A Re-assessment of Democratic Pacifism at the Monadic Level of Analysis

Abstract

Extant studies provide inconsistent evidence that democracies are generally more pacific than nondemocracies. Many scholars have concluded that this question has been answered and work should be concentrated on explaining why democracies rarely fight each other. Yet, previous state level research has been conducted with model specifications that fail to control for spurious relationships, and thus yield biased inferences that have prejudiced scholars to prematurely close the door on this topic. This paper re-examines democracy and conflict at the state level of analysis from 1870-1992 using a broad sample of states and appropriate statistical estimators. The model specifications provided attempt to capture dyadic level processes that affect monadic conflict propensities. The errors of past research designs are rectified by incorporating variables mirroring those in prominent research at the dyadic level such as economic interdependence and geography. This is done by including a similar model specification to Russett & Oneal (2001) along with other variables that tap into non-randomness of conflict prone states associated with multiple neighboring borders and participation in enduring rivalries. The results show that once the statistical models are specified in a similar manner to those in dyadic studies, democracies are in general less likely to participate in, and initiate, militarized conflicts.
Introduction

There has been a growing focus on strategic behavior and international conflict at the dyadic level of analysis. Indeed, this has been a welcome advance in the understanding of the phenomenon of war. Yet, the question of whether democracies are generally more pacific than non-democracies remains unanswered at the monadic (national) level of analysis. To some in the field this question has been answered: democracies are no more or less likely to participate in war or lesser disputes than other regimes (Small & Singer 1976). Yet, have the studies forming this conclusion accomplished the critical goal of reducing the chance of biased results by adequately testing this proposition with control variables that remove spurious and confounding relationships? This paper contends that scholars working at the monadic level of analysis have not supplied control variables utilized at the dyadic level in their models of democracy and conflict known to be important in the likelihood of conflict.¹ In particular, I take up a theme discussed by Gleditsch & Hegre (1997):

Finally, what about controls for third variables? That task is much more urgent at the national level than at the dyadic level because we are not dealing with a perfect or near-perfect relationship. Many of the third variables controlled for at the dyadic level — for instance, those tested by Bremer (1992) — could be translated to the national level. But few if any studies control for third variables in a convincing manner. (Gleditsch & Hegre 1997)

Various dyadic studies have identified variables that affect the likelihood of conflict, although the shift to dyadic studies has meant that progress was stunted in state-level studies. Indeed, a characteristic of the studies claiming that democracies are no less conflict prone in general than other regimes is that they fail to control for temporal and spatial autocorrelation related to geography or past conflict histories, resulting in biased inferences. While variables such as geographic contiguity or distance, alliances, and
commercial relations have been found to be important at predicting conflict at the dyadic level, such factors have not been appropriately formulated in most monadic studies.

Additionally, since Most & Starr’s important 1989 publication, it seems scholars have come to believe that the monadic level of analysis generally fails to capture the important strategic interaction and behavior tied to the phenomenon of war and other international contests. This is in part true, although the importance of the state level of analysis appears underappreciated. Indeed, it should matter whether democracies are generally peaceful regarding interstate conflict. Did not the rise of Hitler have some general effect on the probability that Germany would become involved in war, or was this only an isolated episode? Is every national-level factor meaningless until run through a dyadic sieve? As Russett & Oneal (2001) note, “If it were true that democracies rarely fought each other but were not more peaceful in general, we would need a good theoretical explanation for that (p. 50).”

We should expect that both monadic and dyadic variables would influence the process of war (Bremer & Cusack 1995). In fact, many existing studies of the democratic peace rely on assumptions based on the monadic level of analysis; I argue elsewhere that dyadic democratic peace effects could be in part influenced by monadic tendencies (author). Leeds & Davis (1999) demonstrate state structure has both monadic and dyadic effects on conflict and cooperation. Despite productive research at the dyadic level that some believe has superseded the monadic level, the connection between the two has not been completely disengaged. At a minimum, the amount of conflict in the international system is likely to be conditional on the number of democracies relative to nondemocracies (Gleditsch & Hegre 1997). In the end, it is unwise to completely detach
research on the liberal peace proposition by level of analysis. Accordingly, this study also seeks to provide an appropriate model specification of democratic pacifism at the monadic level that takes into account the risk of heightened conflict at the dyadic level.

Here I pay particular interest to why most past studies have not found evidence to support the democratic pacifism proposition. The first part of this paper evaluates this literature, paying particularly attention to the disparate findings by level of analysis. Next, I discuss how monadic conflict models should incorporate similar control variables often used at the dyadic level. Finally, I show that with a suitably specified model that controls for spatial, temporal, and dyadic effects, there is evidence to support the claim that democracies are generally less prone to engage in militarized disputes than other regimes.

**Research on Democratic Pacifism**

Research on the Liberal Pacifism Proposition grew out of this increasing focus on domestic politics. To describe the voluminous scholarship over the past few decades is beyond the immediate scope of this study and excellent reviews exist elsewhere (Russett 1993; Chan 1997; and Russett & Oneal 2001). Briefly, the majority of research on this topic has been conducted at the dyadic level of analysis, especially since the 1990s. These studies have found rather robust evidence that pairs of democratic states are less likely to become involved in wars or lesser disputes than other pairs of states. Mixed dyads comprised of a democracy and a non-democracy have been identified as the most dangerous (Bremer 1992, 1993; Weede 1992; Bueno de Mesquita & Lalman 1992; Morgan & Schwebach 1992; Oneal & Russett 1997, 1999). The accelerating
concentration of work at the dyadic level was stimulated by lively debate and the promise of fruitful research programs. Indeed, those working at the dyadic level repeatedly find evidence to warrant further investigation, as any productive research area should, while the monadic level has languished under the belief that the question of a monadic democratic peace effect has been settled and dismissed. Yet, there have been calls for a re-assessment (Morgan & Campbell 1991; Ray 1995; Rousseau et al. 1996; Benoit 1996; Rummel 1997; Russett & Oneal 2001).

This brings us back to the question at hand: are democracies generally pacific? If there were such a relationship between peace and democracy at the state level it could presumably stem from a combination of institutional structure (popular constraint of leaders from bellicose foreign policy) and cultural/political norms against violent solutions for political problems (Russett & Oneal 2001). The two competing propositions regarding the pacifying effect of democracy at the national level of analysis are (1) whether democracies are more peaceful than other regimes or (2) just no more conflict prone than other regimes (Ray 1995; Chan 1997; Russett & Oneal 2001). Prominent studies have found that democracies are no less conflict prone than other regime types (Wright 1942; Babst 1972; Small and Singer 1976; Zinnes 1980; Chan 1984; Weede 1984; Domke 1988; Maoz and Abdolali 1989). Yet, as Morgan and Campbell (1991), Benoit (1996), and Chan (1997) point out, the research designs and statistical methods of these past studies appeared to be inappropriate. Benoit is one of the earlier scholars to call for a reassessment of the monadic democratic pacifism hypothesis, along with other voices such as Ray (1995) and more recently Russett & Oneal (2001). Benoit showed that the previous work of Weede (1984) and others were unreliable and
that there was indeed evidence that democracies are generally pacific. Still, Benoit’s research design, by replicating Weede, repeats many of the previous errors of earlier scholarship on this topic. His results are based on only a few years of observation (Chan 1997) and he generally ignores observations where war did not occur (the non-barking dog problem), possibly incurring sample bias. Therefore, while his results show that Weede (1984) was wrong and that there is evidence in support of the democratic pacifism hypothesis, his work should not be seen as enough of an improvement to entirely discount the prior claims of non-findings at the state level of analysis.

