The Mismeasure of MMD: Reassessing the Impact of Multi Member Districts on Descriptive Representation in U.S. State Legislatures

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A little over thirty-five years ago, Hamilton (1967) proposed thirteen possible effects of multi-member districts (hereafter MMDs). Comparative scholars have addressed many of these hypotheses (Cox 1997; Dow 1998; Magar, Rosenblum and Samuels 1998), but those studying state legislators have largely turned a deaf ear to MMDs¹. When state legislative scholars address MMDs, the studies are often plagued by methodological inconsistency and definitional problems. As a result, the impact of MMDs in state legislatures remains elusive.

To more fully understand representation in state legislatures, we must identify how MMDs work. Four state senates and eleven state houses, including the entire lower chamber of the Arizona, New Jersey, North Dakota, and South Dakota legislatures employ MMDs (Jewell and Morehouse 2001: 219). In AZ, NJ, ND, and SD alone, over 15 million citizens are represented by MMDs. Studies examining state legislative representation solely in the SMD context ignore how representation works for a substantial portion of the American population.

Of the numerous hypotheses on MMDs, we limit ourselves to two research questions: (1) Do MMDs decrease the percent of African-Americans and other minorities in state legislatures, and (2) do MMDs increase the percent of women in the state legislature? Answering these questions will shed light on the impact of electoral structure on descriptive representation and demonstrate the importance of clearly operationalizing the MMD concept.

What is a Multi-Member District?

All American state legislators are elected using a first-past-the-post system (meaning the candidate who gets the most votes wins), but states differ significantly in the number of seats that

¹ For instance, Alan Rosenthal’s (1998) book on state legislatures does not contain a single mention of MMDs. Dye and MacManus’ (2002) text on state and local politics includes only one paragraph on MMDs in the state legislature, whereas MMDs in local elections are given much more coverage.
represent a given area. The majority of elected officials in the United States represent single-member districts (hereafter SMDs) meaning that only one person represents an electoral district. In contrast, MMDs occur when more than one legislator represents the same geographic area.

Most MMDs contain two legislators representing the same area, although a few districts still exist with three or more legislators representing the same area\(^2\). There are five primary types of electoral structures that have been referred to as MMDs in the American states: Bloc, Bloc with Partial Abstention, Cumulative, Staggered, and Seat. Bloc MMDs consist of free-for-all elections where each candidate for office in the district runs against every other candidate, and the number of seats equals the number of votes each voter receives (Cox 1990). Voters can give only one vote to a candidate, and each voter must use all votes (sometimes called anti-single shot provisions). Bloc with partial abstention is similar except that voters can cast any number of votes up to the limit. In a two-member district (such as Arizona), they may choose to cast either one or two votes in an election. Cox (1990) argues that this distinction is important for strategic reasons, and candidates are more likely to move away from the district median even with a smaller number of candidates in a partial abstention bloc MMD system.

Cumulative MMDs allow a voter to cast more than one vote for a single candidate in the election or to spread the votes among multiple candidates. The cumulative MMD is extinct in American state legislatures\(^3\), but increasingly common in local elections (Bowler, Donovan, and Brockington 2003). Cox (1990) argues that cumulative MMDs may have a centrifugal impact on ideology similar to bloc MMDs, and Adams (1996) provides empirical support from Illinois, but otherwise we do not know much about the impact of cumulative MMDs.

\(^2\) For example, the 2003 New Hampshire House has 417 members spread across 88 districts varying in size from 2 to 14 members per district. In the 1980s one district had 36 legislators.

\(^3\) The most recent state legislative example is Illinois, which abandoned cumulative voting in 1982 (Kuklinski, Nowland, and Habel 2001).
Staggered MMDs involve two or more legislators representing the same geographic area but elected in different years. The U.S. Senate is the most prominent example of this institutional arrangement (Schiller 2000), but they were once common at the state level as well. Twenty-seven state senates used staggered terms in 1984 (Bullock and MacManus 1987). In the ensuing years, however, they have mostly disappeared. When only one seat is contested at a time, however, the district more closely resembles an SMD than an MMD, and it should not be included as an MMD in studies of electoral structure.

