chaney, Carole Kennedy, R. Michael Alvarez and Jonathan Nagler. 1998. "Explaining the Gender Gap in US Presidential Elections, 1980-1992." *Political Research Quarterly* 51(2):311–339.
- Conover, Pamela Johnston and Virginia Sapiro. 1993. "Gender, Feminist Consciousness, and War." *American Journal of Political Science* 37(4):1079–1099.
- De Mesquita, Bruce Bueno, James D Morrow, Randolph M Siverson and Alastair Smith. 1999. "An institutional explanation of the democratic peace." *American Political Science Review* pp. 791–807.

- Dube, Oeindrila and SP Harish. 2017. Queens. Technical report National Bureau of Economic Research.
- Ehrenreich, Barbara. 1999. "Men hate war too." *Foreign Affairs* 78(1):118–122.
- Eichenberg, Richard C. 2003. "Gender Differences in Public Attitudes toward the Use of Force by the United States, 1990–2003." *International Security* 28(1):110–141.
- Eichenberg, Richard C. 2016. "Gender Difference in American Public Opinion on the Use of Military Force, 1982–2013." *International Studies Quarterly* 60(1):138–148.
- Eichenberg, Richard C and Richard J Stoll. 2012. "Gender Difference or Parallel Publics? The Dynamics of Defense Spending Opinions in the United States, 1965–2007." *Journal of Conflict Resolution* 56(2):331–348.
- Fearon, James D. 1994. "Domestic Political Audiences and the Escalation of International Disputes." *American Political Science Review* 88(3):577–92.
- Flores-Macías, Gustavo A and Sarah E Kreps. 2015. "Borrowing Support for War The Effect of War Finance on Public Attitudes toward Conflict." *Journal of Conflict Resolution* p. 0022002715600762.
- Fukuyama, Francis. 1998. "Women and the evolution of world politics." *Foreign Affairs* pp. 24–40.
- Gartzke, Erik, Quan Li and Charles Boehmer. 2001. "Investing in the peace: Economic interdependence and international conflict." *International organization* 55(02):391–438.
- Goldstein, Joshua S. 2001. *War and Gender: How Gender Shapes the War System and Vice Versa*. New York: Cambridge University Press.
- Goldstein, Joshua S. 2003. War and gender. In *Encyclopedia of sex and gender*. Springer pp. 107–116.

- Gottfried, Matthew S. and Robert F. Trager. 2016. "A Preference for War: How Fairness and Rhetoric Influence Leadership Incentives in Crises." *International Studies Quarterly* .
- Grieco, Joseph M, Christopher Gelpi, Jason Reifler and Peter D Feaver. 2011. "Lets Get a Second Opinion: International Institutions and American Public Support for War1." *International Studies Quarterly* 55(2):563–583.
- Hafner-Burton, Emilie M., Stephan Haggard, David A. Lake and David G. Victor. 2017. "The Behavioral Revolution and the Study of International Relations." *International Organization* 71(S1).
- Hudson, Valerie M, Bonnie Ballif-Spanvill, Mary Caprioli and Chad F Emmett. 2012. *Sex and world peace*. Columbia University Press.
- Hudson, Valerie M., Bonnie Ballif-Spanvill, Mary Caprioli and Chad F. Emmett. 2013. *Sex and World Peace*. New York: Columbia University Press.
- Huff, Connor and Dustin Tingley. 2015. "Who are these people? Evaluating the demographic characteristics and political preferences of MTurk survey respondents." *Research & Politics* 2(3):1–12.
- Hyde, Janet S. 1984. "How large are gender differences in aggression? A developmental meta-analysis." *Developmental psychology* 20(4):722.
- Iversen, Torben and Frances Rosenbluth. 2006. "The Political Economy of Gender: Explaining Cross-National Variation in the Gender Division of Labor and the Gender Voting Gap." *American Journal of Political Science* 50(1):1–19.
- Jervis, Robert. 1970. *The Logic of Images in International Relations*. New York: Columbia University Press.
- Kertzer, Joshua D and Ryan Brutger. 2015. "Decomposing Audience Costs: Bringing the Audience Back into Audience Cost Theory." *American Journal of Political Science* .

