IS CUMULATIVE VOTING TOO COMPLEX?
EVIDENCE FROM EXIT POLLS

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There has been a growing interest in this country in electoral arrangements in which the opportunities that minority voters have to elect the representatives of their choice do not depend on, or at least depend much less on, district lines. Cumulative, limited, and preference voting are the three electoral systems receiving the most attention in this regard.¹ The electoral opportunities minority voters have within these systems are comparable to, and sometimes greater than, those provided by the more traditional single member district scheme.² This is especially the case given the recent restrictions the United States Supreme Court has placed on the creation of

¹ These systems can be used when more than one person is being elected to an office, e.g., a multiseat at-large election to a city council or a county board. In multiseat elections in this country, voters traditionally have as many votes as there are seats to be filled, but are restricted to casting only a single vote for any particular candidate. In limited voting systems, the first condition is modified: Voters are provided fewer votes than there are seats to be filled. In preference voting systems, voters are provided only one vote, but may rank the candidates according to their preferences among them. Votes cast for losing candidates or for candidates with more votes than needed to win may be transferred to other candidates in this system. In cumulative voting systems, described more fully infra notes 11–29 and accompanying text, only the second condition is modified: Voters may give any particular candidates more than one of their votes if they wish. For more complete descriptions of these systems, see Richard L. Engstrom, Modified Multi-Seat Election Systems as Remedies for Minority Vote Dilution, 21 Stetson L. Rev. 743 (1992).

² Single-member districting is not the traditional medium for providing minority electoral opportunities in other democratic countries, however. With few exceptions, other democracies use the multimember district format with one of a variety of voting rules designed to provide electoral opportunities to groups that constitute less than a plurality of the voters within a district. See generally Electoral Systems in Comparative Perspective: Their Impact on Women and Minorities (Wilma Rule & Joseph F. Zimmerman eds., 1994).
majority-minority districts in *Shaw v. Reno*\(^3\) and its progeny.\(^4\) These restrictions threaten to reduce significantly the number of minority electoral opportunities provided through that format. These alternative systems, therefore, have become even more attractive to those concerned with retaining or expanding such opportunities.\(^5\)

These alternative electoral arrangements, called modified multiseat systems, alter the voting rules that have typically been applied to multiseat elections in this country.\(^6\) These changes can reduce, if not eliminate, the tendency for the multiseat format to dilute a minority group's voting strength by submerging it in that of the majority.\(^7\) The modified multiseat system that has received the most attention, whether measured by academic interest\(^8\) or by actual adoptions, is cumulative voting. This system, the first to be adopted in direct response to allegations of minority vote dilution,\(^9\) is now used to elect the governing bodies of close to sixty local governments in five states.\(^10\)

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5. See, e.g., Richard L. Morrill, *Spatial Engineering and Geographical Integrity*, 15 POL. GEOGRAPHY Q. 95, 96–97 (1996) (stating that cumulative voting can be based on “more meaningful districts” and also enhance black representation); Richard L. Morrill, *Territory, Community, and Collective Representation*, 77 SOC. SCI. Q. 3, 4 (1996) (stating that cumulative voting can provide representation for minorities without the need to gerrymander, and also provide representation for “authentic geographical communities”); Gerald R. Webster, *Geography and the Decennial Task of Redistricting*, 96 J. GEOGRAPHY 61, 66–67 (1997) (stating that cumulative voting can provide racial equity while improving the “geographical integrity” of districts).
6. See Engstrom, supra note 1, at 745.
10. Cumulative voting is known to have been adopted by thirty-two school districts, fifteen municipalities, and one hospital district in Texas; four municipalities, one county, and one school district in Alabama; one municipality in Illinois; one municipality in New Mexico; and one school district in South Dakota.
CUMULATIVE VOTING