Other states employ a seat-designate (or post) system where candidates run for one specific seat or another (generally designated seat A or seat B), and the district is represented by as many legislators as there are seats on the ballot. Voters are then asked to choose among the candidates for seat A and then separately for seat B. “In effect, such systems operate as a series of single-member elections within the same district” (Hamm and Moncrief 1999: 148). Niemi, Jackman and Winsky agree: “So long as we are looking at candidates’ support rather than voter behavior, MMDs with positions can be regarded as equivalent to SMDs…” (1991: 97). The lower houses of the Idaho and Washington state legislatures employ this seat-designate system. Although they are more similar to an SMD than an MMD, they are often mislabeled as an MMD.

In the following review of the literature on the electoral impact of MMDs on minorities and women these different electoral types are often mixed together or simply not identified in the studies. In the section after the literature review, we discuss why this lack of precision on MMDs causes us to question the empirical findings in this literature. Finally, in our analytical portion of this study, we exclude cumulative and staggered systems from the operationalization of MMDs, test the representation effects of a “pure” form of MMDs that includes only bloc or bloc with partial abstention systems, and we show how seat systems produce different results.
Multi-Member Districts and Ethnic Representation

What leads to the election of more minority legislators? A number of answers have been proffered, including political culture, urbanism, income, minority concentration, and—most important for this study—the presence of SMDs. Conventional wisdom suggests that when large MMDs are broken up into a number of SMDs, at least one of the smaller districts is likely to be represented by a minority group—“especially if minority strength is geographically concentrated” (Grofman, Migalski, and Noviello 1986: 67). In addition, MMDs usually lead to more expensive campaigns, which may negatively affect minority candidates.

Unfortunately, the majority of research on African American representation in MMDs has been focused at the city council level4, and few studies examine electoral structure and black representation in state legislatures. In one of the most thorough looks at the racial consequences of MMDs in the state legislature, Grofman, Migalski, and Noviello (1986) compare a number of MMD chambers to SMD chambers and support the conventional wisdom that MMDs disadvantage black candidates. Bullock (1987), Bullock and MacManus (1987), Hamilton (1967), and Moncrief and Thompson (1992) come to the same conclusion—MMDs are not good for black representation.

The conclusion that MMDs retard African American representation is not unanimous, however. Bullock and Gaddie (1993) caution that although there is a general trend suggesting that switching from MMDs to SMDs increases the number of black representatives, the increase is not automatic. Further, MacManus (1978) argues that urbanism, rather than the presence of MMDs, drives many of the findings that MMDs suppress black representation. In addition,

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Welch and Karnig (1978) suggest that at the school board level MMDs may actually *advantage* minority candidates. Finally, Rule (1992) and Darcy, Hadley and Kirksey (1993) conclude that although MMDs are bad for black male representation, MMDs increase the number of black females in office.

Much less is known about the impact of MMDs on representation for other ethnic minorities, such as Latinos, Asian Americans or Native Americans. No extant work has examined the impact of MMDs in state legislatures on minority representation, but several studies of city elections conclude that SMD elections were not helpful to Hispanics (Bullock and Gaddie 1993; Bullock and MacManus 1991; MacManus 1978; Taebel 1978; Welch 1990). If indeed state legislative MMDs hurt Latino representation, it could lead to more political alienation among Latino citizens (Pantoja and Segura, forthcoming), and this finding may apply to other ethnic minorities too.

In sum, conventional wisdom suggests that MMDs advantage white candidates, but the lack of work at the state legislative level and some confounding findings lead us to believe that the question deserves to be revisited. Further, studies examining Latino, Asian, and Native American representation in MMDs are rare.