- Kydd, Andrew. 2005. *Trust and Mistrust in International Relations*. Princeton, NJ: Princeton University Press.
- Oneal, John R and Bruce Russett. 1999*a*. “Assessing the liberal peace with alternative specifications: Trade still reduces conflict.” *Journal of Peace Research* 36(4):423–442.
- Oneal, John R and Bruce Russett. 1999*b*. “The Kantian Peace: The Pacific Benefits of Democracy, Interdependence, and International Organizations, 1885–1992.” *World Politics* 52(1):1–37.
- Polachek, Solomon and Jun Xiang. 2010. “How opportunity costs decrease the probability of war in an incomplete information game.” *International Organization* 64(01):133–144.
- Press, Daryl G, Scott D Sagan and Benjamin A Valentino. 2013. “Atomic aversion: Experimental evidence on taboos, traditions, and the non-use of nuclear weapons.” *American Political Science Review* 107(01):188–206.
- Przeworski, Adam. 2009. “Conquered or granted? A history of suffrage extensions.” *British Journal of Political Science* 39(2):291–321.
- Reiter, Dan. 2015. “The Positivist Study of Gender and International Relations.” *Journal of Conflict Resolution* 59(7):1301–1326.
- Russett, Bruce M. 1990. *Controlling the Sword: The Democratic Governance of National Security*. Cambridge: Harvard University Press.
- Russett, Bruce M and John R Oneal. 1999. “The Kantian peace: the pacific benefits of democracy, interdependence, and international organizations, 1885–1992.” *World Politics* 52(1):1–37.
- Saunders, Elizabeth N. 2015. “War and the Inner Circle: Democratic Elites and the Politics of Using Force.” *Security Studies* 24(3):466–501.

- Schultz, Kenneth A. 2005. "The Politics of Risking Peace: Do Hawks or Doves Deliver the Olive Branch?" *International Organization* 59(01):1–38.
- Signorino, Curtis S. 1999. "Strategic Interaction and the Statistical Analysis of International Conflict." *American Political Science Review* 93(2):279–297.
- Tago, Atsushi and Maki Ikeda. 2015. "An Afor effort: Experimental evidence on UN Security Council engagement and support for US military action in Japan." *British Journal of Political Science* 45(02):391–410.
- Tapper, Katy and Michael J Boulton. 2004. "Sex differences in levels of physical, verbal, and indirect aggression amongst primary school children and their associations with beliefs about aggression." *Aggressive behavior* 30(2):123–145.
- Ticchi, David and Andrea Vindigni. 2006. "On wars and political development. the role of international conflicts in the democratization of the west."
- Tomz, Michael. 2007. "Domestic Audience Costs in International Relations: An Experimental Approach." *International Organization* 61(4):821–40.
- Tomz, Michael R and Jessica LP Weeks. 2013. "Public opinion and the democratic peace." *American Political Science Review* 107(04):849–865.
- Trager, Robert F. 2017. *Diplomacy: Communication and the Origins of International Order*. Cambridge, England: Cambridge University Press.
- Trager, Robert F. and Lynn Vavreck. 2011. "The Political Costs of Crisis Bargaining: Presidential Rhetoric and the Role of Party." *American Journal Political Science* 55(3):526–545.
- Whiting, Beatrice Blyth and John WM Whiting. 1975. *Children of Six Cultures: a Psychocultural Analysis*. Harvard University Press.