Nevertheless, the problems of limited theoretical development, potentially biased samples, data limitations, inappropriate variable constructions, and improper statistical methods have not doomed the monadic democratic pacifism proposition to the dustbin. By focusing on peace and conflict with more refined approaches, evidence is now emerging in support of the proposition that democracies are generally pacific. It is also nevertheless accurate that democracies have not been allergic to participation in international conflict. Actually, studies now show that democracies excel at winning wars (Lake 1992; Stam 1996; Reiter & Stam 1998). However, the picture now being painted (or repainted) tends to show that democracies appear less bellicose than nondemocracies. Rummel (1979, 1997) has long claimed to provide evidence that democracies are peaceful and particularly less violent regarding their citizens and with other states. Rousseau and colleagues (1996) show that democracies are less likely to initiate militarized conflicts than nondemocracies: democracies are characteristically satisfied with the status quo and do not typically instigate crises. Leeds & Davis (1999) also show that the structural attributes of democracies make them more cooperative and
less conflict-prone (using Conflict and Peace Data Bank data) than non-democracies at both the monadic and dyadic levels of analysis. Hewitt & Wilkenfeld (1996) similarly show using data from the International Crisis Behavior Project that democracies often strike a less belligerent stand during crises. Hence, while democracies may often participate in conflict, they appear to seek more cooperative means of conflict management and resolution. However, a crucial point here is that none of the studies above use a model specification or data that corresponds in some manner to the most prominent research at the dyadic level of analysis. It could very well be that democracies actually are less likely to participate in or initiate militarized conflicts.

While no monadic study could be completely commensurate with dyadic level studies, greater efforts could be made to bridge the distance between them. Monadic models should at least attempt to capture some of the processes modeled at the dyadic level. The process of war is too complex to be captured by one level of analysis (Bremer & Cusack 1995), but fully combining levels of analysis into a single study would also seem to present problems. Indeed, dyads also incur some degree of measurement error related to their simplification of conflict into bilateral relations, even when most conflicts are dyadic. The decision-making processes modeled cannot fully capture the range of possibilities related to the behavior of multiple states in the international system that may affect the decisions of two states in a dyad, and dyadic liberal peace studies do not attempt to control for such effects of third parties.

This does not mean that there are not ways to partially integrate different levels. Though we seek different answers for different questions by level of analysis, it is desirable that we seek links between levels when modeling multilevel processes. The use
of the weak-link assumption in dyadic studies is evidence of such connections.

Considering that a short-coming of earlier monadic studies was a certain naïveté concerning dyadic interactions, it would seem necessary to reverse this problem. If variables such as trade dependence, alliances, and geographic contiguity have been found to be predictors of conflict at the dyadic level, interrelated variables should be included in monadic models tapping into these processes. Without similar control variables, monadic studies may be confounded by spurious relationships or miss other causes of conflict. The goal should be to profile those states that we expect to behave in a nonrandom manner, whether more or less peacefully. I thus take up the task of controlling for spurious and other external causes that may affect the relationship between democracy and interstate militarized conflict.

**Profiling Conflict Prone States**

The main theme of this study is that prior research has not adequately tested whether democracies are more pacific relative to other regime types in an unbiased manner. Beyond improper choices of statistical estimation and the possibility of biased samples, a principle source of bias likely stems from not delineating democratic states from those that are in situations that raise their conflict propensity, despite their regime type. We should expect that states that reside in dangerous regions or are trapped in enduring rivalries should be more conflict prone than other states. For example, we should expect India to become involved in more disputes due to its region and rivalries with Pakistan and China than democracies not similarly situated. To treat India the same as Costa Rica or Japan invites omitted variable bias.
A central feature of multivariate analysis is to control for spurious relationships and other confounding influences. Dyadic models testing for the Liberal Peace often include controls for spatial and temporal influences. Geographic contiguity and distance are variables routinely found to be predictors of interstate conflict: neighboring states are often more likely to fight than non-neighbors. The time between occurrences of militarized conflict should likewise increase or decrease the risk of a new conflict. This is what Blalock (1979, 472) refers to as “disturbing variables,” variables that affect the relationship between the Y and other X variables without being highly correlated with them. Excluding such variables would result in us drawing inaccurate inferences due to the lack of controls for alternative explanations and other variables that affect the probability of conflict, meaning we would be inadvertently associating the sources of conflict with democracy.

Democracy is also collinear with other variables such as level of development: most democracies are economically developed. Moreover, some major powers since the beginning of the nineteenth century (e.g. France, US, UK) have been democratic. Since major powers are known to have a higher propensity for militarized conflict than most minor powers, democracies could appear bellicose because they are typically more developed and thus able to finance large militaries, enabling them to defend their interests. Hence, the risk of conflict for developed, major powers that are also democratic would be higher than for less developed minor powers. Here we see the potential for several spurious relationships and the task then should be to incorporate the same types of variables at the monadic level controlling for spurious relationships used at the dyadic level.
Yet, based on the logic of Most & Starr (1989), monadic models may still fail to capture processes related to strategic interaction often modeled at the dyadic level. While dyadic models sometimes do include monadic variables, particularly directed-dyads, monadic models typically do not attempt to capture any dyadic effects. Beyond the attributes of a state, the risk of becoming involved in an interstate conflict could be heightened by its relationships with other states. Clearly no monadic model could naturally answer the types of questions posed at the dyadic level. This does not mean however, that monadic models are of less utility – the types of questions examined are just different. There is still interest in the question regarding the general effect of democracy on conflict. Hence, the goal then should be to provide better-informed monadic theories and models that are not completely naïve regarding dyadic processes. I seek to accomplish this goal.

Monadic models would be better informed if they could capture part of the dynamics associated with dangerous dyads, those most prone to fight. Mixed dyads composed of a democracy and a non-democracy have been identified as particularly conflict prone. Yet, the composition of dyads by regime type is of only indirect relevance to queries posed at the monadic level since a study regarding conflict propensity at the state level need not differentiate between qualitative differences in opponents. Instead, of more relevance are situations where one state’s risk of conflict could be raised if it is party to protracted, repeated conflicts with other states.

