

Jury Representativeness: A Mandate for Multiple Source Lists

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Most of the unrepresentativeness in our jury systems is attributable to the unrepresentativeness of the source lists, which are usually compiled only from voter registration lists. This Article argues that the Constitution mandates representative and inclusive jury selection processes. It attempts to quantify standards for inclusiveness and representativeness, and suggests inexpensive means by which these goals can be achieved through the use of multiple lists.

INTRODUCTION

Challenges to jury systems that do not represent the community have increased significantly in the last several years.¹ This phenomenon has occurred not only in the South, but across the country, and, though reforms were instituted by the Federal Jury Selection and Service Act of 1968,² federal as well as state jury systems have been challenged for their unrepresentativeness.³

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1. REPORT OF THE COMMITTEE ON THE OPERATION OF THE JURY SYSTEM OF THE JUDICIAL CONFERENCE OF THE UNITED STATES 9 (April 7, 1976) [hereinafter cited as REPORT]. For a general discussion of the standards applicable to jury challenges, see NATIONAL JURY PROJECT, THE JURY SYSTEM: NEW METHODS FOR REDUCING PREJUDICE 5-24 (1975) (available from the National Jury Project, 2054 University Ave., Berkeley, California 94704) [hereinafter cited as JURY SYSTEM]; *Foster v. Sparks*, 506 F.2d 805, 811-37 (5th Cir. 1975) (appendix to the opinion by Judge Walter P. Gewin) [hereinafter cited as Foster Appendix]; Kairys, *Juror Selection: The Law, a Mathematical Method of Analysis, and A Case Study*, 10 AM. CRIM. L. REV. 771 (1972) [hereinafter cited as *Juror Selection*].

2. 28 U.S.C. § 1861, *et seq.* [hereinafter cited as the Federal Act].

3. REPORT, *supra* note 1, at 9.

Analysis of the evidence presented in support of these challenges reveals that most of the proven unrepresentativeness is attributable to the source list.⁴ Indeed, statistical data indicates that no single available list, including voter registration lists, the most widely used source,⁵ adequately represents a cross section of our communities.⁶ In recognition of this problem, the Federal Act provides that while voter lists are to be the primary source, federal courts "shall prescribe some other source or sources . . . where necessary to foster the policy [of representation of a cross section],"⁷ and the Uniform Jury Selection and Service Act, adopted in five states,⁸ makes the use of multiple lists mandatory.⁹

4. See Table B and the text accompanying notes 146-57 *infra*; J. VAN DYKE, JURY SELECTION PROCEDURES 89 (1977) [hereinafter cited as JURY SELECTION PROCEDURES]. The only major exception is in cases where the selection process is systematically discriminatory, which was not the basis of the overwhelming majority of challenges. Cases in which the process is systematically discriminatory fall into two categories, both of which commonly involve claims of discrimination against women. In the first, selection officials have actively discriminated against a cognizable class: for example, in *People v. Attica Brothers*, 79 Misc. 2d 492, 359 N.Y.S.2d 699 (1974), selection officials admitted that they picked more men than women from the source list (the pool was reconstituted using a nondiscriminatory procedure). Second, qualifications, exclusions, exemptions, and excuses can be discriminatory, either facially or as applied. For example, women are systematically discriminated against and discouraged from serving by various facially neutral but sex-based exemptions nominally linked to child care. See *Taylor v. Louisiana*, 419 U.S. 522 (1975). See generally Copelon, Schneider & Stearns, *Sex Discrimination in Jury Selection*, 2 WOMEN'S RTS. L. RPTR. 3 (1975) (the authors discuss the constitutional issues raised by such exemptions and point out that most people who are offered an exemption take it and that a large proportion of the women with children who claim the exemption are employed outside the home).

5. The Federal Act, *supra* note 2, provides for use of voter registration or actual voter lists. 28 U.S.C. § 1863(b)(2). Most state courts also use voter registration or actual voter lists. See National Center for State Courts, *Facets of the Jury System: A Survey* (1976), Table C (available from NCSC, 1660 Lincoln St., Suite 200, Denver, Colorado 80203) [hereinafter cited as *Facets of the Jury System*]. Sixteen states in New England and the South still use the "key man" system or some variation, where selection officials have discretion to choose people they know or hear about. JURY SELECTION PROCEDURES, *supra* note 4, at 86-87.

6. This conclusion is based on data concerning the entire nation and many states and urban areas. See text accompanying notes 149-57 *infra*; JURY SELECTION PROCEDURES, *supra* note 4, at 85-106. It is possible that in some areas voter registration lists, or some other single list, are sufficient, and in such areas it would not be necessary to use multiple lists.

7. 28 U.S.C. § 1863(b)(2).

8. COLO. REV. STAT. ANN. § 13-71-101 *et seq.* (1973); IDAHO CODE § 2-201 *et seq.* (1948); IND. STAT. ANN. § 33-4-5.5-1 *et seq.* (Burns 1975); MISS. CODE § 13-5-2 *et seq.* (Cum. Supp. 1976); NO. DAK. CENT. CODE § 27-09.1-01 *et seq.* (1974).

9. UNIFORM JURY SELECTION AND SERVICE ACT [hereinafter cited as UNIFORM ACT] § 5. Mississippi and Indiana have modified § 5 of the Uniform Act. MISS. CODE, § 13-5-8(1) provides for exclusive use of voter registration lists. IND. STAT. ANN. § 33-4-5.5-7 (Burns 1975) provides for multiple lists but applies only to counties with a population of from 500,000 to 600,000 according to the 1970 census.

At present only two federal district courts¹⁰ and several state courts¹¹ utilize multiple lists, and no court has either required multiple lists or supplemented a primary list on constitutional or statutory grounds.¹² Most decisions¹³ require proof of purposeful discrimination in jury selection, even though constitutional¹⁴ and statutory¹⁵ authority indicates that proof of a significant disparity between the composition of the population and the source or pool constitutes a *prima facie* case of invalidity. Other cases require proof that the underrepresentation resulted in a "substantial impact" on the absolute number of minority members serving on a panel,¹⁶ rendering challenges based on the underrepresentation of small or medium-sized minorities impossible.¹⁷ The Committee on the Operation of the Jury System of the Judicial Conference of the United States recently suggested, in response to the increase in challenges, that the Federal Act be amended to "establish a presumption that names of prospective jurors contained in voter lists represent a fair cross-section of the community."¹⁸ There is, however, no factual basis for such a presumption.¹⁹

10. The two federal district courts are the United States District Court for the District of Colorado and the United States District Court for the District of Columbia. See note 199 *infra*.

11. See Table E *infra*.

12. *But see* Ford v. Hollowell, 385 F. Supp. 1392 (N.D. Miss. 1974); United States v. Grant, 471 F.2d 648 (4th Cir. 1973), *rehearing denied*, 475 F.2d 581 (1973) (Winter, J., dissenting). One court has invalidated use of voter registration lists as the sole source, but the decision was quickly reversed by an appellate court. *People v. Taylor*, No. A-277-425 (Super. Ct. for Los Angeles County, Oct. 11, 1974), *vacated*, Civ. No. 45230 (Cal. Ct. App., 2d Dist., Nov. 26, 1974).

