# How (wo)men rebel: Exploring the effect of gender equality on nonviolent and armed conflict onset

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# Abstract

Previous studies find a strong relationship between armed conflict and gender equality, but only compare armed conflict to no armed conflict onset. However, opposition movements use different means to challenge governments, such as nonviolent or armed strategies. This study explores this variation and poses the question: *How does the level of gender equality affect the onset of nonviolent campaigns and armed conflicts?* It makes two contributions. First, I quantitatively test the impact of gender equality on different forms of conflict onset, and second, I propose a comprehensive gendered mobilization argument based on strategic choice theory. Nonviolent campaigns rely on mass participation, and the nonviolent conflict literature claims that they are open to a wider array of participants, including women, compared to armed conflicts. I argue that gender norms affect movements' expectations of mobilization (mass or limited) as well as conflict norms (nonviolent or violent) in society, and subsequently, the choice of conflict strategy. I hypothesize that higher levels of gender equality, measured by fertility rate and female-to-male primary school enrolment ratio, increase the likelihood of nonviolent campaign onset, compared to both armed and no campaign onset. This study analyses country-year data from the UCDP and NAVCO datasets between 1961 and 2006 and finds that increases in gender equality are, on average, associated with an increased likelihood of nonviolent conflict onset.

## Keywords

armed conflict, gender, mobilization, nonviolent campaign

# Introduction

Does gender equality affect the means by which nonstate groups rebel? A consistent finding is that countries with lower levels of gender equality run a higher risk of experiencing armed conflicts (Caprioli, 2000, 2005; Melander, 2005; Hudson et al., 2012; Bjarnegård et al., 2015). The nonviolent conflict literature has begun unravelling the determinants of nonviolent campaigns (Karakaya, forthcoming; Asal et al., 2013; Chenoweth & Lewis, 2013a; Cunningham, 2013; Chenoweth & Ulfelder, 2017; Butcher & Svensson, 2016; Gleditsch & Rivera, 2017), but it has not yet investigated how country-level gender equality affects the likelihood of these campaigns and whether this effect differs from that on armed conflict. This probes the question: How does the level of gender equality affect the onset of nonviolent campaigns and armed conflicts?

This article makes two contributions. First, it contributes by bringing nonviolent campaigns into the analysis of armed conflict. To date, most quantitative studies within the gender and armed conflict literature compare the presence of armed conflict to no armed conflict (as a binary variable, e.g. Caprioli, 2005; Melander, 2005). In doing so, these studies neglect the possibility of other conflict strategies such as nonviolent campaigns. By including nonviolent campaigns in the analysis, this study provides new insights into if and how gender equality affects the onset of nonviolent and armed conflict. This article thereby contributes to a more complete representation of reality, in which both nonviolent and armed strategies are used to challenge governments.

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Second, this article contributes by proposing a comprehensive gendered mobilization argument. Until now, previous research on nonviolent campaigns generally failed to include societal gender equality as an explanatory factor. As a consequence, this relationship remains under-theorized. This may not only lead us to misguided conclusions about the predictors of nonviolent campaign onset, but also to a lack of understanding of how nonviolent campaigns emerge. Drawing on strategic choice theory and previous research on gender norms, I argue that gender equality (as a reflection of prevailing gender norms) impacts the likelihood of a nonviolent campaign onset through affecting societal conflict norms and a movement's mobilization pool. I claim that gender equality influences *type of conflict norms* (nonviolent or violent) in a given society and movements' expectations of the different types of mobilization (mass versus limited) they are likely able to organize. Although I do not directly test these causal mechanisms, they are used to develop two hypotheses. I expect that nonviolent campaigns generally are more likely to occur at higher levels of gender equality. I further hypothesize that nonviolent campaigns, on average, should become increasingly more likely than armed conflicts when gender equality increases.

The empirical findings provide support for the hypotheses. Nonviolent campaigns, as defined by the Nonviolent and Violent Campaigns and Outcomes (NAVCO) dataset 2.0 (Chenoweth & Lewis, 2013b), become on average increasingly likely to occur when gender equality increases, both compared to inaction and armed conflict onset as defined by the Uppsala Conflict Data Program (UCDP) (Gleditsch et al., 2002; Melander, Pettersson & Themnér, 2016).

This article will proceed as follows. The next section introduces relevant literature on the onset of nonviolent campaigns. I then develop an argument relating countrylevel gender equality to conflict onset, which I test in the ensuing section. I then discuss the results, point out areas for further research, and draw policy implications.

#### Relevant literature and research gap

Recent research indicates that nonviolent and armed conflicts appear in different contexts. Butcher & Svensson (2016) find that the likelihood of nonviolent campaign onset increases with the proportion of manufacturing to GDP while no such relation is found for armed conflict<sup>1</sup> (Butcher & Svensson, 2016).

Cunningham (2013) explores the determinants of armed and nonviolent self-determination conflicts. The results are mixed; some indicators affect violent and nonviolent campaign onset in the same manner, while other factors only have explanatory power for either violent or nonviolent campaign onset. Karakaya (forthcoming) finds that increases in globalization are positively related to nonviolent campaigns, and negatively related to violent campaigns. Finally, Chenoweth & Ulfelder (2017) evaluate existing theoretical models from the armed conflict literature to assess their utility in explaining the onset of major nonviolent uprisings. Examining theories of grievance, resource mobilization, modernization, and political opportunities, they conclude that most theories fare relatively poorly in explaining the onset of nonviolent uprisings although there are some conditions that do have an effect such as poverty, urbanization, youth bulges, and civil liberties (Chenoweth & Ulfelder, 2017: 315-316). The authors thus test several known determinants of armed conflict, but do not rigorously test whether gender equality plays a role.<sup>2</sup>

There is limited research on gender equality as a determinant of nonviolent campaigns. Chenoweth & Stephan (2011: 34–35) suggest that there are several physical barriers to joining a violent resistance movement that impede – among others – women to participate. They argue that nonviolent movements may have lesser physical barriers due to the nature of its tactics and activities, which makes nonviolent movements more open for females to join. Yet, it does not specifically connect how societal gender norms relate to opposition movements' mobilization potential. Nonviolent movements may theoretically be able to draw from every strata of society, but society's gender norms may put practical bounds to this potential. Asal et al. (2013) find that movements with a gender-inclusive ideology are more likely to engage in protests compared to mixed or violent strategies. Although an important finding, it is geographically

<sup>&</sup>lt;sup>1</sup> The proportion of manufacturing to GDP is used to approximate modernization. Processes of modernization are argued by other

scholars to have a differential impact on men and women, promoting economic welfare of men more than that of women. In some instances it is claimed to further reduce women's position (Tickner, 1992: 80–84, 90–96). To assess whether modernization increases social networks between people thus risks reflecting whether male networks are strengthened when countries modernize rather than networks in general.