Countries that are participants in enduring rivalries especially face a higher risk of conflict than other states. While aspects of enduring rivalries could be partially captured by including variables for counts of borders, regional conflict scores (Maoz 1996),
number of years since last conflict, some variance may be left unexplained. In particular, states that are participants in multiple enduring rivalries simultaneously should even be greater candidates to generally engage in conflict. The more rivals a state has, the higher its risk of conflict in a given year. The next section explains how I model the effects of democracy on conflict at the state level with the aim of eliminating these potential sources of bias that may have masked accurate inferences in earlier studies.

**Research Design**

This research design is employed to test hypotheses regarding whether democracies are more pacific than other regimes, using model specifications that control for nonrandom effects of other processes that confound our inferences of democracies. I will test three hypotheses regarding the pacifying effects of democracy on (1) onset of militarized conflicts, (2) the initiation of such conflicts, and (3) participation in disputes that turn fatal. These hypotheses have been previously examined by scholars without the proper statistical controls or data likely to be free of sample bias. The following hypotheses will be tested:

H$_1$: The more democratic a given state, the less likely it will participate in militarized conflicts.

H$_2$: The more democratic a given state, the less likely it will initiate militarized conflicts.

Finally, democracies have been said to engage in war at rates no lower than nondemocracies. I examine here whether democracies are more or less prone to participate in conflicts that result in fatalities.
H₃: The more democratic a given state, the less likely it will participate in militarized conflicts that result in fatalities.

I test these hypotheses with a data set where the unit of analysis is the country-year (each country for each year) and where the time span ranges from 1870 to 1992. A benefit of this research design is that it provides a test based on a sample of most all states over a long span of time. Eugene version 1.95 (Bennett & Stam 2000a) was used to generate a population of cases based on the Correlates of War (COW) system membership data set.

**Dependent Variables**

The dependent variables are based on data originating from the COW Militarized Interstate Dispute (MID) data set (Gochman & Maoz 1984; Jones, Bremer, & Singer 1996), using the DYMD 1.0 version edited by Zeev Maoz. A MID is said to occur when one state threatens, displays, or uses military force against another member of the interstate system. I focus on MIDs in an attempt to broaden the types of dependent variables short of war under investigation, which is important since monadic studies should be most confounded by dyadic processes when studying war. Since the working definitions of war usually include some necessary condition of conflict reciprocation, war dependent variables are likely more error prone than those of lesser disputes or directional behavior (such as MID initiations).¹⁰

The dependent variables are all coded dichotomously. In cases where there are potentially multiple MID participations in a given year, I select on those that have the highest hostility rating. This is important for the Fatalities dependent variable discussed below. The first dependent variable is **MID Onset**, which equals one when a state
becomes involved in a new MID and zero otherwise. Next, *MID Initiation* also equals one when a state is an original participant on side A of a dispute, zero otherwise. Finally, *Fatal MID* equals one when MID Onset equals one and casualties result in the MID, or zero otherwise.

**Democracy**

Russett and Oneal (2001) and others distinguish between the differences between democratic norms and institutions. Yet, I find this distinction artificial in practice. While indeed we could potentially measure differences in political culture related to democratic norms separate from institutions that may constrain executives, this is impractical for a broad sample of countries. Moreover, untangling these two sources of peace would seem difficult even if it were desirable: institutional constraints on executives should not work when pacific norms are lacking. Can one imagine a situation where a democracy would not go to war because democratic institutions provided a check on power even though democratic norms were not operating? Indeed, past episodes of imperialism seem to suggest that institutions do not provide a block to the march toward war when people do not oppose war. Of course, if this were the aggregate effect of democracy, we should not expect democracies to be generally peaceful. Additionally, if it were true that democracies are not generally more peaceful than nondemocracies, the basis for the dyadic liberal peace finding would to be built upon a theoretically weak foundation.

*Democracy* is a scalar measure based on the Polity III data (Jaggers & Gurr 1995). The index is created by subtracting the AUTOC (0-10) variable from DEMOC (0-10) in the Polity data set, which produces a scale ranging from negative to positive ten.
This measure has become conventional in the literature on democracy and interstate conflict.

**Control Variables**

The following covariates are included to control for potential spurious and confounding influences with the goal of most closely approximating variables often employed in dyadic Liberal Peace studies. The first two variables measure relational characteristics of dyadic interactions that could alter the likelihood of conflict at the monadic level. The first variable takes into account the number of enduring rivalries a state participates in at the dyadic level, which should raise the conflict propensities of each state involved. The probability of engaging in conflict for states that participate in enduring rivalries is non-random; otherwise no such control would be necessary at the monadic level. *Rivalries* equals the count of enduring rivalries to which a state belongs in a given year, based on the coding of Bennett (1998). This variable connects the monadic and dyadic levels of analysis and renders the former less naïve regarding international interactions. Rivalries should be positively related to the occurrence of MIDs. The second variable is *Allies* and is a summary measure of each state’s total number of military alliances. States that have joined numerous alliances may face an increased potential for interstate conflict based on the chance that states could be drawn into conflict by fulfilling treaties or agreements to come to each other’s aid. Conversely, one could alternatively assume that alliances could act as constraints on state behavior or could deter aggression and reduce the likelihood of conflict. In either case, the likelihood of conflict for individual states, whether positively or negatively affected, would be a non-random effect. *Allies* equals a state’s total alliance commitments for each year and all three levels of alliances (defense
pacts, ententes, and non-aggression pacts) were coded equally. The more allies a state has, the higher the potential to engage in international conflict.

The remaining covariates are each state-level attributes that also control for potentially confounding relationships that if excluded may bias the model estimates. The first variable is Capabilities, which is based on the National Capabilities data set provided by COW. Capabilities measures a state’s share of power in the international system for a given year. Research has shown that powerful countries are more likely to engage in militarized conflicts. Next, many democracies are also highly developed economically, and many others have formed extensive commercial relations internationally. Though many developed states are major military powers, there is reason to believe that higher levels of development generally reduce bellicose and militaristic behavior (Rosecrance 1986; Mueller 1989; Mousseau 2000). Development equals a state’s energy consumption per capita, using data from the COW National Capabilities data set. Commercial openness is often associated with both developed and democratic states (but not necessarily states with large GDPs). States dependent upon trade as a high proportion of GDP should likely be constrained from engaging in disputes that could disrupt commerce and reduce national income. Openness equals total trade as a proportion of GDP, or (exports + imports)/GDP, using trade data collected by Barbieri (1998) and GDP data from several sources. Higher levels of both Openness and Development should reduce the likelihood of interstate conflict.

Of course, other spatial and relational issues could confound monadic models on democratic pacifism. Regarding space, geographic distance and contiguity have been shown to be strong predictors of international conflict at the dyadic level of analysis. It
would make sense then that such factors should somehow be incorporated, even if indirectly, into monadic models. The variable created here to fulfill this purpose is *Borders*, which equals the number of borders a state shares with its neighbors (Zinnes 1980; Most & Starr 1989; Siverson & Starr 1991). This variable has been used in past monadic studies but not necessarily those examining the democratic pacifism proposition. *Borders* was created by downloading from EUGene 1.95 (Bennett & Stam 2000a) a population of all cases of directed-dyads and geographic contiguity (one observation for state A and B’s interactions in a given year, where each state is ‘state A’ for one observation and vice versa, equaling two observations per state pair). The cases were collapsed to non-directional dyads before summing contiguity, which is defined using a distance of up to 400 miles when states do not border by land.