In a cumulative voting election, each voter has as many votes as there are seats to be filled. If three seats are to be filled, for example, each voter is allocated three votes. However, voters in a cumulative voting election are not restricted to casting only one vote for the candidates of their choice. If a voter prefers one candidate more than the others, for example, he may reflect the intensity of that preference by giving that candidate more than one vote. In the three-vote example, a voter with an intense preference for one candidate may cast all three of his votes for that candidate (a practice known as "plumping"). Alternatively, he may cast two votes for one candidate and one for another candidate, or vote in the traditional fashion, giving one vote apiece to three different candidates. The only restriction, usually, is that votes be cast in whole units. Winners are determined by simple plurality vote. In this example, the top three candidates win the three seats at issue.

A sample ballot for a cumulative voting election is reproduced in Appendix A. This was a three-vote city council election held in Alamogordo, New Mexico. On the ballot, three levers appear above the name of each candidate. Each voter is allowed to pull up to three levers. Those who want to spread their votes among three candidates may pull one lever for each of them. Voters who prefer the election of one particular candidate may pull all three levers for that candidate, or pull two of them for that candidate and another for a second candidate.

If a minority group strongly prefers to be represented by a particular candidate or candidates, cumulative voting provides it an advantage.
opportunity to cast a more effective vote.\textsuperscript{16} Minority voters are no longer limited to giving a candidate they prefer a single vote and then either withholding their remaining votes or casting some or all of those votes for candidates competing with their preference.\textsuperscript{17} The system thereby allows voters to concentrate their votes and increases the opportunity that minority groups, or other cohesive groups of voters, have to elect representatives they prefer.

In the Alamogordo City Council election, the Latino candidate, Inez Moncada, finished third, winning an at-large seat.\textsuperscript{18} The ability of Latino voters to cumulate votes for her was critical to her success.\textsuperscript{19} In the city's only majority Latino precinct, Ms. Moncada received 822 votes from the 592 people casting ballots that day.\textsuperscript{20} The candidate finishing second in that precinct received only 191 votes.\textsuperscript{21} Moncada's margin in that precinct propelled her to the third place finish overall.\textsuperscript{22}

The opportunities that minority voters have to elect representatives in cumulative voting systems can be demonstrated theoretically through a coefficient called the "threshold of exclusion."\textsuperscript{23} This coefficient identifies the percentage or proportion of the electorate that a group must exceed in order to elect its preferred candidate regardless of how the rest of the voters vote.\textsuperscript{24} These opportunities are not just theoretical, however. As noted above, cumulative systems have been adopted by about sixty local governments. Elections have now been held under cumulative rules in almost all of these settings, and minority candidates have had impressive success.\textsuperscript{25}

\begin{enumerate}
\item See \textit{id.} at 749–50.
\item See \textit{id.} at 752.
\item See \textit{id.} at 753.
\item See \textit{id.} at 753 tbl.2.
\item See Engstrom et al., \textit{supra} note 9, at 488.
\item See generally Engstrom, \textit{supra} note 1, at 750–51 (citing Douglas Rae et al., \textit{Thresholds of Representation and Thresholds of Exclusion: An Analytic Note on Electoral Systems}, 3 \textit{Comp. Pol. Stud.} 1479 (1971)).
\item The value of the coefficient of exclusion for cumulative voting varies inversely with the number of votes allocated to each voter, and therefore with the number of seats at issue. The assumptions on which this coefficient is based, along with the formula for calculating it and illustrative values, are reported in Engstrom, \textit{supra} note 1, at 750–51.
\item On the election of minority candidates in cumulative voting elections, see Rich-
The critical factor in the election of these candidates has been the relative percentage of minorities in the electorate. When that percentage exceeded, or even approached, the threshold of exclusion value for these systems, minority candidates have almost always been elected. Exit polls conducted at a number of these elections have confirmed that the minority candidate, often the first minority person ever elected to the particular governing body, has been the choice of minority voters but not of white or Anglo voters. These results have been found whether the relevant minority has been African-American, Latino, or Native American.