<sup>&</sup>lt;sup>2</sup> In their appendix, Chenoweth & Ulfelder (2017) consider the Cingranelli-Richards' (CIRI) female empowerment index (Cingranelli & Richards, 2010). This is not used in the main article due to sparse data availability. I use alternative indicators of gender equality that are available for longer time frames and more countries (see research design section).

restricted to the Middle East, assesses the movementlevel only, and does not assess or theorize on the effects of gender equality norms at a country level. In a conference paper, Huber (2016) finds that campaign-level gender diversity increases the likelihood that political campaigns opt for nonviolent over violent tactics, supporting Asal et al.'s (2013) finding. She also finds a positive relationship between statelevel women's rights and nonviolent tactics (vs. violent tactics). However, the paper uses Cingranelli-Richards (CIRI) indicators for gender equality, which have been criticized for large amounts of missing data (see appendix of Chenoweth & Ulfelder, 2017). In addition, it solely uses 'Correlates of War' (COW) data (civil wars over 1,000 battle-related deaths) and does not model or theorize inaction.

This article contributes and differs in four important ways from the research reviewed above. First, I investigate how societal gender equality affects the strategic choice between armed and nonviolent strategies. Second, I study if nonviolent campaign onset, on average, becomes increasingly more likely than inaction with higher levels of gender equality. In this way, my study not only draws on a more complete representation of reality, it also moves beyond within-movement gender ideology to assess the impact of more broad societal gender norms on the onset of nonviolent campaigns. Third, I use measures for country-level gender equality that have more complete data coverage, longer time frames and are comparable to those used in the armed conflict literature. Finally, I use UCDP data on armed conflict, which provides a larger and different empirical scope compared to other on-going work. This makes the analysis more reliable and allows further comparison with existing literature on the relationship between gender equality and armed conflict.

# Theoretical framework: The effect of gender equality on nonviolent and armed conflict

This article argues that gender equality affects nonviolent campaign onset. The choice between strategies for opposition movements works through two complimentary mechanisms. Gender norms, approximated by different facets of gender equality, affect conflict norms (nonviolent or violent), which prime whether movements are more likely to opt for nonviolent or violent means and whether potential participants are more likely to support these means. Gender norms also affect the conditions faced by opposition movements for different types of mobilization (mass or limited). Gender norms, through these two mechanisms, affect the type of conflict onset observed.

#### Gender norms and conflict norms

The relationship between gender and armed conflict is well established (for a review, see Reiter, 2014). Several scholars find a negative relationship between gender equality and armed conflict (Caprioli, 2000, 2005; Melander, 2005). Caprioli (2005) finds that countries experiencing higher levels of gender inequality, measured in terms of fertility rate and female labour force participation, are associated with higher levels of intrastate conflict. This pattern is confirmed by Melander (2005) who finds that more equal societies, measured as female representation in parliament and the ratio of female-tomale higher education attainment, have lower levels of intrastate armed conflict. Both claim this to be related to gender roles ascribed to men and women.

Links between gender equality, gender norms, and armed conflict are often theorized in relation to existing social gendered hierarchies in society. Caprioli (2005: 165-167) claims that nationalism often relies on gender-stereotyping and gendered language. Men are often ascribed and prepared for warrior-like gender roles to protect the nation, while women are expected to support the collective goals of a nation. This is often referred to as a type of militarized masculinity, which glorifies and legitimizes women's subordination to men. These types of militarized masculinities celebrating the male warrior do not necessarily apply to all men in society, but can become the culturally dominant/ hegemonic masculinity. Femininity and devaluated masculinities (such as male homosexuality) become the weak and subordinated contrast category. This 'hegemonic masculinity' is claimed to be consistent with oppressive behaviour towards other groups and put forward as a theoretical explanation for why states with lower levels of gender equality are more likely to experience armed conflict (Tickner, 1992: 6-7; Caprioli, 2005; Melander, 2005; Bjarnegård & Melander, 2011: 142). Research further suggests that there is no evidence of women being less militaristic than men or that there is a sex-based difference towards diplomacy and compromise. Findings instead indicate that those men and women - more supportive of gender equality are more likely to have peaceful attitudes (Cook & Wilcox, 1991; Tessler & Warriner, 1997: 273-280; Brooks & Valentino, 2011; Melander, 2016: 199).

I extend this argument and claim that gender norms and societal gender equality matter for the choice of strategy (nonviolent or armed) movements make.<sup>3</sup> I use the term conflict norms, that is, cultural norms that dictate whether conflicts should be resolved with violence or more peaceful means. If gender inequality relates to more violent conflict norms in society and an increased likelihood of armed strategies, then gender equality should relate to societal nonviolent conflict norms and an increased likelihood of nonviolent conflict strategies. When people are more supportive of gender equality, they should thus also be more supportive of nonviolent strategies. This argument applies across sexes with people more inclined to support armed or nonviolent strategies dependent on the societal level of gender equality.

At higher levels of gender equality, the expectation is therefore that people support nonviolent conflict norms. They are therefore more likely to start and participate in nonviolent movements increasing the likelihood of nonviolent campaign onset compared to armed conflict onset.