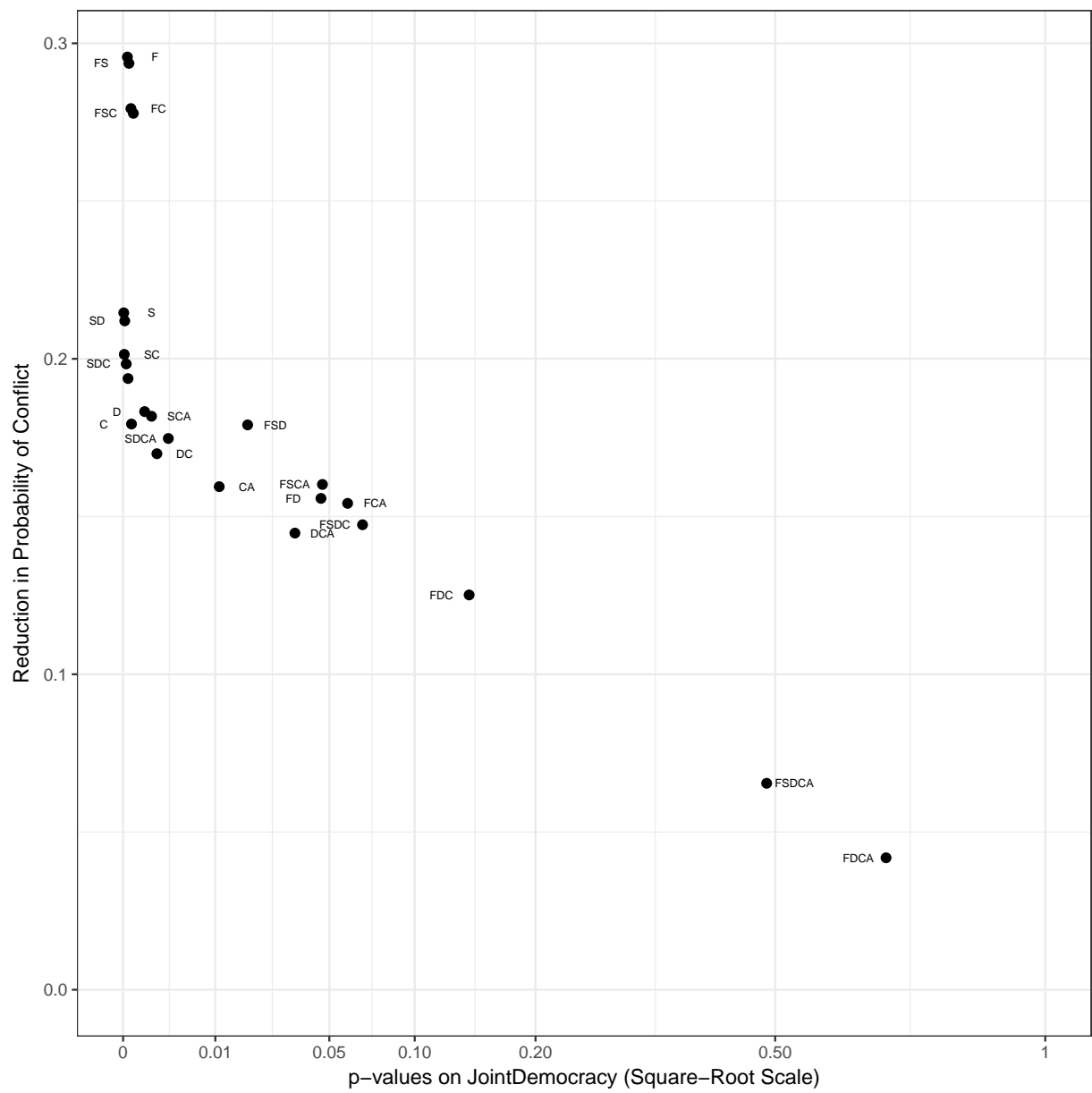


FIGURE 8: JOINT DEMOCRACY