Finally, among the methodological and research design related problems of earlier studies is the lack of any control for time. States that have participated in a militarized conflict within the last five years should be more likely to fight again in the near future compared to a country that has not been in a conflict for one hundred years. To control for this potential statistical problem I include a variable *Peace Years* and three additional cubic spline variables (based on Beck, Katz, & Tucker 1998) in each model for each dependent variable.19

**Estimation**

Since the dependent variables are dichotomous, I employ a logit regression equation for each model specification, including the temporal controls and using robust standard errors (clustered on each state). I will first present a bivariate model for each dependent variable along with a series of multivariate models to show the effect of the control
variables. To foreshadow, there are no reliable bivariate relationship between democracy and international conflict; only the use of the control variables reveals such relationships.

**Results**

Table 1 presents the bivariate models testing the three hypotheses. There are no apparent relationship between democracy and MID onsets or initiations, although the second and third models show that democracy may reduce MID initiations and participation in MIDs that turn fatal. Still, should we trust these results? As we would expect, the possibility for omitted variable bias is high and by accepting these models we would be committing Type One (Models 1.2 and 1.3) and Type Two (Model 1.1) statistical errors, albeit based on rather weak statistical evidence with a .10 probability. For this reason, we now turn to the multivariate models.

**MID Onset Models**

Table 2 presents the MID onset models. The first model (2.1) adds the controls for potential serial autocorrelation. While there is a relationship between the years elapsed since the last MID onset and conflict at time $t$, this does not alter the finding for democracy. The next two models each add a set of variables to the basic model. Model 2.2 adds the variables Capabilities, Development, and Openness. Once these three variables are added, Democracy is now negative and approaches statistical significance at the .05 level with a one-tailed test. Higher levels of power indeed increase the likelihood of a MID onset, although neither Development nor Openness is statistically significant. Moving to model 2.3, however, we see that the Borders and Rivalries variables are statistically significant, but more importantly that democracy is statistically significant at below the .05 level. By not controlling for the number of enduring rivalries
a state is a party to, and the number of neighboring countries, the effects of democracy on the likelihood of a MID onset are clouded.\textsuperscript{21}

Of course though, statistical significance is only part of the story. We should be just as interested in the substantive effects of the variables (Liao 1994; King, Tomz, & Wittenberg 2000). I have included the estimated changes in the probability of a MID onset occurring in Table 3 based on the Clarify method produced by Wittenberg, Tomz, & King (2003). The probability of a MID onset for any given state in the international system is 0.185. Moving from the minimum to the maximum value of Democracy reduces this probability by .058, roughly a 30 percent drop. It is easy to see how democracy could appear to not reduce conflict in models where there are no controls for state power, geographic factors, and states mired in enduring rivalries. Each of these variables has on average a large positive influence on the probability of a MID onset, particularly for participants of enduring rivalries. Democracy does not increase the risk of MID onset, but reduces it. Any state that is powerful, has many neighboring countries, and is a member of one or more enduring rivalries, whether democratic or not, should on average be more likely to become involved in MIDs. Based on the full model specification of model 2.3, hypothesis one is supported.

**MID Initiation Models**

The models discussed in the section above do not discriminate between whether democratic states were the initiators or targets of MIDs. It is possible that democracies could appear conflict prone but not be the initiators of militarized hostilities, though the above results contradict this conjecture. The models in this section test hypothesis two that democracies are less likely than non-democracies to initiate militarized conflicts.
Table 4 reports the estimates of the models following the format used in the last section. The first model (3.1) shows that by adding controls for time since the last MID initiation, the estimates for Democracy are insignificant. Yet, to conclude that democracy is unimportant based on such an underspecified model would be to make an important mistake. We see that once we have added the next additional set of covariates in model 3.2 that democracy shows a negative sign direction and statistically significant at below the .05 threshold. This finding is further strengthened by the final set of spatial and relational covariates in model 3.3. Again, states that are participants in enduring rivals are more conflict prone including a higher likelihood of initiating MIDs.

Table 5 reports the substantive estimates. Overall the probability of any given state initiating a MID (0.095) is naturally smaller than overall participation (MID onset). Democracy reduces this probability further (moving from min. to max. value) by 0.046. Powerful states and those that participate in enduring rivalries are again found to have a strong effect on the probability of MID initiation. Hypothesis two is thus supported.

**Fatal MIDs**

The results for Fatal MIDs are reported in Table 6. Like model 1.2, the bivariate model (1.3) produced a negative and significant coefficient for democracy. The findings are much the same once we add controls for time (model 4.1). Democracy is still negative but only significant at below the .10 level in model 4.1. Yet, the addition of our next set of covariates in model 4.2 renders Democracy statistically insignificant. Capabilities is again significant, as we would expect, but now Openness and Development are negative and significant at below the .05 level. Adding our final set of spatial and relational control variables (model 4.3) further alters the model estimates. While Democracy is still
statistically insignificant, now the same is true of the Capabilities variable. Yet, Development and Openness are still negative and significant. Democracies may not be any less prone to engage in MIDs that result in fatalities than non-democracies but countries that are developed or highly dependent on interstate trade are so.\textsuperscript{22}

The substantive results show the same pattern as the model estimates (Table 7). Overall the occurrence of a militarized interstate dispute is a rare event statistically, and this is especially true of wars and lesser disputes that result in fatalities. The probability of any given state participating in a new Fatal MID is less than 2 percent in any given year (Pr. = 0.0165). The estimated first difference change in this effect attributable to democracy is small and statistically insignificant. This is not the case for Development and Openness, however, which each have relatively large pacifying effects. Finally, moving from the minimum value of Rivalry (0) to the maximum (5) increases the probability of a Fatal MID by about .13.\textsuperscript{23}

Discussion

A lack of militarized conflict does not necessarily mean that there is less militarism, international tensions, or bellicosity; harmony appears in short supply in world politics. Previous studies, despite various flaws of methods and research design, have provided what appears to be empirical evidence showing that, indeed, democracies are no less prone to war than nondemocracies. I too find no evidence here to support the claim that democracies are less likely to engage war.\textsuperscript{24} This finding mirrors that of Small & Singer (1976) and others: democracies are no more or no less likely to participate in war than nondemocracies. Yet, repeating the point mentioned earlier by Russett and Oneal, there is no well-elaborated theory on why there is not a comprehensive monadic level
democratic pacifism effect. Earlier studies linking democracy to war in rates no lower than other regimes appear robust but limited to only one type of conflict event or behavior (in part due to data limitations). This does not mean, however, that democracies are on the whole as bellicose as nondemocracies when we examine a wider range of behaviors (amenability to negotiate and compromise, lower probability to initiate MIDs, etc.) and observe that they have an overall lower conflict propensity in all types of MIDs.