#### Why mobilization potential matters

Armed groups and nonviolent movements face different resource mobilization demands to function and reach their aims. Mass mobilization is a requirement for nonviolent campaigns to occur while armed groups function with fewer members (Chenoweth & Stephan, 2011: 30; Sharp, 2013: 15–16; Chenoweth & Ulfelder, 2017: 304–305; Butcher & Svensson, 2016: 314–316). We should therefore be most likely to observe nonviolent campaigns where the potential for mass mobilization is the largest (Lichbach, 1995).

Expecting success should also be important to movements when devising their strategies – armed or nonviolent. Chenoweth & Stephan (2011: 39, 52, 54, 58–59) find that larger nonviolent campaigns are more likely to succeed. In addition, they argue that nonviolent movement diversity matters for the likelihood that the campaign will topple an authoritarian government. By increasing ties between participants and state actors the movement affects the likelihood of loyalty shifts, that is, the shift in loyalty from government supporters towards a campaign (Chenoweth & Stephan, 2011: 46–49). I argue that the number of participants, and subsequent diversity, that movements can mobilize should be dependent on prevailing gender norms. Generally, women constitute about half the human resources available in a country (Helvey, 2004: 137). The ability to mobilize across sexes is likely affected by societal gender norms and thereby affects the chances for successful mass mobilization.

#### Gender norms and limits to mobilization

I claim that gender norms – and subsequently, gender equality – also have more direct consequences for mobilization. To be able to motivate and recruit across sexes should increase the potential success of nonviolent movements by affecting the likelihood, extent, and diversity of mass mobilization. A lack of gender equality may place limits on mass mobilization and participation. This may either lead to the use of more limited mobilization more fit for armed strategies, or to no contentious action undertaken at all.

Gender is related to mobilization patterns during civil wars. One pattern discerned in the armed conflict literature is that of gendered participation: most combatants are male (e.g. Goldstein, 2003: 10–11; Plümper & Neumayer, 2006; Henshaw, 2013). While recent research suggests that women often participate in armed groups and violent political organizations, only onethird of these groups include women in combatant positions (Henshaw, 2013: 137, 148, 151; Thomas & Bond, 2015: 495–496). So, while women often are actors in armed conflict, they are more rarely involved in active combat.

Nonviolent movements are argued to have lower – perceived – physical participation barriers than armed movements by having access to a wider range of tactics that do not necessarily require physical strength, such as sit-ins and labour strikes (Chenoweth & Stephan, 2011). This may make it easier for both men and women to participate, yet gender norms may restrict this participation across sexes.

Second, gender norms may affect participation by stipulating who can join a movement and who should 'stay home'. At the organizational level, movements may choose to either restrict or display openness to women's participation. An advantage of the latter is that it increases the number of potential members (Thomas & Bond, 2015: 490). Gender norms, however, may limit this broader mobilization. For example, access to public space for women can be restricted legally or socially. This affects the opportunity for women to directly participate in movements. It also influences information flows and network-building across sexes by limiting interaction between males and females. In

<sup>&</sup>lt;sup>3</sup> Levels of gender equality and gender roles are argued to relate to each other (see, for example, other quantitative studies that use indicators of gender equality: Caprioli, 2005; Melander, 2005; Bjarnegård & Melander, 2011).

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Kuwait and Saudi Arabia, men and women are, for instance, segregated at the university level. In other countries, women need to be accompanied by males in public spaces (Hudson et al., 2012: 63–65). Where there is limited communication, one can reasonably expect restricted mobilization due to information problems. These limitations based on gender norms can lead women to face barriers to participation, even if movements wish to recruit across sexes.

Both mechanisms stipulate arguments on the demand and supply side. The supply side relates to what movements can expect: are both men and women able to be recruited should a mobilization take place? The demand side relates to who these movements are interested in recruiting. The expected mobilization pool relies on both. First, movements willing to mobilize broadly can increase their potential mobilization pool. This willingness to mobilize both men and women is related to gender norms with a greater expected openness at higher levels of equality. Second, individuals may be more or less restricted to join movements based on prevalent societal gender norms. If societies are more gender equal, this should increase chances for: (a) movements' willingness to mobilize broadly; and (b) potential participants' opportunities to join regardless of sex. This should improve prospects for mass mobilization and, as a consequence, make opposition movements more likely to opt for nonviolent means over armed means.

To reiterate, I do not claim that women are inherently more peaceful than men and are therefore more likely to join nonviolent movements over armed movements. I argue that gender norms affect the choice of strategy. First, gender norms influence prevailing societal conflict norms (nonviolent or violent), priming if movements are more likely to opt for nonviolent or violent strategies, as well as the level of societal support for these strategies. Second, I claim that country-level gender norms influence the people that movements can and may mobilize and by that mobilization type (mass or limited). In turn, gender equality, through these two mechanisms, is expected to influence which type of conflict onset is observed.

This leads to the following hypothesis:

*H1:* Countries that are more gender equal are more likely to experience a nonviolent campaign onset (compared to armed conflict).

Above, I argue that gender equality affects a movement's strategic choice of conflict method, leading to a testable hypothesis comparing the likelihood of nonviolent to armed conflict onset. However, a group may also choose to remain inactive (no onset of nonviolent or armed conflicts). This spurs a further question: does nonviolent campaign onset become more likely as gender equality increases compared to no onset? I claim that a higher level of gender equality shapes a context where nonviolent conflict onset as a phenomenon, on average, is more likely to occur. This expectation is channelled through the same mechanisms: mobilization and societal conflict norms.

First, as noted above, a more gender equal society should make mass mobilization for nonviolent campaigns more likely, making movements more inclined to opt for nonviolent over armed strategies. However, from a strategic choice perspective the increased possibility for mass mobilization should, by itself, also make nonviolent campaigns more likely to occur compared to inaction. Research shows larger campaigns are more likely to achieve their aims (Chenoweth & Stephan, 2011). The higher the number of participants a movement expects to muster, the more likely it is to fulfil its objectives. This expectation of success should impact the likelihood for nonviolent campaigns to occur, which is commonly argued in the civil resistance literature (e.g. Cunningham, 2013; Chenoweth & Ulfelder, 2017; Butcher & Svensson, 2016). I argue that higher levels of gender equality make mass mobilization more likely. This, in turn, renders nonviolent campaign onsets more likely as it increases the likelihood that these campaigns will be successful. On the other hand, when gender equality is low, the opposite should hold lower chances for mass mobilization and therefore success, and movements remain inactive as a consequence. To conclude, if mass mobilization becomes more likely, we should expect a higher likelihood for nonviolent conflict onset compared to inaction.