**Multi-Member Districts and Representation of Women**

The percent of female state legislators has risen from 11.7% in 1981 to 22.5% in 2002, and the importance of female representation extends beyond just symbolic or descriptive representation arguments. Legislatures with higher numbers of female state legislators are more likely to propose and pass bills pertaining to women, children, and families (Flammang 1985; Saint-Germain 1990; Thomas 1991). Further, once a critical mass of women is reached, female
legislators are more likely to speak out, participate in debate, and succeed in passing policy\(^5\). In
sum, there are important symbolic and substantive reasons to identify the factors that promote or
retard the election of female candidates to office. Do MMDs affect the percent of women in
state legislatures?

Once again, a considerable amount of headway has been made in research on the city
council (Bullock and McManus 1991; Welch and Karnig 1979) and in the comparative area
(Duverger 1955; Matland and Studlar 1993; Means 1972; Norris 1985; Randall 1982; Rule 1981;
1987; 1994; Vallance 1977; Welch and Studlar 1990). The evidence in a majority of studies on
state legislatures suggests that women are advantaged by MMDs (Carroll 1994; Darcy, Welch
and Clark 1985; 1987; Matland 1993; Matland and Brown 1992; Moncrief and Thompson 1992;
Pritchard 1992), but again, this conclusion is not unanimous. Welch and Studlar (1990, 405)
argue that the evidence does “not consistently support the developing conventional wisdom that
MMDs greatly enhance women’s electability”. Some have gone so far as to argue that because
MMDs are disproportionately located in urban areas, female candidates actually fare worse in
MMDs than SMDs (Werner 1968; Diamond 1977; Hill 1981).

There has been a recent revitalization of studies on descriptive representation of women
that MMDs assist in the election of female candidates. King (2002) employs an interrupted time-
series analysis of states that shifted from SMDs to MMDs as well as four states that were
consistently MMD and 4 states that were SMD throughout the period under study. In the end, he
concludes that switching from MMD to SMD decreases the representation of women in the state

\(^5\) There is no consensus on what constitutes a “critical mass.” Thomas argues that if a legislature is less than 10%
female, women legislators have “little chance of passing their own bills much less having their priorities influence
others (1991, 973). In contrast, Kanter’s (1977) work on groups (but not state legislatures specifically) suggests that
a minority group must reach 15% representation to avoid the perception that they are “tokens.”
legislature. As we will discuss in more detail later, however, King categorizes Idaho, a seat-designate state, as a MMD state. Certainly this calls into question whether his findings are applicable to “pure” MMD states.

Arceneaux (2001) estimates a “feminism index” for each state based on public opinion data (see also Brace et al. 2002), but his index is not available for all states. As a result, Arceneaux excludes South Dakota—one of four states that has a lower chamber almost entirely composed of MMDs. A further concern is that Arceneaux categorizes Washington (a seat district system) as an SMD, and he treats Arkansas and Georgia as SMD even though they had MMDs in the 1980s. Also, his dependent variable is the overall percent of female legislators in both chambers of the legislature, but in many states MMDs exist in only one chamber so the impact would be reduced for the whole legislature. Further, he classifies only states with MMDs in the lower chamber as MMD, but several states also had MMDs in the upper chamber during either the 1980s or 1990s (see Table 2).

Hogan (2001) uses a carefully defined measure of MMD and produces a seat-based multivariate analysis that provides important insights into the nature of female representation in MMDs. The study supports the conventional wisdom that MMDs increase the proportion of women in office. Hogan’s study relies on data from only one year (1995), however, and it may not generalize to other years. Do his findings hold over time?