13. *E.g.*, United States v. Test, 550 F.2d 577 (10th Cir. 1976); United States v. Lewis, 472 F.2d 252 (3d Cir. 1973); United States v. Gordon, 455 F.2d 398 (8th Cir. 1972); United States v. Ross, 468 F.2d 1213 (9th Cir. 1972); United States v. Dangler, 422 F.2d 344 (5th Cir. 1970). For an analysis of the legislative history of the federal supplementation provision, see note 198 *infra*.

14. *Taylor v. Louisiana*, 419 U.S. 522 (1975); *Turner v. Fouche*, 396 U.S. 346 (1970); *Thiel v. Southern Pacific Co.*, 328 U.S. 217 (1946).

15. 28 U.S.C. § 1861; H.R. REP. No. 1076, 90th Cong., 2d Sess. 8 (1968); S. REP. No. 891, 90th Cong., 1st Sess. 9 (1967). See *Taylor v. Louisiana*, 419 U.S. 522, 529 (1975); *United States v. Jenkins*, 496 F.2d 57, 65 (2d Cir. 1974), *cert. denied*, 420 U.S. 925 (1975); *United States v. McDaniels*, 370 F. Supp. 298, 301 (E.D. La. 1973), *aff'd* 509 F.2d 825, *cert. denied*, 423 U.S. 857 (1975).

16. *United States v. Goff*, 509 F.2d 825 (5th Cir. 1975), *cert. denied*, 423 U.S. 857 (1975); *United States v. Jenkins*, 496 F.2d 57, 65 (2d Cir. 1974), *cert. denied*, 420 U.S. 925 (1975).

17. *United States v. Test*, 550 F.2d 577 (10th Cir. 1976); *United States v. Freeman*, 514 F.2d 171 (8th Cir. 1975).

18. REPORT, *supra* note 1, at 9. The proposal also prohibits use of multiple lists unless there is a specific finding that voter lists are not representative. Since the two federal districts now using multiple lists have explicitly provided in their plans that their use of multiple lists was not based on such a finding, the proposal would have the effect of invalidating the use of multiple lists in these districts.

19. The Committee's report does not state or refer to any factual basis; rather,

A number of factors are responsible for the failure of the courts to require use of multiple lists to correct unrepresentative selection systems. First, there is confusion over the constitutional standard to be applied. Since the 1940's the courts have required that jury pools and source lists be representative of a cross section of the community.²⁰ The Federal Act²¹ and many state statutes²² contain the same or a similar requirement. Nevertheless, courts have tended to analyze disparities between the composition of the population and the source list under a purposeful discrimination test, rather than a representativeness test.²³ Second, there are no accepted standards for evaluating the representativeness of source lists or pools. Neither courts nor legislatures have established criteria for distinguishing allowable from impermissible deviations from the cross-sectional ideal.²⁴ Third, though inadequate source lists cause most of the unrepresentativeness, they have received insufficient attention in challenges and court decisions because of a lack of available data²⁵ and the unquestioned notion that voters are the "best" or "most concerned" citizens.²⁶ Last, there has been no available methodology for implementing multiple list systems with reasonable costs and effort.²⁷

These obstacles to representative source lists and jury pools should no longer prevent implementation of the cross section of the community

the Committee said: "This proposal is a response to the increasing number of cases challenging the process of jury selection." *Id.*

20. *Taylor v. Louisiana*, 419 U.S. 522 (1975); *Turner v. Fouche*, 396 U.S. 346 (1970); *Thiel v. Southern Pacific Co.*, 328 U.S. 217 (1946).

21. 28 U.S.C. § 1861.

22. *E.g.*, COLO. REV. STAT. ANN. § 13-71-102 (1973).

23. *Castaneda v. Partida*, 97 S. Ct. 1272 (1977); *Alexander v. Louisiana*, 405 U.S. 625 (1972).

24. For a general discussion, see *Juror Selection*, *supra* note 1, at 772-79; *Foster Appendix*, *supra* note 1, at 818-19, 833-35. The Federal Act sets "substantial deviation" as the standard, 28 U.S.C. § 1861, but the definition and content of this provision was left to judicial determination. See S. REP. NO. 981, 90th Cong., 1st Sess., 11 (1967); H.R. REP. NO. 1076, 90th Cong., 2d Sess., 5 (1968).

25. See *Foster Appendix*, *supra* note 1, at 817.

26. See *United States v. Test*, 550 F.2d 577 (10th Cir. 1976); *Simmons v. United States*, 406 F.2d 456 (5th Cir. 1969). This notion is directly contrary to the cross-sectional principle and is of questionable factual validity. See text accompanying notes 160-65 *infra*.

27. Judge Walter P. Gewin, although recognizing the need for more representative sources, has stated that "there is no facile way to supplement voter registration lists." Gewin, *The Jury Selection and Service Act of 1968; Implementation in the Fifth Circuit Court of Appeals*, 20 MERCER L. REV. 349, 383 (1969) [hereinafter cited as *Implementation in the Fifth Circuit*]. Later, Judge Gewin proposed use of the old "key man" system as the only practical method of supplementation. Gewin, *Should Guidelines be Established for Determining When District Courts Should Use Other Sources of Names of Prospective Jurors in Addition to Voter Registration Lists or Lists of Actual Voters; and, if so, What Guidelines Should be Used*, COMMITTEE ON THE OPERATION OF THE

principle. Although there is still considerable controversy concerning the theoretical basis of the jury selection cases, the Supreme Court recently confirmed²⁸ that a significant underrepresentation establishes a prima facie case of invalidity. Various measures of representativeness have been proposed, and there is a firm legal and factual basis for adoption of a definitive standard. The necessary data is available.²⁹ The methodology for using multiple lists at minimal added cost or effort has been developed,³⁰ and is being utilized in several jurisdictions.³¹ All that remains is a traditional judicial task: standards must be formulated and adopted, and the constitutional and statutory mandates must be enforced.

This Article traces the theoretical framework of the jury selection cases and the various standards that have been proposed as measures of representativeness. Next the guiding constitutional and statutory principles are applied to the problem of source lists and the available data concerning voter registration and other lists is presented. Finally, available methodologies for the easy and inexpensive use of multiple lists are discussed.

I

THE CONSTITUTIONAL MANDATE OF REPRESENTATIVENESS

Representativeness as a constitutional requirement for jury selection has been derived piecemeal following ratification of the fourteenth amendment.³² In *Strauder v. West Virginia*,³³ the first successful challenge to a jury selection system, the Supreme Court invalidated a state statute that prohibited blacks from serving on grand or petit juries. Subsequent decisions vindicated challenges to de facto total exclusion of blacks³⁴ and underrepresentation of blacks³⁵ and of other "cognizable" groups.³⁶ The Court first articulated the affirmative princi-

JURY SYSTEM OF THE JUDICIAL CONFERENCE OF THE UNITED STATES, *THE JURY SYSTEM IN THE FEDERAL COURTS, 1966-1973* at 109 (1974) [hereinafter cited as *WORKS*].

28. *Castaneda v. Partida*, 97 S. Ct. 1272 (1977).

29. See text accompanying notes 145-60.

30. See Kadane & Lehoczky, *Random Juror Selection from Multiple Lists*, 24 OPERATIONS RESEARCH 207 (1976) [hereinafter cited as *Multiple Lists*].

31. See Table E *infra*.

32. On the historical development of the jury selection cases, see generally *Juror Selection*, *supra* note 1, at 772-77.

33. 100 U.S. 303 (1880).