Second, as mentioned above, more gender equal societies are more likely to instil people with nonviolent conflict norms. This is the flip-side of the commonly heard argument in the armed conflict literature where a tolerance for violence is related to gender inequality (Caprioli, 2005). Nonviolent conflict norms should induce a context where nonviolent campaigns are more likely to occur since people are more likely to support actions that corroborate with the societal norm.

A possible critique to this line of thinking is arguably that inaction, on average, should become more likely when societal conflict norms become less violent. This is often implied in the armed conflict literature (e.g. Caprioli, 2005; Melander, 2005), where nonviolent campaign onset as an alternative often is theoretically neglected and subsequently included in the no onset category. However, more gender equal societies are not necessarily equal to societies where grievances can be resolved in a peaceful, and strictly legal, manner. Arguably, functioning democratic institutions are a common way to deal with grievances legally (McCarthy, 1990: 108–109). Democracy and gender equality are related, yet the causal direction is disputed (e.g. Fish, 2002; Donno & Russett, 2004; Hudson et al., 2012: 110-112; Bjarnegård, 2013: 2), and the relationship is not linear (Bjarnegård & Melander, 2011). Empirically, countries can score similarly on gender equality indicators, but vary on their democracy levels. The above indicates that gender equality is not necessarily part of a larger normative – democratic – shift within countries, which means grievances over government can exist at varying levels of gender equality. The strength and aim of this study is therefore to test whether more peaceful norms related to gender equality imply that inaction becomes more likely compared to favouring either armed or nonviolent strategies. Based on the proposed causal mechanisms, gender equality should in fact increase the likelihood for nonviolent campaign onset also compared to inaction, given that I do not assume that levels of gender equality and levels of democracy correlate perfectly. Conditions favourable to nonviolent campaigns, mass mobilization and nonviolent conflict norms, should be more likely at higher levels of gender equality.

Finally, the interaction between the two mechanisms should not be understated. If increases in gender equality simultaneously lead to nonviolent conflict norms and an increased chance for mass mobilization, then nonviolent campaign onset should become more likely as gender equality increases compared to no onset of any conflict type at all.

This leads to the second hypothesis:

*H2:* Countries that are more gender equal are more likely to experience a nonviolent campaign onset (compared to no conflict onset of any type).

## **Research design**

The dataset is a global sample comprising of 6954 country-year observations during the period 1961–2006.<sup>4</sup> The dataset excludes colonial conflicts, nonviolent or armed. The argument stipulates within-country causal mechanisms. Colonial conflicts generally take place in a distant territory from the state centre and statistics on the centre therefore may not reflect the situation on the ground. Below, I introduce the dependent variable, the main independent variables and the control variables.

#### Dependent variable

This study explores how variations in gender equality affect the type of intrastate conflict onset we observe: nonviolent campaigns, armed conflicts or inaction. The dependent variable is Conflict onset and denotes four categories. The variable will take the value 0 if no conflict onset occurs in a given country-year; it will take the value 1 if a nonviolent campaign onset occurs, the value 2 if an armed conflict onset takes place and the value 3 if a nonviolent campaign and armed conflict onset occur simultaneously.<sup>5</sup> Nonviolent conflict onset is coded based on the NAVCO 2.0 dataset (Chenoweth & Lewis, 2013a), which includes campaign-year data from the period 1945-2006. The armed conflict onset value is based on the 'UCDP Monadic Conflict Onset and Incidence Dataset, 1946-2013' (Gleditsch et al., 2002; Themnér & Wallensteen, 2014). NAVCO includes campaigns with at least 1,000 observed participants in two coordinated contentious events within a year. These nonviolent campaigns pursue maximalist goals of regime change, secession or the removal of a foreign occupier (Chenoweth & Lewis, 2013a: 417). UCDP defines armed conflict as

a contested incompatibility that concerns government or territory or both, where the use of armed force between two parties results in at least 25 battle-related deaths in a calendar year. Of these two parties, at least one has to be the government of a state. (Themnér & Wallensteen, 2014: 541)

The onset of a nonviolent campaign or an armed conflict is coded when there was a new conflict-dyad (UCDP) or nonviolent campaign (NAVCO) or if there is more than one year since the last observation of the campaign or conflict.

Both datasets used have put in considerable effort to counter under-reporting bias, but so-called 'non-starters' exist for nonviolent campaigns and armed conflicts. The

<sup>&</sup>lt;sup>4</sup> For summary statistics, please see the Online appendix.

<sup>&</sup>lt;sup>5</sup> This category contains eight observations. An onset of an armed conflict and a nonviolent conflict in the same year is thus an uncommon occurrence. However, a simultaneous occurrence could be the result of different causal processes than those described in this article and is therefore excluded from the other categories. This category 3 is deemed too small to be confidently reported in the findings section, but allows running the analysis with a fuller set of cases that reflect empirical reality more accurately.

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coding rules for both datasets exclude movements that emerge but do not reach the inclusion criteria. The results are therefore not generalizable to all contentious action. The results are only applicable to major nonviolent campaigns with a high level of continued participation over time with maximalist goals (NAVCO 2.0) and state-based intrastate armed conflicts with an incompatibility over government or territory that reach over 25 battle-related deaths within a calendar year (UCDP) (Chenoweth & Lewis, 2013a: 420; Themnér & Wallensteen, 2014).