Limitations of the data, an overemphasis on local elections, and an elastic definition of MMD lead us to question much of the conventional wisdom regarding MMDs. In sum, the question of whether MMDs produce a higher proportion of female state legislators remains open.
Why Operationalization Matters

Although previous work has provided important insights into descriptive representation in MMDs, this review has highlighted a number of inconsistencies in approach that necessitate further investigation. The differences in electoral structure and the resulting incentives for different voter and elite behavior across the different types of MMDs should produce varying results for many of the hypotheses tested, but most studies have mixed the types together. It is a mistake to conclude that a district is SMD or MMD based on the number of seats alone, and it is likely that there are important distinctions for how each institutional arrangement shapes behavior. Data limitations and conceptual problems have caused many researchers to combine these different types of MMD into one measure testing for a single MMD impact.

Several specific problems emerge. First, scholars often lump seat-designate and free-for-all systems together. As Hamm and Moncrief (1999) suggest, seat-designate systems more closely mirror a series of SMD elections than a true MMD election. When scholars lump the two together, they fail to provide a crucial distinction that may have an impact on a number of key conclusions regarding the impact of MMDs. Second, in studies using upper chamber MMDs it is difficult to know whether data classified as MMD is a true MMD or a staggered term MMD. Third, cumulative MMD systems (most prominently Illinois) have been included as MMD in a few studies, even though they are clearly a special type of MMD with different effects.

In many studies it is also impossible to discern the source for differentiating MMD from SMD legislators. Other times, the authors do not explain what states they include in their MMD or SMD sample. The problems have been so severe that there is tremendous variation across sources for what states have any kind of MMD system and how many districts, candidates, or elections are considered MMD, much less what type of MMD is in place. The units of analysis
are different across some sources, and they cover different years. This confusion makes replication difficult and hinders our ability to test hypotheses. For example, Niemi, Hill and Grofman (1985), the most precise recent study, indicates that Maine’s lower house became entirely SMD in 1976. The Book of the States 1980-81, however, lists a few districts in Maine’s lower house as SMD. This is only one example of the types of inconsistencies that are common in the literature.

In sum, the literature on MMDs in the state legislature is too rife with inconsistencies and measurement questions to confidently make any definitive conclusions as to what effect—if any—MMDs have on descriptive representation in state legislatures. In the remaining sections examining the impact of MMDs on minority representation and female representation, we focus our attention on “Pure” MMDs - states with a bloc or bloc with partial abstention system for all districts in the lower chamber and SMD upper chambers. We contrast the pure MMD with “Pure” SMD states that have had SMD lower and upper chambers since 1980. At times we also discuss states with seat systems to illustrate why operationalization of MMD matters.

[Table 1 about here]

Table 1 lists the states included in our analysis. The four pure MMD states are Arizona, New Jersey, North Dakota, and South Dakota6. Each of these states has an MMD lower house and an SMD upper house. In addition, the districts in each of these states are configured so that each geographic district is represented by two house members and one senator. This unique system allows us to control for district factors and better isolate the impact of electoral structure on outcomes. We also separately analyze two states (Idaho and Washington) with a seat system lower house and SMD upper house with identical district boundaries between the two chambers.

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6 In 2002, South Dakota split one MMD into two SMD elections primarily for enhancement of tribal representation. In the 1980s, North Dakota had two MMDs in the upper chamber, but otherwise had an SMD upper chamber.
These seat system states are used to display the sensitivity of the data to the conceptualization of the MMD variable, but are never included in the pure MMD figures. The third section of Table 1 lists the 27 states that have used SMDs in both chambers from 1980-2003.

Table 2 lists the 17 states that are excluded from our analysis. We excluded these states for three reasons. First, we do not include Nebraska because its unicameral system makes it impossible to compare upper and lower chambers within the state. Next, we exclude a few states because they have a mixture of SMD and MMD in the same chamber. This arrangement makes it impossible to conduct analysis by chamber. Finally, we leave out a few states because they changed from MMD to SMD during the time period studied.

**Assessment of Multi-Member Districts**

We test two ideas held to be conventional wisdom: 1) MMDs reduce representation for African American legislators, and 2) MMDs increase female representation. We expand hypothesis 1 by examining all minority representation rather than black representation only.