34. *Norris v. Alabama*, 294 U.S. 587 (1935).

35. *Smith v. Texas*, 311 U.S. 128 (1940).

36. *Thiel v. Southern Pacific Co.*, 328 U.S. 217 (1946); *Hernandez v. Texas*, 347 U.S. 475 (1954). For a general discussion of the standards for determining cognizable classes and the various groups recognized, see *JURY SYSTEM*, *supra* note 1, at 10-14. Under either the representativeness or discrimination theories discussed here, it is appro-

ple³⁷ that juries be drawn from a "cross-section of the community" in *Thiel v. Southern Pacific Co.*,³⁸ decided in 1946. Although *Thiel* concerned a federal jury and the decision rested upon the Court's supervisory power,³⁹ the cross section requirement is now firmly established as a constitutional principle applicable to state as well as federal selection systems.⁴⁰

appropriate to require relief concerning only particular categories in the population, although less stringent standards of cognizability are more consistent with the representativeness principle. For example, underrepresentation of or discrimination against left-handed people would not raise a constitutional question under either theory, but underrepresentation or discrimination on the following bases clearly should: race, ethnicity or ancestry, economic, occupational, social or class status, religious beliefs, sex, age, geography and political beliefs or values. See JURY SYSTEM, *supra* note 1, at 10-13.

The decisions concerning whether young people are a cognizable class are inconsistent. Compare *United States v. Butera*, 420 F.2d 564 (1st Cir. 1970) (age is a cognizable class) and *Simmons v. Jones*, 317 F. Supp. 397 (S.D. Ga. 1970) (indicating age is a cognizable class) with *United States v. Allen*, 445 F.2d 849 (5th Cir. 1971) (age is not a cognizable class) and *United States v. Kuhn*, 441 F.2d 179 (5th Cir. 1971) (age is not a cognizable class). Application of traditional standards of cognizability to the available evidence leads to the conclusion that young people constitute a cognizable class. See JURY SYSTEM, *supra* note 1, at 12-13; JURY SELECTION PROCEDURES, *supra* note 4, at 35-39.

37. The principle was suggested in *Smith v. Texas*, 311 U.S. 128 (1940). It has been traced back as far as Tudor England. See I. HOLDSWORTHY, A HISTORY OF ENGLISH LAW 339-47 (1956); Note, *The "Blue-Ribbon" Jury*, 60 HARV. L. REV. 613 (1947). The Magna Carta, Chp. 39, guaranteed a jury of one's peers, which meant a jury of persons from the same class, legal status, or caste as the accused. See W. MCKECHNIE, MAGNA CARTA 378 (2nd ed. 1914) (the "peers of a Crown tenant were his fellow Crown tenants"). See also *Labat v. Bennett*, 365 F.2d 698, 711 (5th Cir.) (en banc), cert. denied, 386 U.S. 991 (1966); 4 BLACKSTONE COMMENTARIES 349 (Tucker 1803). The *Strauder* Court clearly had this tradition in mind:

The very idea of a jury is a body of men composed of the peers or equals of the persons whose rights it is selected or summoned to determine: that is, of his neighbors, fellows, associates, persons having the same legal status in society as that which he holds.

100 U.S. at 308.

38. 328 U.S. 217, 220 (1946). Unless the jury represents a cross-section, the Court noted, there is a danger that it will become "the instrument of the economically and socially privileged" and representative of "narrow class interests." *Id.* at 223-24.

39. *Id.* at 219.

40. *Taylor v. Louisiana*, 419 U.S. 522 (1975); *Alexander v. Louisiana*, 405 U.S. 625 (1972); *Turner v. Fouche*, 396 U.S. 346 (1970); *Carter v. Jury Comm'n*, 396 U.S. 320 (1970); *Witherspoon v. Illinois*, 391 U.S. 510 (1968); *Glasser v. United States*, 315 U.S. 60 (1942) (federal jury); *United States v. Zirpolo*, 450 F.2d 424 (3d Cir. 1971); *Broadway v. Culpepper*, 439 F.2d 1253 (5th Cir. 1971); *Salary v. Wilson*, 415 F.2d 467 (5th Cir. 1969); *Witcher v. Peyton*, 405 F.2d 725 (4th Cir. 1969) ("[t]here is a constitutional right to a jury drawn from a group which represents a cross-section of the community. And a cross-section of the community includes persons with varying degrees of training and intelligence and with varying economic and social positions. . . . It is a democratic institution" *Id.* at 727); *Labat v. Bennett*, 365 F.2d 698 (5th Cir.) (en banc), cert. denied, 386 U.S. 991 (1966); *Dow v. Carnegie-Illinois Steel Corp.*, 224 F.2d 414 (3d Cir. 1955) (federal jury); *King v. Cook*, 298 F. Supp. 584 (N.D. Miss. 1969); *Love v. McGee*, 297 F. Supp. 1314 (S.D. Miss. 1968); *Allen v. State*, 110 Ga.

The representativeness principle furthers important societal interests in addition to the right of litigants to a fair trial and the right of citizens to serve on juries.⁴¹ The concept of the jury as representative of a cross section of the community has long been linked both to notions of representative government and democracy and to the constitutional guarantees of due process, equal protection, and trial by an impartial jury.⁴² The jury provides a vehicle for direct citizen participation in an arena otherwise dominated by professional advocates and government officials. In criminal cases, the jury performs a protective function, interposing a group of citizens between an accused and the punitive mechanism of the state.⁴³ Thus the representative, popular character of the jury lends legitimacy, integrity, and impartiality⁴⁴ to the judicial process.⁴⁵ A lack of representativeness tends to compromise the jury as an institution and to undermine the judicial process.⁴⁶ The

App. 56, 137 S.E.2d 711 (1964); *Michigan v. Viera*, Nos. A-152-598 and A-152-697, Records Ct. for the City of Detroit (April 30, 1970).

41. The Court has approved affirmative civil suits by members of an underrepresented group to vindicate their right to serve as jurors. *Turner v. Fouche*, 396 U.S. 346 (1970); *Carter v. Jury Comm'n*, 396 U.S. 320 (1970). Other affirmative actions have been successful. *Salary v. Wilson*, 415 F.2d 467 (5th Cir. 1969); *Love v. McGee*, 297 F. Supp. 1314 (S.D. Miss. 1968); and *White v. Crook*, 251 F. Supp. 401 (M.D. Ala. 1966) (three-judge court).

42. *Taylor v. Louisiana*, 419 U.S. 522 (1975); *Thiel v. Southern Pacific Co.*, 328 U.S. 217 (1946). In *Smith v. Texas*, 311 U.S. 128 (1940) the Court said:

For racial discrimination to result in the exclusion from jury service of otherwise qualified groups not only violates our Constitution and the laws enacted under it but is at war with our basic concepts of democratic society and a representative government.

Id. at 130. See also *Fay v. New York*, 332 U.S. 261, 299 (1947) (Murphy, J., dissenting); *Glasser v. United States*, 315 U.S. 60 (1942).

43. *E.g.*, *Duncan v. Louisiana*, 391 U.S. 145, 155-56 (1968).

44. Cross-sectional jury systems yield impartiality in the only sense that concept can have real meaning concerning the pool from which the jury is to be drawn. No one is without attitudes and preferences concerning various social, political, economic, cultural and religious issues, and such attitudes and preferences affect one's judgment and perception regarding factual and legal questions and the credibility of witnesses. Cross-sectionality yields impartiality in the sense that, at least before cause and peremptory challenges, the wide variety of attitudes and life experience in the community are represented and the particular perspectives of any particular group will be prevalent in proportion to that group's numbers in the population.