THE COMPLEXITY CONCERN

While cumulative voting can provide a nondilutive option to the traditional multiseat election, concerns have been expressed about its alleged complexity. Cumulative voting, of course, increases the


26. See Brischetto & Engstrom, Texas, supra note 25, at 982–84; Engstrom, supra note 1, at 752–57; Engstrom et al., Alabama, supra note 25, at 187–89.

27. See Brischetto, Rise, supra note 25, at 6; Engstrom et al., Alabama, supra note 25, at 295–98. A study that matched the actual ballots cast in a 1991 cumulative voting election in Peoria, Illinois, with the racial composition of the city's precincts found that while an African-American was elected, he was not the preferred candidate of the African-American voters. The African-American voters divided most of their votes between three other African-American candidates in this election, resulting in none of them being elected. See Aspin & Hall, supra note 14, at 229–36.

28. See Brischetto & Engstrom, Texas, supra note 25; Cole & Taebel, supra note 25, at 195; Engstrom et al., supra note 9, at 480–95.

29. See Engstrom & Barrilleaux, supra note 25, at 389.

30. See David H. Everson et al., THE CUTBACK AMENDMENT: ILLINOIS ISSUES SPECIAL REPORT, chs. 4, 23 (1982); Charles W. Dunn, Cumulative Voting Problems in Illinois Legislative Elections, 9 HARV. J. LEGIS. 627, 655–58; Note, AFFIRMATIVE ACTION AND ELECT
permutations in which votes may be cast. This complexity could be a
source of confusion for voters, especially those who are less edu-
cated.31 Given that disproportionately large numbers of minority
voters are less educated, concerns have been expressed that cumula-
tive voting might actually disadvantage those it is intended to
help.32 The number of permutations in which votes may be cast also
is larger in the cumulative system than in either limited or prefer-
ence voting systems. Not only is the number of votes reduced in
limited voting systems, but the one vote per candidate restriction is
retained.33 These limits result in the number of combinations in
which votes may be cast being lower in that system than in the cu-
mulative system.34 Preference systems require voters to rank as
many candidates as they wish.35 This ordering entails less differenti-
ation among candidates than does allocating different numbers of
votes to different candidates.36 If cumulative voting’s additional com-
plexity causes voters to misunderstand the system or be unable to
use it, then it would be advisable to refocus attention on these other
nondilutive alternatives.

Expanding the permutations in which votes may be cast does
not necessarily make voting more difficult, however. In multiseat
elections the option to cumulate votes could, in fact, simplify the
task for many voters. As noted above, those who prefer one or a few
candidates over the others must, in a traditional multiseat election,
decide whether to cast votes for candidates competing with their
choice or choices, or to withhold their remaining votes.37 Minority
voters have been implored at times to refrain from casting all of
their votes in multiseat elections and to “single-shot” or “bullet” vote
for a candidate.38 Voters with candidate preferences that vary in
intensity may find that the cumulative options eliminate these stra-
 tegic considerations and simplify their task. Given that minority

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32. See id.
33. See Engstrom, supra note 1, at 757.
34. See id. at 757–58.
35. See id. at 762.
36. See id. at 762–64.
38. See Engstrom & McDonald, supra note 17.
voters, not surprisingly, tend to cumulate votes more frequently than other voters, the cumulative options may actually make voting easier for them.

This Article examines the concern about the complexity of cumulative voting, using data from exit polls conducted during sixteen cumulative elections in Texas in May 1995. Variation in the relative difficulty of voting with the cumulative options, as reported by voters, is compared with the education and race or ethnicity of the voters to determine whether less educated voters and minority voters have difficulty understanding the system.