The empirical results above show that democracies are generally more pacific regarding their participation in militarized interstate disputes (MIDs) than non-democracies. Democracies are also less likely to initiate MIDs. These findings contradict the notion that there is not some form of monadic democratic pacifism effect, which is demonstrable through the examination of multiple conflict dependent variables using a wide sample of country-years along with the inclusion of covariates that properly control for confounding influences. Moreover, the results of the Fatal MID models suggest that sample bias appears to have played less a role in the results compared to inappropriate statistical methods or the problem of improper control variables, clouding the pacifying effects democracy in past studies.

I would agree with Russett & Oneal that the normative nature and institutional structure of democracies should not be immaterial at the monadic level. Moreover, it is unclear how any dyadic explanation of the liberal peace could be completely divorced from the monadic level, which affects the characteristics of interactions at the dyadic level. While it is understandable how democracies could take a different foreign policy stance against nondemocratic opponents, it is hard to see how institutional constraints could be completely turned-off or by-passed if democracies are actually qualitatively
different in their cultural norms relative to other regime types. No doubt, democracies have been overcome by nationalism or even bad intelligence leading to avoidable wars.\textsuperscript{25} Still, why would even democratic dyads be less conflict prone if such basic cultural norms did not exist? Clearly institutions could not constrain warlike and escalatory behavior, even among pairs of democracies, if there were no normative impulses (willingness) to use institutions as checks on executive power. Whether the source of the dyadic liberal peace effect stems from direct constraints on leaders or as a by-product of the transparent nature of democratic systems that allows for signaling of true resolve (Bueno de Mesquita & Lalman 1992; Schultz 1999), any such explanations appear rooted in the existence of some culturally based aversion or dislike of war that only becomes of issue when there is active political debate and dissent.

At a minimum, it would appear possible that the finding that democracies are no less prone to deadly disputes and wars is influenced indirectly by institutional constraints, which implies that there exists willingness to apply them in internal political battles. Yet, we now know that democracies not only participate in wars but that they are also likely to win. This indicates that unless there is some strategic military selectivity (which would rest on the assumption that democratic leaders are simply smarter or better strategic/tactical planners than those leading nondemocratic regimes), this selectivity seemingly derives from the institutionally motivated fear of policy failure (Bueno de Mesquita & Siverson 1995; Bennett & Stam 1996; Bueno de Mesquita et al 1999). From this fact it is plausible to surmise that democracies are occasionally constrained from fighting wars, but particularly those that they have a lower chance of winning. Leaders likely think strategically and anticipate when they are more or less likely to be
constrained. Since democratic leaders can be easily removed from office following various kinds of policy failures, including foreign policy, they are apparently more discriminating about the wars they fight. The results here suggest that democracies are generally more peaceful than non-democracies and less likely to initiate conflicts. Nevertheless, once democracies find themselves engaged in a conflict, they are no less likely than other regimes to fight a war, but typically those they have a good chance of winning. This stems from the threat that institutional constraints will be imposed on leaders. Still, clearly democracies find themselves in positions where conflict is difficult to avoid, such as participation in enduring rivalries where rival states are more clearly recognized as foes through years of interaction. Once a rivalry begins, it is difficult to terminate. The full model provided here accounts for this confounding factor.

Furthermore, the results here are also indicative that economic factors may influence citizens to pressure leaders to avoid disruptive or destructive wars. While a monadic study cannot answer a question regarding whether opportunity costs (Russett & Oneal 2001) or signaling-manipulation of economic ties (Morrow 1999; Gartzke, Li, & Boehmer 2001) are the sources of militarized conflict reduction at the dyadic level, the monadic results here show at least that higher levels of development and dependence on trade each reduce the risk of war or other deadly disputes. This is notable since it is argued that democracy often works in tandem with liberal economic processes (Russett & Oneal 2001).

Conclusion

This paper began with a rather simple but important purpose: to re-examine whether democracies are generally pacific regarding militarized interstate conflict. This question
is deeply important for two reasons. First, as Benoit (1996) and others have pointed out, the foreign policy implications of regime type and conflict propensity are quite important, especially when vital resources have been dedicated to transforming non-democracies into functioning democracies. It would seem that for democracies to provide freedom and greater economic opportunities than alternative political models, they must generally abide by institutions and adopt norms against political violence (Rummell 1997).

Second, this paper is important as a scientific endeavor. Any field that claims to be scientific must be built upon a body of research that is cumulative and commensurate in nature, allowing for a growing body of knowledge. Yet, when we look back on the studies examining the potentially pacifying effects of democracy, there has been a bias to focus on the dyadic level of analysis. It appears that the field has committed a Type II error by accepting a false null hypothesis. Most of the studies finding no support for the democratic pacifism proposition predated advances in methodology and data, though few subsequent studies have gone back and sought to correct their flaws.

Meanwhile, the field took up the study of the Liberal Peace at the dyadic level, inspired by an increasingly sophisticated conception of war (Most & Starr 1989; Bremer & Cusack 1995) focusing on the outcomes of international interactions, and aided by new advances in methodology. The result has been a growing body of research that dwarfs the erudition of earlier studies at the monadic level. Today there is substantial evidence that democracies rarely fight each other and most conflicts are between dyads of mixed regime types (or jointly non-democratic states). Still, debate continues for two reasons. First, dyadic models of the Liberal Peace are still nonetheless underspecified concerning the source of this effect; untangling norms from institutions and their by-products, such
as greater information for opponents due to the transparency of internal debate, is
difficult. Perhaps further work at the monadic level could at least help delineate effects
by level, whereas including monadic variables directly into dyadic models does not allow
us to separate monadic effects (such as types of institutions) from interactive dyadic
effects (such as signaling). Second, why it is the case that past monadic studies are not
congruent with findings at the dyadic level is still a puzzle. I have shown that part of this
state of affairs is due to the failure of scholars working at the monadic level to tap into
processes operating at the dyadic level, typically failing to properly control for
geography, economic interdependence, etc., that have been shown to be important in
dyadic studies. Just as important, this study has provided a means to account for states
that are prone to higher amounts of conflict with multiple opponents. While some dyadic
interactions should not affect the individual conflict propensities of states, enduring
rivalries produce effects that are non-random at the monadic level. States engaging in
such rivalries should have a higher likelihood on average to participate in conflict.