# Main independent variables

Gender equality is measured with two indicators: fertility rate and female-to-male primary education enrolment ratio. These indicators capture two different facets of gender equality. Unlike many other gender equality measures, these are available for long time frames, and do not suffer from extensive missing data. Fertility rate, total (births per woman) from the World Bank (World Bank Development Indicators, 2013) is previously used to explore the relationship between gender equality and intrastate armed conflict (Caprioli, 2005) and captures societal gender equality. Fertility rates reflect women's reproductive rights, which in extension, affect women's empowerment and health, with higher fertility rates being negatively related to both (Hudson et al., 2012: 23-27). It is likely that reproductive choice is closely related and sensitive to changing attitudes towards gender roles in society, which makes it an indicator especially suited for this study. Ratio of female-to-male primary school enrolment (%)<sup>6</sup> from the World Bank (World Bank Development Indicators, 2013) is a widely acknowledged measure of gender equality and female empowerment. To eliminate gender disparity in primary school education was one of the Millennium Development Goals and is believed to have a positive impact on women's empowerment. This measurement is to capture the relative degree of subordination of women (Melander, 2005). Both independent variables are lagged *t*-1 to counter potential endogeneity.

Hudson et al. (2012) argue that multiple indicators are necessary in order to evaluate gender equality. Variations exist over time, within and between countries, and between regions. This speaks to the utility of using

multiple independent variables. Several often used gender equality indicators, such as Ratio of female-to-male secondary enrolment (%), Ratio of female-to-male tertiary enrolment (%) and Labour force, female (% of total labour force) suffer from missing data to a larger extent than the two main independent variables presented above. Apart from missing data, one could theoretically argue that fertility rates and primary school education forego these three indicators in time. For instance, in order to reach more equal ratios of men and women at secondary and tertiary education, women first have to have attended primary school. However, with Hudson et al.'s argument on the necessity of multiple indicators in mind, and since these are commonly used in the armed conflict literature, I present models using these indicators as robustness tests in the Online appendix. Indicators related to political representation exist, but were not used based on validity concerns. Women in parliament and female heads of state could, for instance, be the consequence of family politics (such as dynasties) or gender quotas. Gender equality indices were considered, but are only available for time frames that are too short. Finally, measures pertaining to family law are often too time invariant to be considered for a quantitative study. Given these validity concerns and technical limitations, fertility rates and the ratio of female-to-male primary school enrolment are considered the best options for measuring gender equality.

## Control variables

Several control variables related to nonviolent conflict/ armed conflict onset and gender equality are taken into consideration. The model includes Urban population (logged) from the World Bank (World Bank Development Indicators, 2013). Countries with a higher urban population have a higher likelihood of experiencing nonviolent campaigns (Chenoweth & Ulfelder, 2017: 315; Gleditsch & Rivera, 2017: 1132). Poverty and poor economic performance are commonly argued to affect grievances in society and may affect both gender equality and conflict onset. To account for this, this study includes GDP per capita (logged) (World Bank Development Indicators, 2013). Large military forces may deter nonviolent campaigns or armed conflicts or make it easier to repress these early on, therefore Military personnel (logged) is included from the National Military Capabilities v4.0 dataset (Singer, 1988). Democratization and gender equality are associated with one another, yet the causal direction is disputed (e.g. Fish, 2002; Donno & Russett, 2004; Hudson et al., 2012: 110-112; Bjarnegård, 2013: 2). In addition, democracy is related

<sup>&</sup>lt;sup>6</sup> This indicator is arguably more sensitive to top-down policies than fertility rates, such as the Millennium Development Goals, meaning that it can be both an instrument for changing gender norms and a consequence of changing gender norms.

to both nonviolent and armed conflict onset (Hegre, 2014; Chenoweth & Ulfelder, 2017: 316). This article includes Polity2 and Polity2 squared to account for a possible spurious relationship (Marshall, Gurr & Jaggers, 2014). It is notable that *Polity2* does not take into account gender equality within countries when measuring democracy (which leads, for example, Switzerland to have a full score of 10 despite not having female suffrage on the federal level prior to 1971 and on canton level not fully until 1991). Finally, time dependency is noted as a problem when using cross-section time-series data (Beck, Katz & Tucker, 1998; Carter & Signorino, 2010). The study accounts for time dependency by adding cubic polynomials of Years since last active nonviolent/armed conflict  $(t, t^2, t^3)$ : one for nonviolent and armed conflict respectively). All control variables are lagged t-1 to ensure temporal order.

#### Statistical model

Multinomial regressions are used, because of employing an unordered categorical dependent variable aiming to compare the category 'nonviolent campaign onset' to the categories 'armed conflict' and 'no onset'. This article argues that each of these are strategic choices and therefore distinct from one another.<sup>7</sup> This is in line with other research on the determinants of the onset of nonviolent campaigns and armed conflicts (e.g. Cunningham, 2013: 298; Butcher & Svensson, 2016: 319; Karakaya, forthcoming). This article is concerned with testing two hypotheses relying on alternative comparisons. This is an additional advantage when using multinomial regression techniques. Tables with alternative baseline comparisons (armed conflict as a baseline for Hypothesis 1 and no onset as a baseline for Hypothesis 2) will be presented in the empirics section. Finally, the models presented in this article cluster the standard errors on the country level to minimize the effects of heterogeneity of errors between states.

## **Empirical results**

Figure 1.2.1 (in the Online appendix) shows the distribution of fertility rates (*t*–1) on the onset of nonviolent

campaigns (red) and the onset of armed conflict (green). Interesting to note is that nonviolent campaign onset peaks at low levels of fertility rates and armed conflict peaks at higher levels of fertility rate. Figure 1.2.2 (in the Online appendix) shows that nonviolent conflict onset spikes when the primary school ratio is near 100% while armed conflict rises steadily until reaching its peak at around 90% from where armed conflict becomes less likely. These figures suggest that these strategy types have different underlying distributions that indicate support for the hypotheses.