THE EXIT POLLS

The polls were conducted at fifteen elections in which Latino candidates competed with Anglo candidates, and one election in which an African-American candidate competed with Anglo candidates. These were cumulative voting elections for seats on municipal councils or school boards. Cumulative voting was adopted in all of these jurisdictions through the settlement of vote dilution lawsuits. The jurisdictions are all small in population, ranging from 1212 to 15,931. Latinos constituted the largest minority group in each of the jurisdictions with Latino candidates (hereinafter referred to as the Latino settings). The percentage of the voting age population that was Latino in these jurisdictions ranged from eighteen to forty-seven percent. In the jurisdiction with the African-American candidate, African-Americans were the largest minority, constituting twenty percent of the voting age population. In five of the Latino settings, voters were allocated only two votes. In eight of the others

39. See Engstrom et al., Alabama, supra note 25, at 303–08; Brischetto & Engstrom, Texas, supra note 25; Cole & Taebel, supra note 25, at 197–99; Engstrom et al., supra note 9, at 487–95; Engstrom & Barrilleaux, supra note 25, at 391.
40. The elections to municipal councils were held in Anton, Earth, Friona, Morton, Olton, Roscoe, Rotan, and Yorktown. The elections to school districts were held in Andrews Independent School District (“ISD”), Atlanta ISD, Denver City ISD, Dumas ISD, Friona ISD, Morton ISD, Rotan ISD, and Stamford ISD. The setting with an African-American candidate was the Atlanta ISD.
41. The smallest jurisdiction is the City of Anton and the largest is the Dumas ISD.
42. The African-American percentage of the voting age population in the 15 Latino settings was in most cases less than two and never exceeded seven. The Latino percentage of the voting age population in the setting with the African-American candidate was less than one.
the voters had three votes apiece, and in the remaining two the voters had five votes. The number of votes available for cumulation in the jurisdiction where African-Americans were the largest minority was four.

The exit polls were conducted during the entire twelve-hour voting period in every setting except one, at which polling was conducted over eight hours. An effort was made in all but the largest jurisdiction to have every voter participate in the poll. In the largest jurisdiction, an effort was made to reach every other voter. In all of the Latino settings, at least one pollster was fluent in Spanish. The instrument was a self-administered, confidential, paper-and-pencil questionnaire, with a Spanish version on one side in the Latino settings. Respondents filled out the questionnaires and deposited them in a sealed "Voters Poll" box.

Questionnaires were returned by 3748 voters in the fifteen Latino settings. Among the respondents in these settings were 2956 who identified themselves as Anglo or white; 624 as Mexican-American, Latino, or Hispanic; 47 as black or African-American; 39 who classified themselves as "other"; and 82 who did not identify their racial or ethnic group. The number of respondents in the setting in which African-Americans were the largest minority was 587, of which 431 identified themselves as white or Anglo, 134 as African-American, 3 as Latino, and 7 as "other," with 12 unidentified. The response rates in the fifteen settings in which an effort was made to have every voter participate ranged from forty-three to eighty-eight percent, with a mean of sixty-seven percent. The percentage of the total number of election day voters who responded to the questionnaire in the jurisdiction in which an effort was made to have every other voter participate was thirty-three percent.

As a check on the representativeness of the respondents in the fifteen Latino settings, we compared the percentage of those identi-
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In only two of these jurisdictions did these percentages differ by more than four points. An additional check on the representativeness of the respondents is a comparison of the votes cast in the polls with those cast in the actual election. Among the ninety-six candidates across the sixteen settings, we found only two instances in which the estimate of a candidate’s percentage of the votes in the poll differed by more than five points from the actual percentage received in the election.47

THE RELATIVE DIFFICULTY OF CUMULATIVE VOTING

The exit poll contained a question asking voters to compare the ease or difficulty of casting votes in these cumulative voting elections with casting votes in other elections. The question read:

Compared to other elections in which you have voted, did you find the voting method used in today’s city council/school board election any easier, about the same, or more difficult to understand?48

The responses to this question in the fifteen Latino settings will be analyzed first, followed by the responses in the jurisdiction in which

46. Lists containing the names of the voters receiving ballots were obtained from each jurisdiction and compared with a list of 12,500 Spanish surnames provided by the U.S. Census Bureau.