A full understanding of the effects of democracy on conflict at all levels of
analysis cannot avoid a more thorough understanding at the state level. I would agree
with Benoit (1996) and Russett & Oneal (2001) that it is rather odd to talk about the
sources of the Liberal Peace between states as rooted in each country’s culture and
institutions and see no hint of these at the state level. The apparent reason for why we
would not see an observable relation between the state and dyadic levels may be best
offered by Most & Starr and others that increasingly focus on the strategic interactions of
states: the process of war or bargaining may cloud and obfuscate state level attributes.
This is suggestive that past monadic studies failed to overcome this problem, meaning we
should not have been surprised by their non-findings. Hence, the positive findings here linking democracy to lower rates of conflict should be seen as robust since one could argue that this is the more difficult task empirically considering the confounding effects of dyadic interactions. By controlling for such effects though, monadic models can be less naïve and more accurate regarding their utility and predictions.
## APPENDIX

Pair-wise Correlations of the Independent Variables

<table>
<thead>
<tr>
<th></th>
<th>Democracy</th>
<th>Capabilities</th>
<th>Development</th>
<th>Openness</th>
<th>Borders</th>
<th>Allies</th>
<th>Rivalries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Democracy</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>Capabilities</td>
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<td></td>
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<td></td>
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<tr>
<td>Development</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Openness</td>
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<td>-0.1616</td>
<td>0.2839</td>
<td>1</td>
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<td></td>
<td></td>
</tr>
<tr>
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<td></td>
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<tr>
<td>Allies</td>
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<td></td>
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<td>Rivalries</td>
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<td>0.5625</td>
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<td>-0.1718</td>
<td>0.2016</td>
<td>-0.1453</td>
<td>1</td>
</tr>
</tbody>
</table>
REFERENCES


http://pss.la.psu/TRD_DATA.htm).


Bennett, D. Scott, & Allan Stam, 2000a. EUGene 1.95. Software available at


Doyle, Michael, 1983a. ‘Kant, Liberal Legacies, and Foreign Affairs, Part 2’.


Maoz, Zeev, DYMIN 1.0. Data and codebook available at:

http://spirit.tau.ac.il/~zeevmaoz/.


Table I. Bivariate Models of Democracy and Militarized Interstate Conflict

<table>
<thead>
<tr>
<th></th>
<th>MID Onset (Model 1.1)</th>
<th></th>
<th>MID Initiation (Model 1.2)</th>
<th></th>
<th>Fatal MID Onset (Model 1.3)</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Democracy</td>
<td>-0.0090</td>
<td>0.0143</td>
<td>0.2650</td>
<td>-0.0184</td>
<td>0.0138</td>
<td>0.0920</td>
</tr>
<tr>
<td>Constant</td>
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<td>0.1414</td>
<td>0.0000</td>
<td>-1.7955</td>
<td>0.1449</td>
<td>0.0000</td>
</tr>
<tr>
<td>N</td>
<td>8735</td>
<td></td>
<td>8735</td>
<td></td>
<td>8735</td>
<td></td>
</tr>
<tr>
<td>Wald chi2</td>
<td>0.39</td>
<td></td>
<td>1.77</td>
<td></td>
<td>2.11</td>
<td></td>
</tr>
<tr>
<td>Prob&gt;chi2</td>
<td>0.5303</td>
<td></td>
<td>0.1838</td>
<td></td>
<td>0.1468</td>
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<tr>
<td>Log Likelihood</td>
<td>-4542.15</td>
<td></td>
<td>-3253.77</td>
<td></td>
<td>-1181.27</td>
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<tr>
<td>Pseudo R2</td>
<td>0.0007</td>
<td></td>
<td>0.0025</td>
<td></td>
<td>0.0021</td>
<td></td>
</tr>
</tbody>
</table>

Note: Standard errors are robust and one-tailed tests employed. Bolded values denote .05 significance level, .10 in italics.
### Table II. Multivariate Model of Democracy and Militarized Interstate Conflict Onset

<table>
<thead>
<tr>
<th></th>
<th>Model 2.1</th>
<th></th>
<th>Model 2.2</th>
<th></th>
<th>Model 2.3</th>
<th></th>
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<tbody>
<tr>
<td>Democracy</td>
<td>-0.0044</td>
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<td>0.3290</td>
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<td>0.0525</td>
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<tr>
<td>Capabilities</td>
<td>---</td>
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<td>---</td>
<td>7.8400</td>
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<td>0.0000</td>
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<td>0.0453</td>
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<td>---</td>
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<td>0.1610</td>
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<td>---</td>
<td>---</td>
<td>0.0018</td>
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<tr>
<td>Rivalries</td>
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<td>---</td>
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<td>---</td>
<td>0.4739</td>
</tr>
<tr>
<td>MIDyrs</td>
<td>-0.5775</td>
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<td>0.0000</td>
<td>-0.5133</td>
<td>0.0925</td>
<td>0.0000</td>
</tr>
<tr>
<td>MIDspl1</td>
<td>-0.0354</td>
<td>0.0128</td>
<td>0.0030</td>
<td>-0.0242</td>
<td>0.0156</td>
<td>0.0600</td>
</tr>
<tr>
<td>MIDspl2</td>
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<td>0.0038</td>
<td>0.0510</td>
<td>0.0029</td>
<td>0.0046</td>
<td>0.2630</td>
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<tr>
<td>MIDspl3</td>
<td>0.0009</td>
<td>0.0003</td>
<td>0.0005</td>
<td>0.0011</td>
<td>0.0003</td>
<td>0.0005</td>
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<tr>
<td>Constant</td>
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<td>0.0380</td>
<td>-0.2201</td>
<td>0.1573</td>
<td>0.0810</td>
</tr>
</tbody>
</table>

N 8735 5668 5668
Wald chi2 341.06 349.5 610.62
Prob>|chi2| 0.0000 0.0000 0.0000
Log Likelihood -4037.51 -2596.40 -2519.19
Pseudo R2 0.1117 0.1543 0.1795

Note: Standard errors are robust and one-tailed tests employed. Bolded values denote .05 significance level, .10 in italics.
Table III. Changes in Probability of MID Onset Given Changes in X Variables

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pr(MID Onset=0)</td>
<td>0.8145</td>
<td>0.0077</td>
<td>0.7990 – 0.8296</td>
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<tr>
<td>Pr(MID Onset=1)</td>
<td>0.1855</td>
<td>0.0077</td>
<td>0.1704 – 0.2010</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>X Variables</th>
<th>First difference change in Y=1 moving from min. to max. value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Democracy</td>
<td>-0.0581 -0.1056 -0.0131</td>
</tr>
<tr>
<td>Capabilities</td>
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</tr>
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<td>Development</td>
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<tr>
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<td>Allies</td>
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</tr>
<tr>
<td>Rivalries</td>
<td>0.5006 0.0742 0.3432 0.6371</td>
</tr>
</tbody>
</table>

Note: FD (min to max) is the first difference change in the probability Y=1 given changes in each X variable holding the other X variables constant, based on model 2.3.
Values calculated using Clarify, 2.1 software, created by Tomz, Wittenberg, & King (2003)
### Table IV. Multivariate Model of Democracy and Militarized Interstate Conflict Initiation