Recent reports that Hispanics have overtaken African-Americans as the largest minority group in the U.S. (Nasser 2003) underscore the importance of including Hispanics and other emerging minorities in investigations of minority representation in U.S. politics. Data on black representation come from the Joint Center for Political and Economic Study’s *Roster of Black Elected Officials*[^7], the data on Latinos and Asian Americans come from Fairvote.org, and the data on Native Americans comes from the National Conference of State Legislatures web site.

[^7]: This book, formerly called *A National Roster of Black Elected Officials* is now called *Black Elected Officials: A National Roster*. The roster has come out annually since 1973, with the exception of 1983, when no roster was published.
Data regarding female representation come from the Center for American Women and Politics at Rutgers University.

Minority Representation

Most of the research on the racial impact of MMDs in American states has focused on African Americans. As a result, we begin with an examination of African-American representation before considering all minority representation together. Figure 1 shows the difference between the percent of a state’s black population and the percent of black legislators for Pure SMD states, Seat district states, and the Pure MMD states from 1980-2002. Following Norrander and Rivera (2003), a smaller figure reveals more parity. In other words, the smaller the figure, the more the chamber mirrors the African American population of the state. A parity ratio of 0 thus indicates that the chamber and the state have the same proportion of African-Americans. A parity ratio of 4 indicates that the state population has 4 percentage points more African-Americans than the chamber.

The parity ratios in Figure 1 also allow us to assess the impact of MMD in two ways: 1) compare parity averages for each of the different types of lower chamber electoral systems, and 2) compare parity differences between upper and lower chambers within the pure MMD states. Because both chambers in these states have the same geographic district boundaries, the differences that emerge are more likely due to institutions. Several factors could make upper chambers less likely to achieve parity, but if the inter-chamber differences within the MMD states are smaller than in SMD states it would support the conventional wisdom.

(Figure 1 about here)
Figure 1 suggests that blacks are most under-represented in the upper chambers of Pure SMDs. Because of a smaller number of senatorial districts, larger districts where minority votes are more likely to be diluted and more costly senatorial campaigns, the lack of parity in the SMD upper chambers is not surprising.

Surprisingly, the pure MMD states achieve the most parity of the lower chambers, and the difference between the Senate and House under-representation is much larger than for the other two types. Because the districts in the upper and lower chambers of the pure MMD states are identical, this comparison is striking. The MMD lower chambers are far more representative than the SMD upper chambers in these four states. One might argue that this is because Arizona, South Dakota, and North Dakota have a small percent of African Americans, but New Jersey is one of the pure MMD states and approximately 14% of its population is African-American. Further, the two Seat states (WA and ID), both have small black populations. In sum, figure one begins to call into question the prevailing wisdom that MMDs retard the election of African-Americans to office.

Most research on the impact of MMDs on descriptive representation has ignored minorities other than African Americans. One reason is that access to data for other minority legislators is difficult to find. As a result, our analysis of the four largest minority groups (African-Americans, Latinos, Asians, Native-Americans) is limited to the years 2000-2003. This investigation is particularly important because Arizona, South Dakota, and North Dakota include sizable populations of Latinos and Native Americans. According to the Census Bureau, the total minority percentages in 2003 are 30.2% for Arizona, 31.9% in New Jersey, 7.3% in North Dakota, and 10.9% in South Dakota. Figure 2 shows the combined under-representation

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8 Older data for Latinos are available through NALEO’s Roster of Hispanic Elected Officials, but personal communication with NALEO indicated that data from this source are suspect for the 1980s and 1990s. NALEO is in the process of revising these data.
of all four of these minority groups. Once again, a larger figure indicates more extreme under-representation. The Pure MMDs achieved the most parity of all electoral types, and the gap between the house and senate was greatest for the Pure MMD states. A 10% gap in the senates (which are SMDs that share the same geographic district lines as the MMD houses) contrasts sharply with a 6% gap in the lower chambers. This contradicts the dominant hypothesis that MMDs create under-representation of minorities.