45. *E.g.*, *Taylor v. Louisiana*, 419 U.S. 522 (1975); *Thiel v. Southern Pacific Co.*, 328 U.S. 217 (1946). See Note, *The Case for Black Juries*, 79 YALE L.J. 531 (1970).

46. *Taylor v. Louisiana*, 419 U.S. 522 (1975); *Thiel v. Southern Pacific Co.*, 328 U.S. 217 (1946). In *Taylor*, the Court said:

The purpose of a jury is to guard against the exercise of arbitrary power—to make available the commonsense judgment of the community as a hedge against the overzealous or mistaken prosecutor and in preference to the professional or perhaps over-conditioned or biased response of a judge. *Duncan v. Louisiana*, 391 U.S. at 155-156. . . . This prophylactic vehicle is not provided if the jury pool is made up of only special segments of the populace or if large, distinctive groups are excluded from the pool. Community participation in the administration of the criminal law, moreover, is not only consistent

Court has uniformly ruled since 1940 that the right to representativeness is fundamental,⁴⁷ comparable in importance to the right to vote,⁴⁸ and cannot be "overcome on merely rational grounds."⁴⁹

Nevertheless, standards governing challenges to jury selection systems have usually been formulated in terms of prohibiting discrimination⁵⁰ rather than requiring representativeness. This theoretical choice has significant consequences. If discrimination is the focus, the actions, intent, and perhaps even motives of selection officials are crucial in determining the validity of the selection system. If representativeness is the guiding principle, state and federal governments have a duty to provide representative sources and pools, and the presence or absence of discriminatory intent is irrelevant.

This distinction is unimportant when the challenger proves actual discrimination, for then a violation of both principles has been established. When the challenger has proved "systematic" or "intentional" discrimination by selection officials at any stage, the jury system is presumptively invalid even if the resulting disparity between the composition of the pool and the population is minimal⁵¹ or, in some cases, even

with our democratic heritage but is also critical to public confidence in the fairness of the criminal justice system. Restricting jury service to only special groups or excluding identifiable segments playing major roles in the community cannot be squared with the constitutional concept of jury trial. 'Trial by jury presupposes a jury drawn from a pool broadly representative of the community as well as impartial in a specific case. . . . [T]he broad representative character of the jury should be maintained, partly as assurance of a diffused impartiality and partly because sharing in the administration of justice is a phase of civil responsibility.' *Thiel v. Southern Pacific Co.* 328 U.S. 217, 227, . . . (Frankfurter, J., dissenting).

419 U.S. at 530-31.

47. *Taylor v. Louisiana*, 419 U.S. 522 (1975); *Carter v. Jury Comm'n*, 396 U.S. 320 (1970); *Turner v. Fouche*, 396 U.S. 346 (1970); *Smith v. Texas*, 311 U.S. 128 (1940). In *Taylor*, the Court said:

The unmistakable import of this Court's opinions, at least since 1940, *Smith v. Texas*, . . . and not repudiated by intervening decisions, is that the selection of a petit jury from a representative cross section of the community is an essential component of the Sixth Amendment right to a jury trial.

419 U.S. at 528.

48. *Carter v. Jury Comm'n*, 396 U.S. 320, 330 (1970).

49. *Taylor v. Louisiana*, 419 U.S. 522, 534 (1975).

50. *E.g.*, *Castaneda v. Partida*, 97 S. Ct. 1272 (1977); *Alexander v. Louisiana*, 405 U.S. 625 (1972); *Turner v. Fouche*, 396 U.S. 346 (1970); *Whitus v. Georgia*, 385 U.S. 545 (1967); *Hill v. Texas*, 316 U.S. 400 (1942).

51. *E.g.*, *Cassell v. Texas*, 339 U.S. 282 (1950); *Avery v. Georgia*, 345 U.S. 559 (1953); *Arnold v. North Carolina*, 376 U.S. 773 (1964); *People v. Attica Brothers*, 79 Misc. 2d 492, 359 N.Y.S.2d 699 (1974) (selection officials admitted that they discriminated against women in picking names from voter lists; the selection system was invalidated even though their purpose was to minimize administrative tasks since state law provided for a women's exemption which women often claimed). See also *Brooks v. Beto*, 366 F.2d 1, 22 n.40 (5th Cir. 1966); *Bell v. Southwell*, 376 F.2d 659 (5th Cir. 1967).

if there is no disparity.⁵² Thus in *Cassell v. Texas*⁵³ the Court invalidated a jury system in which there was a proportional limit on the number of blacks although the resulting disparity was not considered large and could be justified. In such cases, good faith or a nondiscriminatory purpose on the part of the selection officials does not save the jury system.⁵⁴ For example, where selection officials have intentionally chosen two men for every woman chosen, the selection system is invalid even though selection officials chose more men than women for administrative convenience since women usually ask to be excused.⁵⁵ These rules are considered to be well established.

There has been considerable confusion, however, when the challenger relies solely or mainly on proof of a significant disparity between the composition of the population and that of the source or pool.⁵⁶ Such proof establishes that the representativeness principle has been violated, but does not explain the reason for the unrepresentativeness or directly establish discriminatory actions, intent or motive on the part of selection officials.

In *Turner v. Fouche*, after finding that there was a substantial disparity, the Court stated that the challengers had "further demonstrated that the disparity originated, at least in part, at the one point in the selection process where jury commissioners invoked their subjective judgment rather than objective criteria."⁵⁷ In *Alexander v. Louisiana*, the Court stated that the challenger's prima facie case rested on proof of a substantial disparity and a "clear and easy opportunity for racial discrimination."⁵⁸ These decisions led to confusion as to whether proof of an opportunity to discriminate is a necessary element of a prima facie

52. In *Williams v. Georgia*, 349 U.S. 375 (1955), the Court invalidated a jury system based on "the system of selection and the resulting danger of abuse . . . and not an actual showing of discrimination on the basis of comparative numbers of Negroes and whites on the jury lists." *Id.* at 382.

53. 339 U.S. 282 (1950). Three independent grounds were urged by the challenger: the disparity, the imposition of a proportional limit on the number of blacks, and the failure of the "key men" to familiarize themselves with black people. The Court found the disparity insubstantial and justifiable but ruled that each of the remaining claims was sufficient to invalidate the jury system.

54. *Taylor v. Louisiana*, 419 U.S. 522 (1975); *Alexander v. Louisiana*, 405 U.S. 625 (1972); *Arnold v. North Carolina*, 376 U.S. 773 (1964); *Avery v. Georgia*, 345 U.S. 559 (1953); *Thiel v. Southern Pacific Co.*, 328 U.S. 217 (1946).

55. *United States v. Zirpolo*, 450 F.2d 424 (3d Cir. 1971); *People v. Attica Brothers*, 79 Misc. 2d 492, 359 N.Y.S.2d 699 (1974).

56. See the majority and dissenting opinions in *Castaneda v. Partida*, 97 S. Ct. 1272 (1977); *Taylor v. Louisiana*, 419 U.S. 522 (1975); *United States v. Test*, 550 F.2d 577 (10th Cir. 1976); *United States v. Jenkins*, 496 F.2d 57 (2d Cir. 1974), *cert. denied*, 420 U.S. 925 (1975); *Black v. Curb*, 422 F.2d 656 (5th Cir. 1970).