<table>
<thead>
<tr>
<th></th>
<th>Model 3.1</th>
<th></th>
<th>Model 3.2</th>
<th></th>
<th>Model 3.3</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Democracy</td>
<td>-0.0111</td>
<td>0.0096</td>
<td>0.1250</td>
<td>-0.0221</td>
<td>0.0094</td>
<td><strong>0.0047</strong></td>
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<tr>
<td>Capabilities</td>
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<td>---</td>
<td>6.2870</td>
<td>1.4003</td>
<td>2.4913</td>
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<tr>
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<td>---</td>
<td>---</td>
<td>---</td>
<td>-0.0070</td>
<td>0.0481</td>
<td><strong>0.0240</strong></td>
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<tr>
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<td>---</td>
<td>-522.20</td>
<td>376.09</td>
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</tr>
<tr>
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<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>0.0254</td>
</tr>
<tr>
<td>Allies</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>-0.0018</td>
</tr>
<tr>
<td>Rivalries</td>
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<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>0.3548</td>
</tr>
<tr>
<td>MIDyrs</td>
<td>-0.3441</td>
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<td><strong>0.0000</strong></td>
<td>-0.3705</td>
<td>0.0582</td>
<td><strong>0.0291</strong></td>
</tr>
<tr>
<td>MIDspl1</td>
<td>-0.0077</td>
<td>0.0024</td>
<td><strong>0.0010</strong></td>
<td>-0.0103</td>
<td>0.0033</td>
<td><strong>0.0016</strong></td>
</tr>
<tr>
<td>MIDspl2</td>
<td>0.0019</td>
<td>0.0009</td>
<td><strong>0.0125</strong></td>
<td>0.0030</td>
<td>0.0012</td>
<td><strong>0.0006</strong></td>
</tr>
<tr>
<td>MIDspl3</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.1460</td>
<td>0.0000</td>
<td>0.0001</td>
<td><strong>0.0000</strong></td>
</tr>
<tr>
<td>Constant</td>
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<td><strong>0.0000</strong></td>
<td>-0.7191</td>
<td>0.1698</td>
<td><strong>0.0849</strong></td>
</tr>
</tbody>
</table>

N        | 8735      |               | 5668      |               | 5668      |               |
Wald chi2 | 364.38    | 332.38        | 443.53    |               |           |
Prob>chi2 | 0.0000    | 0.0000        | 0.0000    |               |           |
Log Likelihood | -2964.04 | -1944.19     | -1908.61  |               |           |
Pseudo R2  | 0.0913    | 0.1296        | 0.1455    |               |           |

Note: Standard errors are robust and one-tailed tests employed. Bolded values denote .05 significance level, .10 in italics.
Table V. Changes in Probability of MID Initiation Given Changes in X Variables

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pr(MID Initiation=0)</td>
<td>0.9043</td>
<td>0.0056</td>
<td>0.8927</td>
</tr>
<tr>
<td>Pr(MID Initiation=1)</td>
<td>0.0957</td>
<td>0.0056</td>
<td>0.0855</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>X Variables</th>
<th>First difference change in Y=1 moving from min. to max. value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Democracy</td>
<td>-0.0465 0.0169 -0.0782 -0.0128</td>
</tr>
<tr>
<td>Capabilities</td>
<td>0.1199 0.0673 0.0101 0.2782</td>
</tr>
<tr>
<td>Development</td>
<td>-0.0087 0.0355 -0.0831 0.0549</td>
</tr>
<tr>
<td>Openness</td>
<td>-0.0486 0.0687 -0.1058 0.1487</td>
</tr>
<tr>
<td>Borders</td>
<td>0.0606 0.0466 -0.0203 0.1536</td>
</tr>
<tr>
<td>Allies</td>
<td>-0.0063 0.0168 -0.0370 0.0292</td>
</tr>
<tr>
<td>Rivalries</td>
<td>0.2645 0.0630 0.1510 0.3960</td>
</tr>
</tbody>
</table>

Note: FD (min to max) is the first difference change in the probability Y=1 given changes in each X variable holding the other X variables constant, based on model 3.3.
Values calculated using Clarify, 2.1 software, created by Tomz, Wittenberg, & King (2003)
Table VI. Multivariate Model of Democracy and Fatal Militarized Interstate Conflict Onset

|          | Model 4.1   | Coefficient | Std. Err. | Pr.>|Z|  | Model 4.2   | Coefficient | Std. Err. | Pr.>|Z|  | Model 4.3   | Coefficient | Std. Err. | Pr.>|Z|  |
|----------|-------------|-------------|-----------|------|-------------|-------------|-----------|------|-------------|-------------|-----------|------|-------------|
| Democracy| -0.0153     | 0.0110      | 0.0820    | -0.0038 | 0.0137      | 0.3900      | -0.0136 | 0.0138 | 0.1620      |
| Capabilities| ---         | ---         | ---       | 5.6517  | 1.7710      | 0.0005      | 0.7687  | 1.8834 | 0.3415      |
| Development| ---         | ---         | ---       | -0.1716 | 0.0687      | 0.0060      | -0.1670 | 0.0658 | 0.0055      |
| Openness  | ---         | ---         | ---       | -3576.3 | 1221.1      | 0.0015      | -3114.2 | 973.8  | 0.0005      |
| Borders   | ---         | ---         | ---       | ---     | ---         | ---         | -0.0061 | 0.0238 | 0.3990      |
| Allies    | ---         | ---         | ---       | ---     | ---         | ---         | 0.0029  | 0.0071 | 0.3400      |
| Rivalries | ---         | ---         | ---       | ---     | ---         | ---         | 0.5035  | 0.0732 | 0.0000      |
| MIDyrs    | -0.1497     | 0.0362      | 0.0000    | -0.1498 | 0.0399      | 0.0000      | -0.1262 | 0.0438 | 0.0020      |
| MIDspl1   | -0.0006     | 0.0004      | 0.0625    | -0.0009 | 0.0005      | 0.0320      | -0.0008 | 0.0005 | 0.0490      |
| MIDspl2   | 0.0002      | 0.0002      | 0.1665    | 0.0004  | 0.0003      | 0.0710      | 0.0004  | 0.0003 | 0.0755      |
| MIDspl3   | 0.0000      | 0.0000      | 0.3870    | 0.0000  | 0.0000      | 0.2755      | 0.0000  | 0.0000 | 0.1965      |
| Constant  | -2.2149     | 0.1796      | 0.0000    | -2.4148 | 0.2893      | 0.0000      | -2.7827 | 0.3434 | 0.0000      |

N 8735           5668           5668
Wald chi2 94.17   95.19         237.29
Prob>chi2 0.0000  0.0000        0.0000
Log Likelihood -1124.83 -690.71  -671.47
Pseudo R2 0.0498  0.0954        0.1206

Note: Standard errors are robust and one-tailed tests employed. Bolded values denote .05 significance level, .10 in italics.
Table VII. Changes in Probability of Fatal MID Onset Given Changes in X Variables