47. These comparisons are based on the votes cast on election day in the 10 settings where these votes could be separated from those cast during the early voting period. In the other settings the comparisons are based on the total vote. The exit polls revealed that in eight of the Latino settings Latino candidates preferred by Latino voters were elected, and in the setting where African-Americans were the largest minority group, the African-American candidate was both preferred by the African-American voters and elected. In six of the Latino settings, Latino candidates preferred by Latino voters were not elected, due primarily to very low participation by Latinos in these elections. In the remaining Latino setting, the Latino candidate was not preferred by Latino voters. For data on the candidate preferences and participation rates for the different groups of voters in these elections, see Brischetto & Engstrom, Texas, supra note 25, at 982–87; Brischetto, Cumulative Voting as an Alternative to Districting, supra note 25, at 349–51; Brischetto, Rise, supra note 25, at 7–9.

48. The list of response options following this question also allowed the voter to report that he or she had not voted in other elections. Respondents selecting this option were deleted from the analysis. The elections were conducted with paper ballots in which a number of boxes equal to the number of votes each voter had preceded the name of every candidate.
African-Americans constituted the largest minority group.49

The Latino Settings

The responses to this question in the fifteen Latino settings indicate that cumulative voting was not generally found to be a difficult system to use. The distribution of responses reveals that, overall, more respondents found the cumulative system to be easier to use than found it to be more difficult. Twenty-eight percent of those responding to this question reported the system to be easier, whereas only sixteen percent reported it to be more difficult.50

Concerns that less educated voters are more likely to find cumulative voting difficult to understand are not confirmed by these polls. The relationship between the self-identified education of the respondents and their answers to the relative difficulty question is, while weak, the opposite of what was expected. The less educated voters were the respondents least likely to report the system to be more difficult. The responses to the relative difficulty question are cross-tabulated with the respondents’ levels of education in part A of Table 1 in Appendix B. This relationship can be summarized by the Gamma coefficient, a measure of association for ordinal variables such as these. The value that Gamma can assume varies from a maximum of -1.0 for an inverse relationship (i.e., high values on one variable are associated with low values on the other), through 0.0 for no relationship whatsoever (values on one variable are not associated with values on the other), to a maximum of 1.0 for a direct relationship (high values on one variable are associated with high values on the other). While the relationship between education and the perceived difficulty of cumulative voting is statistically significant, due primarily to the large number of respondents, the relationship overall is weak and negative, as revealed by the value of the gamma for part A of the table, -.148. The most startling finding within part A of the table is those with the least education are the ones with the

49. The analyses of the responses from the 15 Latino settings were weighted to reflect the relative number of voters, voters with Spanish surnames, and voters responding to the relevant questionnaire item across the different settings. The analyses of the responses in the setting in which African-Americans constituted the largest minority were weighted to reflect the percentage of those on the voting list in each precinct identified as African-American by black community leaders.

50. See Brischetto & Engstrom, Texas, supra note 25, at 978–81.
highest percentage, forty-five, reporting the system to be easier.

It is possible that this weak, yet negative, relationship between education and the perceived relative difficulty of cumulative voting could be the result of Latinos reporting the system to be easier. Latinos, who tended to plump their votes on one candidate, usually a Latino candidate, at rates much higher than the Anglos, were much more likely to report that the system was easier to use than were Anglos. Overall, fifty-three percent of the Latino respondents reported the system to be easier, compared to only eight percent reporting it to be more difficult. Among Anglos, these figures were twenty-four and seventeen percent respectively. The Latino responses to the relative difficulty question could, at least in part, reflect their greater support for the system itself, which had been adopted in each setting in response to vote dilution allegations. Given that Latinos tend to be less educated than Anglos, ethnicity could account for the relationship between education and the perceived difficulty of the system.