57. 396 U.S. 346, 360 (1970).

58. 405 U.S. 625, 630 (1972).

case based on a substantial disparity.⁵⁹ The most recent decision, *Castaneda v. Partida*,⁶⁰ indicates that it is not. The Court, while discussing the opportunities for discrimination inherent in the selection system, stated that proof of such opportunity merely "supports" the prima facie case established by proof of a substantial disparity.⁶¹ In *Partida*, the challenger proved that Mexican-Americans constituted 79.1% of the population and only 45.5% of the grand jurors.⁶² The source list for grand jurors was compiled by the "key man" system, in which "key" people select jurors from persons they know or hear about. This system presents officials with an obvious opportunity to discriminate. Nevertheless, the Court explicitly stated that the substantial disparity alone established a prima facie case:

[A] selection procedure that is susceptible to abuse or not racially neutral supports the presumption of discrimination raised by the statistical showing. . . . Once the defendant has shown substantial underrepresentation of his group, he has made out a *prima facie* case of discriminatory purpose, and the burden then shifts to the State to rebut that case.⁶³

59. In several early decisions, the opportunity to discriminate was an independent basis for invalidating a jury system and was usually analyzed in the framework of the systematic exclusion line of cases. *See, e.g., Williams v. Georgia*, 349 U.S. 375 (1955); *Avery v. Georgia*, 345 U.S. 559 (1953). Courts then began to view a prima facie case based on a substantial disparity as bolstered by proof of an opportunity to discriminate. *Alexander v. Louisiana*, 405 U.S. 625 (1972); *Turner v. Fouche*, 396 U.S. 346 (1970); *Sims v. Georgia*, 389 U.S. 404 (1967); *Whitus v. Georgia*, 385 U.S. 545 (1967); *Witcher v. Peyton*, 405 F.2d 725 (4th Cir. 1969); *Lampkin v. Smith*, 309 F. Supp. 1325 (N.D. Ga. 1970); *Love v. McGee*, 297 F. Supp. 1314 (S.D. Miss. 1968); *Bonds v. State*, 220 Tenn. 555, 421 S.E.2d 87 (1976).

If the disparity is substantial, there would seem to be little reason for requiring the challenger to prove that the opportunity to discriminate exists before the government must explain the disparity, for proof concerning the workings of the selection system would be presented as part of the government's rebuttal case. Moreover, where there is a substantial disparity that the government cannot explain, the selection system should not be validated simply because the challenger could not obtain proof of the defect or "opportunity" that led to the disparity. In any event, proof of an opportunity to discriminate, as discussed in the later cases, means only proof that the selection system affords selection officials the opportunity, at some stage, to exercise discretion in the selection of jurors.

60. 97 S. Ct. 1272 (1977).

61. *Id.* at 1280.

62. *Id.* at 1276.

63. *Id.* at 1280 (citations omitted). Justice Powell, dissenting, joined by Chief Justice Burger and Justice Rehnquist, would have held that proof of intent, not just a significant disparity, is necessary to a prima facie case and would have applied the reasoning of *Washington v. Davis*, 426 U.S. 229 (1976) and *Arlington Heights v. Metropolitan Hous. Dev. Corp.*, 97 S. Ct. 555 (1977). *Id.* at 1287-92. See note 64 *infra*. Justice Burger, dissenting, joined by Justices Powell and Rehnquist, would have required the challenger to prove a significant disparity based on figures for the eligible population. 97 S. Ct. at 1285-86. This would have had the effect of undercutting virtually all challenges to jury selection systems, since eligibility can at present be based

Although *Partida* makes it clear that proof of a significant disparity establishes a prima facie case,⁶⁴ the decision is based on the discrimination principle. The Supreme Court has consistently analyzed the substantial disparity cases in terms of the "rule of exclusion,"⁶⁵ which amounts to an amalgam of the discrimination and representativeness principles. A "significant" or "substantial" disparity is viewed as creating an inference of "systematic," "intentional" or "purposeful" discrimination.⁶⁶ But the challenger need not prove actual discrimination, lack of good faith or actual prejudice,⁶⁷ and the inference of discrimination

on such vague standards as "good character" and since eligible population figures are almost impossible to obtain. See *Juror Selection*, *supra* note 1, at 798-800.

64. It may be thought that recent decisions of the Supreme Court emphasizing the importance of intent as opposed to impact in discrimination cases tend to undercut these jury selection cases. In *Arlington Heights v. Metropolitan Hous. Dev. Corp.*, 97 S. Ct. 555 (1977), and *Washington v. Davis*, 426 U.S. 229 (1976), the Court, considering, respectively, zoning regulations and police hiring practices that had discriminatory impacts, emphasized the requirement of proof of a discriminatory intent or purpose. Unlike these cases, discrimination in jury selection involves not only the rights of people to serve as jurors but also the due process, equal protection and jury trial rights of litigants and the societal interest in representativeness. The Court has regarded the rights to serve on juries and to have cross-sectional juries as fundamental and compared them in importance to the right to vote. *Taylor v. Louisiana*, 419 U.S. 522 (1975); *Turner v. Fouche*, 396 U.S. 346 (1970); *Carter v. Jury Comm'n*, 396 U.S. 320 (1970). In *Taylor v. Louisiana*, 419 U.S. at 534, the Court said, "[t]he right to a proper jury cannot be overcome on merely rational grounds."

In *Arlington Heights*, the Court noted that "[s]ometimes a clear pattern, unexplainable on grounds other than race, emerges from the effect of the state action even when the governing legislation appears neutral on its face," citing, *inter alia*, *Yick Wo v. Hopkins*, 118 U.S. 356 (1886) and *Gomillion v. Lightfoot*, 364 U.S. 339 (1960). A footnote to this statement notes that several jury selection cases fall into this category and says:

Because of the nature of the jury selection task, however, we have permitted a finding of constitutional violation even when the statistical pattern does not approach the extremes of *Yick Wo* or *Gomillion*. See, e.g., *Turner v. Fouche*, 396 U.S. 346, 359 (1970); *Sims v. Georgia*, 389 U.S. 404, 407 (1967).

Id. at 5647 n.13. See also *Washington v. Davis*, 426 U.S. 229, 241. In *Partida*, the Court confirmed that jury selection cases are to be distinguished from the *Arlington Heights-Washington v. Davis* line of cases. 97 S. Ct. 1272, 1279.

65. See, e.g., *Castaneda v. Partida*, 97 S. Ct. 1272 (1977); *Alexander v. Louisiana*, 405 U.S. 625 (1972); *Turner v. Fouche*, 396 U.S. 346 (1970).

66. The idea behind the rule of exclusion is not at all complex. If a disparity is sufficiently large, then it is unlikely that it is due solely to chance or accident, and, in the absence of evidence to the contrary, one must conclude that racial or other class-related factors entered in the selection process.

Castaneda v. Partida, 97 S. Ct. 1272, 1280 n.13.