(Figure 2 about here)

Figure 3 displays the gap between population percents and legislator percents for the lower chambers in each of the district structures. The data in figure 1 covering 23 years showed a small gap for blacks in pure MMDs, but Figure 3 using current data shows that the gap has disappeared for blacks in the pure MMD states. The under-representation of blacks continues to be worse in the pure SMD and Seat types. Further, the minority group that appears to be faring the worst in terms of under-representation across all district types are Latinos, who are particularly disadvantaged by the Seat system.

(Figure 3 about here)

Overall, there is no evidence that minorities are disadvantaged by MMDs when used in all districts in a chamber. Further, mixing Seat states with pure MMDs confuses the picture because the two types exhibit different patterns in every graph on minority representation. This calls into question much of the conventional wisdom about the effect of MMDs on descriptive representation in the state legislature.
The literature on MMDs and gender representation shows broad, but not universal, support for the hypothesis that MMDs lead to more female state legislators. Our assessment of female representation from 1981 to 2002 shows that women are better represented in pure MMD states than pure SMD states. Almost 20% of the legislators in the pure MMD lower chambers have been females during this time period versus only 17.2% in the pure SMD states. Further, the gap between MMD lower chamber and SMD upper chambers in the same state has been sizable at 6.5% on average. In both the comparison across states to other lower chambers and within states compared to SMD upper chambers a first glance suggests that the MMD houses fare better in terms of female representation.

How strong is this finding across time and states? Figure 4 shows that Arizona is responsible for much of the finding that MMD lower chambers elect large proportions of women. Three of the four pure MMD lower chambers perform better than pure SMD houses in the early 1980s, but only Arizona exhibited substantial gains across time. In many years Arizona had twice the percent of female legislators versus other pure MMDs and the SMD average.

(Figure 4 about here)

The other MMD states have not significantly exceeded the SMD average, and indeed have fallen behind the pure SMD states since 1993. New Jersey has consistently fallen below the SMD average, and South Dakota and North Dakota had slight early advantages over the pure SMD states that evaporated over time. These findings are curious. Two of these states (NJ and ND) rank nearly as high as Arizona on Arceneaux’s (2001) feminism index so the difference cannot be explained by public opinion. Further, demographic factors, such as the proportion of the state that is college educated, the percent employed in white collar jobs, the percent that are
farmers, and proportion that are minority—significant predictors of electoral success for female candidates in Hogan’s (2001) study—should contribute to greater female representation in New Jersey. Clearly it is not a result of these factors. Further, none of these three states are considered traditional political cultures (Elazar 1966), so the mystery remains.

Another question is whether the results hold up over time. In Figure 5 the female percent in each chamber of the pure SMD and pure MMD states are shown over time since 1980⁹. The figure shows a considerable advantage in the MMD lower chambers versus the SMD lower chambers over time. For many years the difference is around 5%, but since 1993 the gap has narrowed until 2001 when the SMD houses pass the MMD houses. Because most research on this topic was conducted throughout the “Large Gap” years of the 1980s and early 1990s (and before), it is not surprising that they determined that MMDs help female candidates. Data from the new millennium do not support this contention. Further, even the sizable advantage that all lower chambers had over upper chambers narrowed considerably in 2002. In sum, the evidence suggests that the conventional wisdom may need revision.

(Figure 5 about here)

Returning to the issue of concept operationalization, figure 6 provides dramatic evidence for the difference between seat and pure MMD systems. Both Idaho and Washington have seat-designate (or post) systems, and they both have much greater female representation than either pure MMD states or SMD states. If one were to mistakenly categorize seat-designate states as MMD, it would seriously change the results. Idaho is consistently 5 points higher than the pure MMD average, and Washington is more than 10 points higher and sometimes double the pure MMD average. If these states were included as MMD states, such figures would inflate the

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⁹ The upper chambers in the states with pure MMD houses are listed as MMD even though the senates are SMD.
estimates of the impact of MMD on female representation. Alternatively, putting them in the SMD category would cause even greater problems for most of the years from 1980 to 2002.