The relationship between education and the perceived difficulty is even weaker when the Latino respondents are separated from the Anglos. Parts B and C of Table 1 report the relationship between these variables for each group separately. While higher percentages of Latinos than Anglos report the system to be easier, the relationship between levels of education and these responses is similar — weak and negative — for both groups (-.084 for Anglos and -.106 for Latinos), and not statistically significant for Latinos. For both Anglos and Latinos, the voters who were not high school graduates were most likely to report that the system was easier (thirty-four percent and fifty-nine percent, respectively). Concerns that less educated voters, and therefore minority voters, would find cumulative voting difficult to understand appear to be without foundation.

It could also be that the perceived difficulty of cumulative voting is a function of the number of votes each voter has. The larger the

51. See id.
52. See id.
53. Based on the exit polls, 36% of the Latino voters had less than a high school education, 34% had graduated from high school, 21% had some college education, and 9% had graduated from college. These percentages for the Anglo voters were 7, 31, 34, and 29, respectively.
54. The weaker of the two relationships, that for the Anglos, is the one that is statistically significant due to the larger number of Latino voters.
number of votes a voter has, of course, the greater the permutations in which he or she may cast them. Voting in the cumulative context could thereby increase in difficulty as the number of votes increases. As noted above, in five of the Latino settings the voters had only two votes to cast, while in eight they had three and in two they had five. The perception of the relative difficulty of the system does indeed vary directly with the number of votes. In the two-vote settings, thirty-one percent of the respondents reported the system to be easier and twelve percent reported it to be more difficult. These figures for the three- and five-vote settings were, respectively, twenty-six percent and twenty-one percent, and twenty-three percent and twenty-three percent.55

The least educated among the respondents, however, did not report more difficulty as the number of votes increased. Table 2 in Appendix B contains the relationships between education and the perceived difficulty of voting in the cumulative context when the number of votes is only two, in which there is only one cumulative option, and when the number of votes is three or five.56 While in both the two- and the three- or five-vote settings education is significantly related to the relative difficulty of cumulative voting, in each case the relationship remains weak and negative (Gamma = -.125 and -.151). And within both contexts, it is among the less educated voters that the percentage of respondents reporting that cumulative voting is easier is the highest. Indeed, among the respondents who did not graduate from high school, more reported cumulative voting to be easier in the three- and five-vote settings (forty-nine percent) than in the two-vote settings (thirty-nine percent).

These relationships are partly a function of Latinos being disproportionately among the less educated. Tables 3 and 4 in Appendix B report the relationships between education and the perceived difficulty of cumulative voting among Anglos and Latinos, respectively, for the two- and for the three- and five-vote settings.57 The already weak relationship to education declines further when

55. See Brischetto & Engstrom, Texas, supra note 25, at 981 tbl.2.
56. The three- and five-vote settings are combined because there are too few respondents in each of the various educational categories within the five-vote settings to allow reliable inferences to be made about these voters.
57. The Latino respondents with more than a high school education have been combined into one category because of the limited number of such respondents within each vote category.
these groups are separated. The relationships within groups are both weak and negative in all cases, and, except for Anglos in settings with more than two votes, no longer statistically significant.

The option to cumulate votes does not appear to make the voting task particularly difficult for less educated voters, and certainly not for Latino voters. The evidence from these exit polls in the fifteen Latino settings provides no support for such concerns. While cumulative voting may increase the permutations in which votes may be cast, it is not so complex that voters have difficulty with it. Indeed, the options to cumulate votes may simplify the voting decision for some voters by relieving them of strategic considerations they may face in the more traditional multiseat elections in this country.