67. *Castaneda v. Partida*, 97 S. Ct. 1272 (1977); *Taylor v. Louisiana*, 419 U.S. 522 (1975); *Alexander v. Louisiana*, 405 U.S. 625 (1972); *Turner v. Fouche*, 396 U.S. 346 (1970); *Sims v. Georgia*, 389 U.S. 404 (1967); *Whitus v. Georgia*, 385 U.S. 545 (1967); *Cassell v. Texas*, 339 U.S. 282 (1950); *Smith v. Texas*, 311 U.S. 128 (1940); *Smith v. Yeager*, 465 F.2d 272 (3d Cir. 1972); *United States v. Zirpolo*, 450 F.2d 424 (3d Cir. 1971); *Black v. Curb*, 422 F.2d 656 (5th Cir. 1970); *Salary v. Wilson*, 415 F.2d 467 (5th Cir. 1969); *Witcher v. Peyton*, 405 F.2d 725 (4th Cir. 1969); *Pullum v. Greene*, 396 F.2d 251 (5th Cir. 1968); *Labat v. Bennett*, 365 F.2d 698 (5th Cir.

is not defeated by proof of a nondiscriminatory intent or purpose, but only by proof that the underrepresented group is less eligible or available for jury duty.⁶⁸ Thus, a substantial underrepresentation is viewed as proof of intentional discrimination, but proof that the discrimination was unintentional or was based on administrative feasibility⁶⁹ or some other nondiscriminatory purpose does not defeat the inference of intentional discrimination or save the jury system. The analysis is described in terms appropriate to the discrimination principle, but reaches the same result, indirectly, that an analysis based on the representativeness principle would yield directly.⁷⁰

Even if the results are the same, the use of discrimination terminology is undesirable because it obscures the true interests at stake, diverts attention to misleading issues such as intent, motive, and imputed malice, and provides a basis for validation of unrepresentative selection systems.⁷¹ The choice of the appropriate theoretical basis for

1966), *cert. denied*, 386 U.S. 991 (1967); *King v. Cook*, 298 F. Supp. 584 (N.D. Miss. 1969); *Love v. McGee*, 297 F. Supp. 1314 (S.D. Miss. 1968); *White v. Crook*, 251 F. Supp. 401 (M.D. Ala. 1966) (three-judge court).

68. Evidence that the underrepresented group is less eligible or available can be used to rebut a prima facie case, but a nondiscriminatory motive and denials of discrimination or intent to discriminate are insufficient. *Taylor v. Louisiana*, 419 U.S. 522 (1975); *Alexander v. Louisiana*, 405 U.S. 625, 631-32 (1972); *Turner v. Fouche*, 396 U.S. 346 (1970); *Whitus v. Georgia*, 385 U.S. 545 (1967); *Sims v. Georgia*, 389 U.S. 404 (1967); *Hernandez v. Texas*, 347 U.S. 475 (1954); *Cassell v. Texas*, 339 U.S. 282 (1950); *Norris v. Alabama*, 294 U.S. 587 (1935). For a general discussion see *Juror Selection*, *supra* note 1, at 779-80.

Rebuttal evidence of lower eligibility is only relevant at a stage in the process before which eligibility criteria have been applied; this usually is not the case concerning source lists. See *Castaneda v. Partida*, 97 S. Ct. 1272, 1276 n.8.

69. See *Taylor v. Louisiana*, 419 U.S. 522 (1975); *Thiel v. Southern Pacific Co.*, 328 U.S. 217 (1946); *United States v. Zirpolo*, 450 F.2d 424 (3d Cir. 1971).

70. One possible difference is that the representativeness principle can mean that selection officials have a duty to find eligible people in an underrepresented cognizable class even though they are less eligible proportionally than people not in that class. Aside from the possibility that there may not be enough eligible people in the class to provide them representation in proportion to their numbers in the population, this would eliminate the basis and need for a rebuttal case and the sole question would be representativeness.

71. The *Partida* decision is a good example of the problems that arise from use of the discrimination theory. The Court held that the substantial disparity established a prima facie case, but because the holding was based on an inference of discrimination, the intent and motives of selection officials were brought into question. The government argued, based on the discrimination theory, that the facts that Mexican-Americans were a "governing majority" in the community and there were many Mexican-Americans in official positions created a presumption that there was no discrimination, which rebutted or negated the presumption created by the substantial disparity inference. The majority rejected this argument, stating that "it would be unwise to presume as a matter of law that human beings of one definable group will not discriminate against other members of the group." 97 S. Ct. 1272, 1282. Justice Marshall, concurring, addressed this issue in detail, citing several studies on the matter, *id.* at 1283-85, and the four dis-

judicial decisions should be guided by an analysis of the underlying constitutional rights and societal interests. Though lack of access to governmental institutions by citizens in underrepresented groups has been analyzed in terms of discrimination in other contexts,⁷² the fundamental rights of litigants and the societal interests in the legitimacy, integrity and impartiality of the judicial process are inextricably tied to the principle of representativeness, regardless of the intent, purpose, or actions of selection officials.⁷³ The representativeness approach, by placing an affirmative duty on selection officials to provide representative jury pools, focuses on the actual interests underlying the jury system and is therefore preferable from an analytical viewpoint.

The apparent hesitance of the courts to frame standards directly based on the representativeness principle while, at the same time, repeatedly recognizing representativeness as the underlying constitutional requirement, is due in large part to the lack of concrete standards for determining representativeness. Courts are understandably reluctant to embrace an explicit representativeness standard when there is no accepted measure of representativeness or any clear definition of a substantial disparity. Parts II and III demonstrate that these practical objections to the representativeness principle can be met.

II

DETERMINING REPRESENTATIVENESS AND INCLUSIVENESS

A. *Standards of Representativeness*

Whether derived directly from the representativeness principle or

senters discussed the question at length and adopted the government's position, *id.* at 1285-92. Although there would seem to be no basis for the "governing majority" presumption, and it explains, at most, why one might expect that Mexican-Americans would be fully represented, not why they were grossly underrepresented, surely this theoretical debate of assumptions about racial behavior should be extraneous to the fundamental constitutional question.

72. See, e.g., *Arlington Heights v. Metropolitan Hous. Dev. Auth.*, 97 S. Ct. 555 (1977); *Washington v. Davis*, 426 U.S. 229 (1976); *Dunn v. Blumstein*, 405 U.S. 330 (1972). When such access involves a "fundamental right," an infringement is unconstitutional unless it is justified by a "compelling governmental interest" and there are no reasonable alternative methods for implementing the government's interest which do not infringe upon the right. *Id.*; *Shapiro v. Thompson*, 394 U.S. 618 (1969); *Harper v. Virginia State Bd. of Elections*, 383 U.S. 663 (1966); *DeGregory v. Attorney Gen.*, 383 U.S. 825 (1966); *NAACP v. Alabama*, 377 U.S. 228 (1964); *Shelton v. Tucker*, 364 U.S. 479 (1960). The Court has held that both the rights of citizens to access or participation, *Turner v. Fouche*, 396 U.S. 346 (1970); *Carter v. Jury Comm'n*, 396 U.S. 320 (1970); and the rights of litigants to representativeness, *Taylor v. Louisiana*, 419 U.S. 522 (1975), are fundamental, but the Court has never explicitly analyzed the jury cases in terms of the compelling governmental interest standard. This analysis would also lead to the conclusion that a substantial disparity creates a *prima facie* case that cannot be rebutted by proof of a nondiscriminatory intent or purpose or administrative needs.