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Err.</th>
<th>[95% Conf. Interval]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pr(FatalMID=0)</td>
<td>0.9834</td>
<td>0.0019</td>
<td>0.9791</td>
</tr>
<tr>
<td>Pr(FatalMID=1)</td>
<td>0.0166</td>
<td>0.0019</td>
<td>0.0132</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>X Variables</th>
<th>First difference change in Y=1 moving from min. to max. value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Democracy</td>
<td>-0.0046 0.0048 -0.0148 0.0040</td>
</tr>
<tr>
<td>Capabilities</td>
<td>0.0105   0.0213 -0.0122 0.0695</td>
</tr>
<tr>
<td>Development</td>
<td>-0.0334  0.0191 -0.0795 -0.0056</td>
</tr>
<tr>
<td>Openness</td>
<td>-0.0251  0.0034 -0.0316 -0.0195</td>
</tr>
<tr>
<td>Borders</td>
<td>-0.0007  0.0087 -0.0133 0.0209</td>
</tr>
<tr>
<td>Allies</td>
<td>0.0025   0.0056 -0.0077 0.0147</td>
</tr>
<tr>
<td>Rivalries</td>
<td>0.1296   0.0389 0.0643 0.2182</td>
</tr>
</tbody>
</table>

Note: FD (min to max) is the first difference change in the probability Y=1 given changes in each X variable holding the other X variables constant, based on model 4.3.
Values calculated using Clarify, 2.1 software, created by Tomz, Wittenberg, & King (2003)
The monadic analysis entails the examination of single states and I use the additional adjectives of ‘state’ and ‘national’ interchangeably with ‘monadic.’

Most & Starr present in Chapter Four of their book some logical basis for the lack of findings of early monadic studies. Their discussion seems to best indicate why past monadic studies arrived at non-findings instead of why any potential monadic study could produce no findings. Indeed, war is a complex event that requires two states to fight – the target must reciprocate. Yet, this discussion is less convincing when evidence is brought to bear showing a link between state attributes and conflict. The problems discussed by Most & Starr should be gravest for a war dependent variable, which characterizes the studies they review. By examining disputes short of war however, or directional behaviors such as conflict initiation, the stated necessary condition of reciprocation (willingness and opportunity) is weakened. Additionally, these authors also suggest (p. 91) that one means to remedy poorly specified monadic models is to take better account of dyadic processes, which is the goal of this paper.

This author declines to define what would constitute a “good theoretical explanation.” While numerous studies noting the weak or contradictory evidence for a monadic democratic peace effect offer some logical explanation, none might be seen as advancing a thorough treatment.

The use of the weak-link assumption has been justified in part on a state level logic. The state with the lowest democracy score in a dyad is said to chiefly influence the risk of conflict. “If we are trying to assess the probability that a conflict will occur, we must be particularly concerned with the state that is less constrained from using force. This is the principal threat to peace (Russett & Oneal 2001, p. 99).” The prediction derived from such a measure is dyadic but posited on monadic logic. In directed-dyads, analysts use national measures of democracy or some derivation thereof in their models (Bennett & Stam 2000b). I explore the implications of the dilution of the combined potential effects of monadic and dyadic influences of peace at the dyadic level of analysis in other work.

See Levy (1988) for an early review.

However, others contend that the relationship between democracy and conflict should be seen as part of a broader reorientation of states’ paramount goal of maximizing social welfare (embedded liberalism) through reduced militarization and the expansion of services (Ruggie 1982; Peek & Simon 2000).
Participation in international conflicts potentially diverts precious state resources towards ends that do not directly increase the welfare of the people.

7 Weede (1984) and Chan (1984) had shown that Rummel’s (1983) results were flawed.

8 This is a point contested by authors such as (Forsythe 1992; Joyner 1992; Stedman 1993; Rosas 1994; Layne 1994; Cohen 1994; Oren 1995; Kegley & Hermann 1995) that discuss issues of definition or cases where democracies have implemented belligerent foreign policies and even undermined other democracies.

9 See Azar (1980) for a description of the COPDAB data.

10 Nonetheless, I likewise examined a war hypothesis but the results are not reported here since they do not differ from those testing H2. I discuss this point later in the presentation.

11 See Bennett for the full definition of an enduring rivalry, but briefly these are pairs of states that have engaged in repeated occurrences of conflict with each other over a protracted period of time.

12 See the documentation and discussion at the COW (http://cow2.la.psu.edu/) and EUGene websites (http://www.eugenesoftware.org/).

13 See Singer (1987) and Singer, Bremer, & Stuckey (1972) for discussions about these data. The data are available at http://cow2.la.psu.edu/ or through EUGene (Bennett and Stam 2000a).

14 The evidence appears strong that jointly developed dyads appear less likely to fight (Hegre 2000; Mousseau 2000).

15 Both the energy consumption and total population variables are used from the COW data set. Note that energy consumption is highly correlated with GDP per capita, as I have found in my work as well as by Jackman (1993). The correlation between Energy Consumption and GDP is .92 in this data set.

16 The correlation between Capabilities and GDP is .55, and between GDP and Openness is -.04. The correlation between Capabilities and Openness is -.14, and between Openness and Development is .28. I feel including a variable for national power makes it unnecessary to control for a state’s economic size (total GDP).

17 GDP is denoted in purchasing power parity (PPP) and comes primarily from Maddison (1995, 2001) with missing data filled in based on the Penn World Tables (Summers & Heston 1991). Note that there are multiple methodologies for the calculation of GDP in PPP, and not all are commensurate with each other.
See Maddison (1995) for a discussion about the comparability of the PWT with his data. Briefly, they are comparable but not without a small amount of error.

18 Note that Russett & Oneal likewise discuss the merits of including a variable for trade openness to accompany other measures of economic interdependence in dyadic models. Thus, their use of the weak-link assumption in the construction of their dyadic measure is based on the assumption that states generally open to trade are more likely to be constrained from engaging in interstate conflicts.

19 The values for Peace Years and the spline variables vary by model since the time since the last MID initiation may differ from those of overall participation in MIDs and also those that turn fatal.

20 I also ran models that included Democracy and the temporal controls along with each of the remaining covariates individually. Adding Power alone is insufficient to render Democracy negative and significant. The omitted variable bias would appear to only decrease with the inclusion of all three variables.

21 I also find similar results using an event count of MIDs with a negative binomial model.

22 There is evidence to support a similar proposition to the one advanced by Mousseau (2000) that developed democracies are pacific. Including an interaction term of these variables is found to be negative and significant, although this issue is a bit tangential to this manuscript and not given full coverage. These results are nonetheless available from the author.

23 Not surprisingly, the state participating in five simultaneous enduring rivalries over several years is Israel in the 1960s.

24 I also ran models with a war onset dependent variable based on the COW war data set. These results were overall similar to the Fatal MID models but with weaker results for a few of the control variables. Omitting in-depth discussion saves room and avoids repetition. Democracy was not found to reduce participation in war. These results are also available from the author on request.

25 A review of wars in which the United States has participated that might have been avoidable include the war with Mexico, the Spanish-American War, and possibly the second war with Iraq, which still simmers at the time of this writing. In each case there was public dissent and concern about the rationale for war, as represented in Congress, demonstrating that not the entire nation was swept up by war fever.
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