(Figure 6 about here)

Conclusion

MMDs have a long history. They have been used since at least 1619 (in England’s House of Burgesses), and several American colonies employed MMDs. In the 1950s 45% of the American state legislative seats were apportioned by MMD (Klain 1955). The number of MMDs has diminished, however, due to concerns that they produced more extreme legislators, disadvantaged minority parties and retarded black representation. These arguments in favor of SMDs are empirical questions that have been addressed by political scientists, but there have been too few studies, the conceptualization of MMDs has been too convoluted, and the data on which seats in each state are MMDs has been fragmentary, elusive, and inconsistent. As Klain asked in 1955, “where is the evidence?” (1117).

We sought to clarify the different types of MMD systems, to determine which states had each type of MMD over the last two decades, assess the impact of MMDs as measured in other studies, show the importance of concept operationalization, and demonstrate the impact of district structure on descriptive representation.

To address these issues, we compared the states that exclusively used SMD districts in the lower chambers to states that exclusively used MMD districts in their lower chambers from 1980-2003. Both groups of states had SMD upper chambers, and this configuration allows us to further isolate the effect of MMDs. To reveal the importance of concept operationalization, we also examined states with seat-designate or post systems in their lower chambers.
Our data do not support the conventional wisdom that minorities are disadvantaged by MMDs. The pure MMD lower chambers achieve more overall ethnic parity than either SMD lower chambers in other states or the SMD upper chambers in their own states. Only Native Americans fared substantially worse in pure MMD states than in pure SMD states, but African Americans experienced almost no parity gap. In addition, Latinos in a seat system were the most seriously disadvantaged of all groups. Overall, blacks achieved more proportional representation in all three electoral systems than Asian Americans, Native Americans, and especially Latinos.

The consensus that MMDs help female legislative candidates is also not supported by the data. In the early 1980s pure MMDs appear to have helped female representation, but now SMD lower chambers have surpassed pure MMD states. Further, Arizona was driving much of the perception that MMDs increase the number of female legislators. The other pure MMD states have lagged behind the SMD average since the early 1990s. Because Seat system states had the highest percent of female legislators over the last couple of decades, operationalization of the MMD concept is crucial to understanding its impact, and it is likely that the impact of MMDs has been overstated when seat systems were categorized as MMDs.

Results of previous studies may be attributable to the inclusion of seat-designate or post states, confusion over the operationalization of the MMD types, usage of other data (such as those states that changed from MMD to SMD), or time-bound results. In addition, some of these hypotheses may have been more accurate in the 1980s, but recent experience argues against them. Overall, our results question the conventional wisdom on the impact of MMDs for both minority and female legislators.
Works Cited


<table>
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<tr>
<th>Table 1: States Included in the Analysis</th>
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<tbody>
<tr>
<td>Pure Multi-Member Districts in House, Single-Member Districts in Senate 1980-2003</td>
</tr>
<tr>
<td>• Arizona</td>
</tr>
<tr>
<td>• New Jersey</td>
</tr>
<tr>
<td>• North Dakota</td>
</tr>
<tr>
<td>• South Dakota</td>
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</tbody>
</table>

| Seat Multi-Member Districts in the House, Single-Member Districts in Senate 1980-2003 |
| • Idaho |
| • Washington |

| Single-Member Districts in House and Senate 1980-2003 |
| • Alabama |
| • California |
| • Colorado |
| • Connecticut |
| • Delaware |
| • Iowa |
| • Kansas |
| • Kentucky |
| • Louisiana |
| • Maine |
| • Massachusetts |
| • Michigan |
| • Minnesota |
| • Mississippi |
| • Missouri |
| • Montana |
| • New Mexico |
| • New York |
| • Ohio |
| • Oklahoma |
| • Oregon |
| • Pennsylvania |
| • Rhode Island |
| • Tennessee |
| • Texas |
| • Utah |
| • Wisconsin |