73. See text accompanying notes 41-49 *supra*.

from the rule of exclusion, the guiding concept of cross-sectionality⁷⁴ is, by its nature, mathematically based. Concrete, appropriate standards must therefore reflect mathematical as well as legal principles. This does not mean that mathematics will yield one correct standard or replace legal analysis; there are a variety of mathematical formulations, and each can and should be evaluated by legal as well as mathematical principles. Indeed, mathematics can only formulate and translate into quantitative terms the guiding principles and assumptions determined by legal principles and analysis.

Establishment of concrete standards of representativeness requires that two distinct questions be resolved. First, a measure of representativeness must be adopted. Then, using that measure, a maximum allowable deviation must be established.

Four methods of measurement have most frequently been proposed.⁷⁵ The equations for these standards and various mathematical relationships are presented in the footnotes.⁷⁶ For the purpose of discussion and evaluation, each standard will be applied to a hypothetical jurisdiction⁷⁷ in which the source is the voter registration list and 30% of the 18 and over population is black, 20% of the voter registration list is black, 70% of the 18 and over whites are registered to vote, and 41% of the 18 and over blacks are registered.⁷⁸

1. *Absolute Disparity Standard.* This standard measures representativeness by the difference between the proportion of the popula-

74. We have referred to this concept herein interchangeably as representativeness or cross-sectionality, although this analysis concerns the substantial disparity rules whether based on the representativeness or discrimination principle.

75. See generally JURY SELECTION PROCEDURES, *supra* note 4, at 95-98; Foster Appendix, *supra* note 1; Juror Selection, *supra* note 1, at 785-97; Implementation in the Fifth Circuit, *supra* note 27; WORKS, *supra* note 27; Finkelstein, *The Application of Statistical Decision Theory to Jury Discrimination Cases*, 80 HARV. L. REV. 338 (1966).

76. The following notation has been used in presenting the relevant equations:

R_1, R_2 , etc. are used for the various standards of representativeness,

P = proportion of the population in the underrepresented category,

L = proportion of the source or pool in the underrepresented category,

A = proportion of the people in the overrepresented category on the source or pool, and

C = proportion of the people in the underrepresented category on the source or pool.

77. The data used in this hypothetical is fairly typical of some large urban areas. The four variables are interrelated as follows:

$$\frac{A}{C} = \frac{P(1-L)}{L(1-P)}.$$

Once three of these variables are specified, the fourth is mathematically determined. Thus, in the hypothetical, once it is specified that $P = .3$, $L = .2$, and $A = .7$, C must be .41.

78. The focus of this article is source lists, but the discussion and evaluation of these standards applies as well to jury pools.

tion and the source or pool that is in the underrepresented category.⁷⁰ Thus, in the hypothetical, the absolute disparity for blacks is 30% minus 20%, or 10%. The absolute disparity standard has been formally suggested with a maximum allowable disparity of 10-15%;⁸⁰ it has been used, without discussion or any specific maximum, by most courts.⁸¹

2. *Comparative Disparity Standard.* An elementary mathematical statement of the cross-sectional legal principle is that in a fair, cross-sectional system, the probability of any eligible person being included in the source (or in the final pool) would be the same for every eligible person, regardless of race, ethnic background, sex, age, or socio-economic status.⁸² The comparative disparity standard measures representativeness by the percentage by which the probability of serving is reduced for people in a particular category or cognizable class. This percentage is determined by the following calculation:

$$\frac{\text{Proportion of the population that is in the specified category} - \text{Proportion of the source that is in the specified category}}{\text{Proportion of the population that is in the specified category}} \times 100^{83}$$

The comparative disparity is the same as the absolute disparity divided by the proportion of the population that is in the specified category. In the hypothetical, the comparative disparity is

$$\frac{30\% - 20\%}{30\%} \times 100 = 33\%.$$

79. The absolute disparity, R_1 , is defined as

$$R_1 = P - L.$$

80. Henry D. Moore, Professor of Economics and Director of the Center for Business and Economics Research, University of Alabama, has made the suggestion of 10%. *WORKS*, *supra* note 27, at 108.

81. See, e.g., *Turner v. Fouche*, 396 U.S. 346 (1970); *Swain v. Alabama*, 380 U.S. 202 (1965); *Smith v. Yeager*, 465 F.2d 272 (3d Cir. 1972); *Black v. Curb*, 464 F.2d 165 (5th Cir. 1972); *Sanford v. Hutto*, 394 F. Supp. 1278 (E.D. Ark.), *aff'd.*, 523 F.2d 1383 (8th Cir. 1975). An absolute disparity of 10% was referred to in *Swain* as a minimal showing to support a challenge, 380 U.S. at 208-09. Later decisions of the Court do not apply or mention this requirement. See note 181 *infra*.

82. This probability would be

$$\frac{1}{\text{(eligible population)}}.$$

83. The comparative disparity, R_2 , is defined as

$$R_2 = \frac{P - L}{P}.$$

This means that an eligible black person has 33%, or one-third, less chance of being included than the average person.⁸⁴

The comparative disparity or reduced probability of serving standard has been used, without a specified maximum, by several courts.⁸⁵ The courts using this measure of representativeness have not discussed their basis for adopting it and appear to have done so intuitively.

3. *Proportion of Eligibles Standard.* The proportion of eligibles standard is calculated as follows:

$$\frac{\frac{\text{Proportion of eligibles in the overrepresented category included}}{\text{Proportion of eligibles in the underrepresented category included}}}{\text{Proportion of eligibles in the overrepresented category included}} \times 100.^{86}$$

In the hypothetical, this is

$$\frac{70\% - 41\%}{70\%} \times 100 = 41.3\%.$$

This standard has been used by one court,⁸⁷ and the U.S. Civil Rights Commission has recommended its use with an allowable maximum of 20%.⁸⁸

The comparative disparity and proportion of eligibles standards are directly related.⁸⁹ Because several courts have used the compara-

84. The relationship between the comparative disparity for a group (R_2) and the total proportion of the group not included (D) is

$$(1 - D) = \frac{M}{N} (1 - R_2),$$

where M is the number of people in the source or pool, N is the number of people in the population, and $\frac{M}{N}$ is what we have defined as the inclusiveness of the source or pool.

85. *E.g.*, *Alexander v. Louisiana*, 405 U.S. 625, 629-30 (1972) (referring to both the absolute and comparative disparities without comment); *United States v. Goff*, 509 F.2d 825 (5th Cir. 1975), *cert. denied*, 423 U.S. 857 (1975); *Stephens v. Cox*, 449 F.2d 657 (4th Cir. 1971); *Quadra v. Superior Court*, 403 F. Supp. 486 (N.D. Cal. 1975); *Ford v. Hollowell*, 385 F. Supp. 1392 (N.D. Miss. 1974).

86. The proportion of eligibles, R_3 , is defined as

$$R_3 = \frac{A - C}{A} = \frac{P - L}{P(1 - L)}.$$

87. *United States v. McDaniels*, 370 F. Supp. 298 (E.D. La. 1973), *aff'd*, 509 F.2d 825, *cert. denied*, 423 U.S. 857 (1975).

88. Staff Memorandum, Office of General Counsel, U.S. Commission on Civil Rights, *Assuring a Fair Racial Cross Section in the Selection of Jurors Under the Jury Selection and Service Act of 1968* (1969), at 3, cited in *WORKS*, *supra* note 27, at 105 n. 12.