#### Main results

Table I, Model 1 displays the estimates of a multinomial logit model of the likelihood of conflict onset conditional on fertility rates and the control variables discussed above. The baseline category in this table is 'no conflict onset'. Table II, Model 1 has the same set of covariates, but the baseline category in this table is 'armed conflict onset'. The results give support to both hypotheses specified in this article. First, an increase in fertility rates is, on average, associated with a lower likelihood of nonviolent campaign onset compared to no onset of any type, holding other variables constant (Table I, Model 1). An increase in fertility rates reflects a decrease in gender equality and we can therefore find support that when gender equality increases, the likelihood for a nonviolent conflict onset is also increasing. This effect is significant at the 99% confidence level and holds with alternative specifications of this model.<sup>8</sup> Support for Hypothesis 1 is also found. When gender equality increases, nonviolent conflict onset becomes increasingly more likely compared to an armed conflict onset, when holding other variables constant. This effect is significant at the 99% confidence level (Table II, Model 1).

Table I, Model 2 displays the estimates of a multinomial logit model of the likelihood of conflict onset conditional on *Ratio of female-to-male primary school enrolment (%)* and the control variables discussed above. The baseline category in this table is 'no conflict onset'. Table II, Model 2 has the same set of covariates, but the baseline category in this table is 'armed conflict onset'. The findings are robust to an alternative measurement of gender equality. An increase in the ratio reflects an

<sup>&</sup>lt;sup>7</sup> Tests if the Independence of Irrelevant Alternatives (IIA) assumption holds are performed (see Online appendix). The Small-Hsiao tests of the IIA assumption and suest-based Hausman tests of the IIA assumption indicate the IIA assumption holds although the Hausman does not. Cheng & Long (2007) find this commonly the case and advise to motivate a model theoretically as the tests are found unreliable and inconsistent.

<sup>&</sup>lt;sup>8</sup> See a short discussion in the 'Robustness tests' section and also models reported in the Online appendix. The choice to report the more parsimonious model was made after assessing the fit of the model by employing likelihood ratio tests and assessing the utility of using control variables with considerable missing data. See Online appendix for models including these control variables.

Variable	Model 1		Model 2	
	Nonviolent campaign onset	Armed conflict onset	Nonviolent campaign onset	Armed conflict onset
Fertility rate, total (births per woman)	-0.369** (0.098)	0.250** (0.059)		
Ratio of female to male primary school enrolment (%)			0.030** (0.011)	-0.016** (0.006)
Ln urban population	0.799** (0.293)	0.298 (0.223)	0.735** (0.283)	0.446 (0.273)
Ln military personnel	-0.139 (0.176)	0.039	-0.040 (0.154)	0.019 (0.123)
Ln GDP per capita	-0.260 (0.202)	-0.031 (0.133)	-0.170 (0.216)	-0.241 (0.162)
Polity2	$-0.112^{**}$	0.011	$-0.104^{**}$	0.011
Polity2 squared	(0.024) $-0.013^{**}$ (0.005)	(0.017) $-0.007^{*}$ (0.003)	(0.024) $-0.016^{**}$ (0.006)	-0.006 (0.004)
Constant	$-8.432^{**}$ (2.851)	$-6.895^{**}$ (1.634)	$-13.915^{**}$ (2.658)	(0.001) -1.297 (1.761)
Observations AIC	5337 2 764 398	(1100 1)	3783	(11, 01)
BIC	3,021.112		2,238.699	

Table I. Multinomial logit estimates of conflict onset, base category: no onset

Standard errors in parentheses. Cubic polynomials are included in the estimations. \*p < 0.05, \*\*p < 0.01.

increase in gender equality. The results show that an increase in the ratio is associated with a higher likelihood of nonviolent campaign onset. This effect is significant at the 99% level (Table I, Model 2). Support for Hypothesis 1 is also found. When the ratio increases, a nonviolent conflict onset becomes increasingly more likely compared to an armed conflict onset, when holding other variables constant. This effect is significant at the 99% confidence level (Table II, Model 2). These results are robust to alternative specifications of the model at the 95% confidence level. One exception is when adding the control variable manufacturing value added (% GDP) (p = 0.084 and 0.083, see the Online appendix).

Thus, the results support the hypothesized relationships. An additional observation is that the models in Table I replicate earlier findings on the relationship between armed conflict and no conflict onset (this time excluding nonviolent campaign onsets). Results also indicate that GDP per capita is not significantly related to armed conflict onset, which is in line with other research on gender equality and armed conflict (Melander, 2016: 209–210), but challenges other research findings on the relationship between economic development and armed conflict (e.g. Fearon & Laitin, 2003; Collier & Hoeffler, 2004). This result is robust to including a squared term of the GDP variable (see Online appendix). GDP per capita also does not significantly impact the onset of nonviolent campaigns.

Finally, I have plotted predicted probabilities for both nonviolent and armed conflict onset to assess the relationship further. The plots in Figure 1 show the effect of gender equality (fertility rate) on the likelihood of nonviolent and armed conflict onset, respectively, based on Table I, Model 1, keeping other covariates at their mean. Note that the y-scales for these two graphs differ with larger predicted probabilities for armed conflict.<sup>9</sup> The effects of gender equality on conflict onset are significant for both strategies, and the effects are the opposite: nonviolent campaigns become less likely at higher rates of fertility and armed conflict more likely. The effects range from 0.018 at the minimum value of fertility rate to close to 0 at its maximum value for the probability of nonviolent campaign onset. These effects are significant at the 95% confidence level, except at the maximum value

<sup>&</sup>lt;sup>9</sup> Combined graphs are in the Online appendix. They show that the predicted probabilities for armed conflict onset are larger than those of nonviolent campaign onset. To avoid obscuring the trend of nonviolent campaigns with large values on the y-scale, the graphs are only reported in the appendix.

Variable	Model 1 Nonviolent campaign onset	Model 2 Nonviolent campaign onse
Fertility rate, total (births	-0.619**	
per woman)	(0.128)	
Ratio of female to male		0.046**
primary school enrolment (%)		(0.013)
Ln urban population	0.501	0.289
1 1	(0.312)	(0.375)
Ln military personnel	-0.179	-0.059
7 1	(0.176)	(0.175)
Ln GDP per capita	-0.229	0.072
	(0.234)	(0.277)
Polity2	-0.124**	-0.115**
-	(0.029)	(0.029)
Polity2 squared	-0.006	-0.009
, ,	(0.006)	(0.007)
Constant	-1.537	-12.619**
	(3.174)	(3.031)
Observations	5337	3783
AIC	2,764.398	1,995.406
BIC	3,021.112	2,238.699
	.,	_,

Table II. Multinomial logit estimates of conflict onset, base category: armed conflict

Standard errors in parentheses. Cubic polynomials are included in the estimations. \*p < 0.05, \*\*p < 0.01.