The African-American Setting

The results from the exit poll in the setting in which African-Americans were the largest minority and an African-American candidate was on the ballot are essentially the same as in the Latino settings (see Table 5 in Appendix B). This was a four-vote cumulative election for seats on the board of the Atlanta Independent School District near Texarkana. In this poll as well, more respondents reported voting in the cumulative voting election to be easier than reported it to be more difficult compared to other elections. Overall, thirty-eight percent of the Atlanta respondents found cumulative voting to be easier, compared to only eight percent finding it more difficult. African-Americans were more likely to report the system to be easier. Among African-American respondents, sixty-seven percent reported the cumulative system to be easier while only two percent reported it to be more difficult, compared to twenty-six and eleven percent of the Anglos, respectively.

Contained in Table 5 are the relationships between education and the relative difficulty of cumulative voting for all of the voters (part A) and for the African-American and the Anglo voters separately (parts B and C). Education is significantly related to the perceived difficulty among voters overall, but as was the case in the Latino settings, only weakly and in a negative direction (Gamma = -.238). It is, once again, among the voters who did not graduate from high school that the highest percentage reported the system to be easier (sixty-one percent). When the analysis is performed separate-
ly for Anglos and African-Americans, the relationship between education and perceived difficulty is no longer significant for either group.\textsuperscript{58} The relationship is negative and somewhat weaker among both groups (-.165 for Anglos and -.161 for African-Americans).\textsuperscript{59} And, as with the Latino settings, it is among the voters who did not graduate from high school that the highest percentage of respondents within each group reported the system to be easier to use (seventy-eight percent among the African-Americans and forty-one percent among the Anglos).

The exit poll for the Atlanta election, a four-vote cumulative election, provides additional evidence suggesting that cumulative voting is not a difficult voting system for voters to understand, even among those who are the least educated and especially among those that are members of a racial or language minority group.

\textit{CONCLUSION}

Recent restrictions on the creation of majority-minority single member districts have intensified interest in alternative election systems in this country. Among the variety of democratic methods for structuring electoral competition, cumulative voting has received the most attention. The option to cumulate votes behind candidates of choice has been used effectively by minority voters in numerous settings, demonstrating that the system can be a viable, nondilutive alternative to systems that do operate in a discriminatory fashion.

Concerns are frequently expressed, however, about the alleged complexity of cumulative voting. The greater number of permutations through which votes may be cast in this system, it is suggested, may cause confusion among voters, especially those that are the least educated. This concern is often expressed as a fear that cumulative voting might actually be disadvantageous to the minority voters it is alleged to help because these voters tend to be

\textsuperscript{58} The distribution of African-American voters by education in the Atlanta ISD poll is as follows: 15\% had not completed high school, 28\% had graduated from high school, 36\% had some college education, and 21\% had graduated from college. Among Anglos, 5\% had not completed high school, 22\% had graduated from high school, 35\% had some college education, and 38\% had graduated from college.

\textsuperscript{59} Given the small number of respondents on which these relationships are based, neither is statistically significant. On factors affecting statistical significance, including the number of observations or size of the sample, see \textsc{Lawrence B. Mohr}, \textsc{Understanding Significance Testing} 59–60 (1990).
disproportionately among the less educated.

The evidence from exit polls at sixteen Texas elections in 1995 suggests that these concerns are without foundation. More voters report that voting in cumulative elections, compared to other elections, is actually easier rather than more difficult. This tendency was found to be the most pronounced among the least educated voters generally, and minority voters in particular. While some of these responses no doubt reflect enthusiasm for a new system that can help to empower minority voters, it may also be that some voters find the option to cumulate reduces some of the strategic choices they must make, for example, in other multivote, multiseat elections. Cumulative voting allows voters to express their candidate preferences more fully and sincerely. This beneficial property of the system does not appear to be at the expense of making voting a significantly more difficult task for the less educated among them.
APPENDIX A
Cumulative Voting

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APPENDIX B

In this and the following tables, the responses to the relative difficulty question are scored as 1 for more difficult, 2 for about the same, and 3 for easier. Scores on the education variable increase as the educational attainment of the respondents increases.

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Cumulative Voting

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