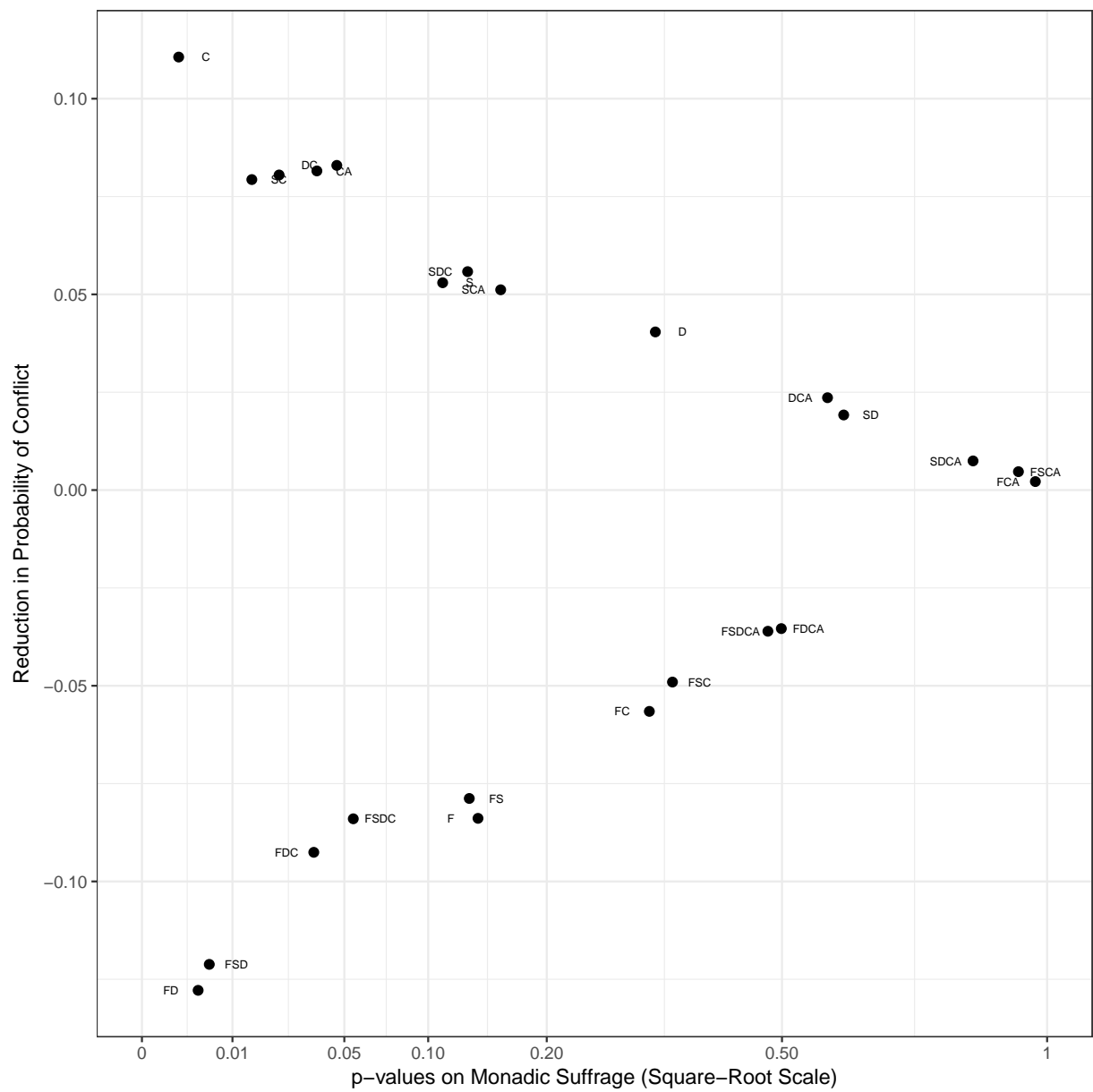


FIGURE 9: MONADIC SUFFRAGE