(p = 0.086). Figure 2 plots the effects of female-to-male primary school enrolment ratio based on Table I, Model 2, keeping other covariates at their mean. Nonviolent campaigns become more likely at higher female-tomale primary school enrolment ratios, and armed conflict becomes less likely. Again, note that the two graphs have different y-scales. The predicted probabilities show that nonviolent campaigns are most likely at high levels of gender equality with the likelihood decreasing rapidly until reaching the mean value of gender equality. After this, the likelihood for nonviolent campaigns occurring is very slim. The effects range from 0.012 to close to 0.<sup>10</sup> In relation to other studies, the size of the effects are similar (Butcher & Svensson, 2016; Gleditsch & Rivera, 2017). For instance, Butcher & Svensson's (2016) base model gives predicted probabilities from 0.002 to 0.015.<sup>11</sup> These

predicted probabilities appear small, yet nonviolent campaigns are rare events and have a very low chance of occurring in the first place. Given this context and other findings in the literature, I argue that these effects are substantively meaningful.

# Robustness tests<sup>12</sup>

A second set of regressions was run with an alternative specification of the dependent variable: 'war onset' from the NAVCO dataset rather than onset of armed conflict based on UCDP data. The onset of wars is originally based on the COW dataset (Sarkees & Wayman, 2010). This serves to assess whether the findings are robust and applicable to both wars with over 1,000 battle-related deaths (COW) and armed conflicts that include events over 25 battle-related deaths (UCDP). The deaths are additionally based on different coding rules. The results hold. The coefficients are significant and give support for the hypothesized relationships. The relationships are also robust to different coding rules of the conflict onset dependent variable (more than two years and five years since the last campaign observation in NAVCO and UCDP).

A third set of regressions was run with alternative specifications of the independent variable Gender equality. When using the indicators Ratio of female-to-male secondary enrolment (%), Ratio of female-to-male tertiary enrolment (%), and Labour force, female (% of total labour force) (World Bank Development Indicators, 2013), similar trends emerge although Ratio of female-to-male tertiary enrolment fails to reach the 95% significance level. The higher the level of gender equality, the more likely nonviolent conflict onset becomes both in relation to no conflict onset and armed conflict onset. This gives further confidence that gender equality indeed matters. Interestingly, both Ratio of female-to-male tertiary enrolment (%), and Labour force, female (% of total labour force) are not significantly related to Armed conflict onset. This could be a result of differently coding the category No onset, which now excludes country-years with nonviolent campaign onsets. However, caution should be taken since both these independent variables suffer from extensive missing data, potentially affecting the reliability of the model and the results.

Models were also run with added control variables (GDP growth, Natural log of total population, Manufacturing, Value added (% of GDP), and Squared natural log of GDP per capita). The added control variables do not change the relationship between gender equality and

<sup>&</sup>lt;sup>10</sup> For ratio female-to-male primary school enrolment, I calculated the values at 1% and 99% of the sample rather than its minimum and maximum, since this measure is more dispersed with the minimum and maximum being far away from the rest of the data points.

<sup>&</sup>lt;sup>11</sup> These predicted probabilities were calculated using the replication file, based on base Model 1.

<sup>&</sup>lt;sup>12</sup> See Online appendix for models and figures of the robustness tests.



Figure 1. The impact of fertility rates on the probability of nonviolent and armed conflict onset



Figure 2. The impact of the ratio of female-to-male primary school enrolment on the probability of nonviolent and armed conflict onset

conflict onset. One exception is when adding the control variable *Manufacturing value added* (% *GDP*) to the ratio of female-to-male primary school enrolment model. The relationship remains positive, but is not significant at the 95% level (p = 0.084 and 0.083). Interesting to note, though, is that the effect of manufacturing itself on non-violent conflict onset is not replicated in contrast to the results found by Butcher & Svensson (2016), but in line with Chenoweth & Ulfelder (2017).

An often-heard concern is that gender equality is a consequence of democracy or highly multicollinear with democracy. Although other studies show that this is disputed, and though I have controlled for a potential spurious relationship in the main models, I have conducted additional tests to assess whether gender equality has a similar effect across different levels of democracy. When calculating predicted probabilities and plotting these, the measures of gender equality show a similar effect. Surely, the likelihood of a nonviolent campaign onset decreases at higher levels of democracy, but the general trend is the same: higher levels of gender equality, regardless of democracy level, always result in a higher likelihood of nonviolent campaign onset. To further investigate, I have run OLS regressions in order to assess the VIF (variation inflation factor) scores of the covariates.<sup>13</sup> The VIF scores for the gender equality indicators are low (under 3), giving further confidence that these indicators do not suffer from a too high level of multicollinearity. High levels of multicollinearity should also induce large coefficients and inflated standard errors, which does not appear the case in the specified models in Table I and II.

#### Alternative explanations

I do not argue that gender equality is the prime or only predictor for nonviolent or armed campaign onset. In this article, I demonstrate how gender equality affects conflict onset, and argue for its vital place – among other factors – in the study of nonviolent conflict.

However, there may be several alternative explanations. First, it may be argued that measures of gender equality, in this study fertility rates and primary school ratio, are a result of economic development. This is why this study controls for several indicators of economic development: *Ln GDP per capita* (also squared, in the Online appendix), *Manufacturing* (appendix), and *GDP*  growth (appendix). The results do not support this alternative explanation, since the relationship of interest shows consistent trends supporting the hypotheses. To the contrary, the economic development indicators are not consistently significant. This is interesting in its own right and is in line with extant research on gender equality and armed conflict onset (Melander, 2016: 210). In contrast to the armed conflict literature, I model various forms of dissent by including both armed and nonviolent methods. The outcome challenges other research findings on the relationship between economic development and armed conflict (e.g. Fearon & Laitin, 2003; Collier & Hoeffler, 2004) even with a wider empirical scope. This suggests that gender equality should be considered an important explanation for both nonviolent and armed conflict onset robust to economic development.