Sources: Wasserman, NCSL Redistricting Taskforce (1999); Niemi, Hill, and Grofman (1985)
### Table 2: States Not in the Sample

<table>
<thead>
<tr>
<th>State</th>
<th>Reason Excluded</th>
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<tbody>
<tr>
<td>Alaska</td>
<td>Both chambers had some MMDs in 1980s, but none in the 1990s¹</td>
</tr>
<tr>
<td>Arkansas</td>
<td>Lower chamber had some MMDs in 1980s and 1990s¹</td>
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<tr>
<td>Florida</td>
<td>Switched from MMD to SMD in both chambers in 1982², ³</td>
</tr>
<tr>
<td>Georgia</td>
<td>Some MMD in lower house in 1980s, none in 1990s¹</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Eliminated MMDs in 1982²</td>
</tr>
<tr>
<td>Illinois</td>
<td>Had cumulative voting until 1982 in House, when it switched to SMD¹, ⁴</td>
</tr>
<tr>
<td>Indiana</td>
<td>16 MMDs during 1980s, none in 1990s¹</td>
</tr>
<tr>
<td>Maryland</td>
<td>Some MMD in the lower house in 1980s and 1990s¹</td>
</tr>
<tr>
<td>Nebraska</td>
<td>Unicameral legislature</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>Some MMDs in upper house during 1980s &amp; 1990s¹, ²</td>
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<tr>
<td>North Carolina</td>
<td>Some MMD in both houses during 1980s and 1990s¹, ², ³</td>
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<tr>
<td>South Carolina</td>
<td>Switched from MMD to SMD in Senate in 1984², ³</td>
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<tr>
<td>Vermont</td>
<td>Some MMDs in upper house during 1980s and 1990s¹, ²</td>
</tr>
<tr>
<td>Virginia</td>
<td>Switched from MMDs to SMD in both chambers in 1984²</td>
</tr>
<tr>
<td>West Virginia</td>
<td>All MMDs in Senate, some MMD in House during 1980s &amp; 1990s¹</td>
</tr>
<tr>
<td>Wyoming</td>
<td>Some MMDs in Senate in 1980s and 1990s. Some MMD in House during 1980s, none in 1990s¹, ²</td>
</tr>
</tbody>
</table>

¹ = Wasserman, NCSL Redistricting Task Force (1999)  
² = Niemi, Hill, and Grofman (1985)  
³ = Bullock and Gaddie (1993)  
⁴ = Kuklinski, Nowland, and Habel (2001)
Figure 1 - Parity Ratio for African American Legislators, 1980-2003
Figure 2 - Difference in Parity Ratios for Lower and Upper Chambers by District System of the Lower Chamber, 2000-2003

Parity Ratio (Zero=Perfect Parity)

Electoral System of Lower Chamber

Pure SMD
Seat
Pure MMD

Senate Ave
House Ave
Figure 3 - Parity Ratio for Minority Legislators in Lower Chambers by District System, 2000-2003
Figure 4 - Percent of Female Legislators in MMD Lower Chambers versus Pure SMD Lower Chambers, 1980-2002
Figure 5 - Average Percent of Female Legislators in Chambers with Pure Versions of SMD and MMD Houses with SMD Senates for Both, 1980-2003

Year

Percent of female legislators

H SMD Ave
S SMD Ave
H MMD Ave
S MMD Ave
Figure 6 - Comparison of Female Percent in Lower Chambers of Idaho and Washington compared to SMD and MMD Lower Chambers, 1980-2002