A second alternative explanation concerns democracy and peace, which I tested at greater length above. This, in part, should capture whether gender equality is merely a result of democracy, which could act as a potential proxy for larger normative shifts in society. By this, I mean that democratic processes could be claimed to lead to a more equal society in general with gender equality just being one of its 'by-products'. However, the results do not support this. Gender equality appears to affect the onset of nonviolent campaigns over different levels of democracy. This is consistent with findings in the armed conflict literature where democratic societies are more peaceful only if there have been moves towards gender equality (Bjarnegård & Melander, 2011).

Finally, the causal pathways explaining the relationship between gender equality and the onset of nonviolent campaigns could be further developed alongside the causal mechanisms specified in this article: conflict norms and mobilization. For instance, women may be spurred to work more outside the home and by that increase formal labour force participation. This would potentially combine arguments on modernization (e.g. Boserup, 2007; Butcher & Svensson, 2016), gender equality and nonviolent campaign onset. Gender equality may also affect democratization demands with women specifically more likely to join movements in general to increase their own rights and by that increase participation levels. A recent working paper suggests that democratic development is conditional on gender equality (Wang et al., 2015), implying that democratization may be a mediating variable. Gender equality, through furthering democracy, may then also open up mass mobilization potential by, for instance, increasing freedoms of association leading to a higher likelihood for nonviolent campaign onset. I consider further theoretical probes in the

<sup>&</sup>lt;sup>13</sup> VIF statistics cannot be run after a multinomial model. I therefore reverted to running an OLS regression with the exact same independent variables. See Online appendix for both the VIF tables and the democracy figures (predicted probabilities).

complex relationship between gender equality and conflict onset a fruitful and exciting way forward.

## Conclusions and discussion

This study set out to explore if and how gender equality impacts the onset of nonviolent and armed campaigns. I suggested that gender equality, reflecting prevailing societal gender norms, impacts *type of conflict norms* (nonviolent or violent) in a given society, and *different types of mobilization* (mass versus limited) potential. Through these mechanisms, I expected that, on average, nonviolent campaign onset is more likely to occur at higher levels of gender equality compared to inaction and armed conflict onset. The findings support the hypotheses. This has implications for further research and policymakers.

The study adds a new dimension to research on gender and armed conflict. Analyses of armed conflicts with dichotomous outcome variables do not cover the full empirical picture. The results here show that gender equality not only leads to a decreased chance of armed conflict and an increased likelihood for inaction. Rather, it demonstrates that another type of conflict, nonviolent campaigns, becomes more likely to occur. This improves our understanding of how gender equality influences how people rebel against governments. Even when armed conflict onset becomes less likely when gender equality increases, this should thus not lead us to conclude that people do not challenge their governments at all. This provides further research avenues within the armed conflict literature where the category 'no conflict' should be further analysed.

This study sheds light on the relationship between gender equality and conflict onset, which is explained by two theoretical mechanisms. The mechanisms are not directly tested since they are either hard to capture in a quantitative study or suffer from limited data availability. Future research should collect data on whether nonviolent movements succeed in broadly mobilizing across sexes to assess whether societal gender equality in fact leads to a more diverse larger movement. These data could then be used for comparative research assessing if this is different for armed and nonviolent movements. Future research should also take into account qualitative aspects; for instance: do men and women feel that they are similarly appreciated as participants in nonviolent movements? Do women and men join movements for similar reasons? And do they partake in similar nonviolent tactics? Qualitative and/or survey studies could shed further light on such questions.

Apart from shedding light on gender equality as a determinant of nonviolent campaigns, this study has

implications for findings that compare the outcomes of nonviolent campaigns to outcomes of armed campaigns (e.g. Chenoweth & Stephan, 2011; Celestino & Gleditsch, 2013). This study, in line with other research on the determinants of nonviolent campaigns, finds that these strategies arise in different contexts. The follow-up question should be: if the contexts wherein nonviolent and armed conflicts arise are different, could the context then also pre-condition the outcomes of these campaigns? This study may also have implications for research focusing on opposition movements that shift strategy from armed to nonviolent and vice versa (Dudouet, 2013) or that assess why there is a global trend depicting a decrease in armed conflicts over time while a simultaneous upward trend can be observed for nonviolent campaigns (Svensson & Lindgren, 2011). Further research could assess whether changes in gender equality could have an impact on these observed processes.

This study focuses mainly on movement-level explanations. However, the impact of gender equality on state behaviour should be further explored. The interaction between dissent and repression is currently disputed with some studies arguing for a positive effect of state repression and others a negative effect (e.g. Lichbach, 1987; Moore, 2000; Carey, 2006; Chenoweth & Ulfelder, 2017). To include gender equality in the analysis could illuminate the underlying mechanisms at work. Gender equality could influence the type and extent of state repression depending on prevailing societal norms and state responses may vary depending on the gender diversity of a movement.

Finally, policymakers should get insights into what happens when attempts are made to decrease the chances of armed conflict by, for instance, improving gender equality. Policymakers should be aware that this could lead to an increase in the probability of nonviolent campaigns. Improving gender equality does not necessarily mean that countries are less likely to face instability, but rather that they may face different kinds of challengers employing different strategies. Other research finds that nonviolent campaigns increase the probability of transitions to democracy, while armed campaigns are more likely to transition to another autocracy (Celestino & Gleditsch, 2013), and that nonviolent campaigns are more likely to succeed in attaining their objectives than violent campaigns (Chenoweth & Stephan, 2011). The implication of increasing gender equality could be that we see more successful - nonviolent - challenges to autocratic governments and, by that, increase the likelihood of democratic transitions.

## **Replication data**

The dataset and do-files for the empirical analysis in this article, along with the Online appendix, can be found at https://www.prio.org/JPR/Datasets/. All data analysis was done using Stata version 13.1.

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