89. The proportion of eligibles standard is equal to the comparative disparity divided by the proportion of the source that is in the overrepresented category, or

tive disparity standard and found it intuitively understandable and applicable, and because the comparative disparity is a direct measure of the reduced probability of serving, the proportion of eligibles standard is not further considered in this analysis.

4. *Statistical Significance Test.* The statistical significance test measures representativeness by calculating the probability of the disparity occurring by chance in a random drawing from the population.⁹⁰ If that probability is very low, the conclusion is drawn that the disparity is not the result of chance but results from bias or discrimination. The cutoff probability used in most industrial and scientific applications is 5%.⁹¹

The statistical significance test depends on the number of people in the sample drawn from the source or pool as well as its proportional makeup, and it has been criticized in the scientific literature on this ground.⁹² In the hypothetical, with a sample size of 500, the probability or odds of obtaining a sample of 500 that is 20% black by picking randomly from a population that is 30% black is less than 1 out of 1,000,000.⁹³ Since a probability of less than 1 out of 1,000,000 is less than 5% (or 1 out of 20), the conclusion is drawn that the selection system discriminates against blacks.

$$R_3 = \frac{R_2}{(1 - L)}$$

If the overrepresented group is a very large proportion of the source or pool, the two standards are almost equal. However, if the overrepresented group is one-half of the source or pool, the proportion of eligibles would be double the comparative disparity.

90. The statistical significance test probability, R_4 , is determined from a normal distribution table from z , where

$$z = \frac{(P - L)\sqrt{n}}{\sqrt{P(1 - P)}}$$

n is the size of the sample from the source or pool.

91. M. DEGROOT, *PROBABILITY AND STATISTICS* 380 (1975).

92. See, e.g., D. MORRISON & R. HENKEL, *THE SIGNIFICANCE TEST CONTROVERSY: A READER* (1970); H. RAIFFA & R. SCHLAIFER, *APPLIED STATISTICAL DECISION THEORY* vii (1961) ("In most statistical practice, consequences and performance characteristics receive mere lip service while decisions are actually made by treating the numbers .05 and .95 with the same superstitious awe that is usually reserved for the number 13."); M. DEGROOT, *PROBABILITY AND STATISTICS* 380-81 (1975); Kadane, Book Review, 68 J. AM. STATISTICAL ASSOC. 1025 (1973).

93.

$$z = \frac{[.3 - .2]\sqrt{500}}{\sqrt{.3(1 - .3)}} = 4.88$$

Using NATIONAL BUREAU OF STANDARDS, *THE TABLES OF PROBABILITY FUNCTIONS*, APPLIED MATHEMATICS SERIES, No. 23 (1953), this translates into a probability of 5.5×10^{-7} , or less than one in a million.

The statistical significance test has been adopted by the courts in employment discrimination cases⁹⁴ and has been suggested as a standard for representativeness of jury sources and pools.⁹⁵ Although no court has adopted it in the jury selection context, the Supreme Court has referred to the probability of obtaining disparities by chance.⁹⁶

B. *Selecting a Standard of Representativeness*

Careful analysis of the proposed standards from both a mathematical and a legal standpoint shows that the comparative disparity method is clearly superior to the others.

The absolute disparity standard is objectionable on both legal and mathematical grounds, because it fails to account for the range at which the disparity occurs.⁹⁷ For example, an absolute disparity of 10% in a jurisdiction that is 30% black is quite different from the same absolute disparity in a jurisdiction that is 11% black. In the jurisdiction that is 30% black, a 10% absolute disparity means that the eligible black person has 33% less chance of serving than the average eligible person, while in the jurisdiction that is 11% black, the same absolute disparity means that the eligible black person has 91% less chance of serving. This difference is, of course, legally significant as well: in the 11% black jurisdiction, the 10% absolute disparity amounts to almost total exclusion of black people.⁹⁸ The absolute disparity standard

94. *E.g.*, *Pennsylvania v. O'Neill*, 473 F.2d 1029 (3d Cir. 1973); *Chance v. Board of Examiners*, 330 F. Supp. 203 (S.D.N.Y. 1971), *aff'd.*, 458 F.2d 1167 (2d Cir. 1972).

95. Finkelstein, *The Application of Statistical Decision Theory to Jury Discrimination Cases*, 80 HARV. L. REV. 338 (1966); *Juror Selection*, *supra* note 1, at 785-97; Report of B.R. Stauber to the Federal Judicial Center (1973), discussed in Foster Appendix, *supra* note 1, at 818.

96. *Castaneda v. Partida*, 97 S. Ct. 1272, 1281 n.17 (1977); *Alexander v. Louisiana*, 405 U.S. 625, 630 n.9 (1972); *Whitus v. Georgia*, 385 U.S. 545, 552 n.2 (1967). Every court that has been presented with evidence concerning this test has admitted and considered the evidence. *E.g.*, *State v. Little*, No. 74 Cr. 4167 (Super. Ct. of Beauford County, N.C. 1975); *People v. Attica Brothers*, 79 Misc. 2d 492, 359 N.Y.S.2d 699 (1974); *United States v. Saxe*, Crim. No. 75-236 U.S.D.C. (E.D. Pa. 1976); *United States v. Briggs*, 366 F. Supp. 1365 (N.D. Fla. 1973).

97. See *Juror Selection*, *supra* note 1, at 786.

98. One court has noted this deficiency of the absolute disparity standard:

[The comparative disparity] is useful because the importance of a difference of a given amount, for example, 10%, varies depending upon the magnitude of the group's representation in the population. [An absolute] disparity of 10% constitutes a far more significant underrepresentation when the group comprises 12% of the population but only 2% of the grand jury (—83% [comparative disparity]) than when the group comprises 60% of the population but only 50% of the grand jury (—20% [comparative disparity]) [*sic*; this should be —17%].

Quadra v. Superior Court, 403 F. Supp. 486, 495 n.9 (N.D. Cal. 1975).

yields the same result in situations in which the results clearly should differ.⁹⁹

The statistical significance test, while it accounts for the range of the disparity, involves complicated calculations resulting in answers that are difficult to visualize and to evaluate.¹⁰⁰ Moreover, since the calculated probability is greatly reduced by increasing the size of the sample from the source or pool, the result is significantly affected by the choice of sample size.¹⁰¹ Even with moderate sample sizes, small disparities result in very low probabilities.¹⁰²

The comparative disparity standard is not subject to the difficulties of the other two standards. Because it measures the reduced probabil-

99. With the suggested 10% absolute disparity standard, an 11% black population and a source or pool that is 1% black would not be impermissible.

100. See cases cited note 96 *supra*. For example, the three probabilities referred to by the Supreme Court were 1 out of 10¹⁴⁰ in *Partida*, 1 out of 20,000 in *Alexander*, and .000006 (6 out of 1,000,000) in *Whitus*. It is clear that all of these probabilities are quite small, and that provides useful information, but evaluation and differentiation between them is difficult. The choice of a cutoff point in terms of this probability would be difficult to evaluate or visualize.

101. The statistical significance test calculates the probability of randomly drawing a sample of size n that is $x\%$ (or less) black from a source or pool that is $y\%$ black, not the probability of obtaining the disparity. Thus, in the hypothetical, it calculates the probability of randomly drawing n people, 20% of whom are black, from a source or pool that is 30% black (if that probability is very low, the hypothesis that the source or pool is 30% black is rejected). As n is increased, it is less likely that a random drawing would yield only 20% blacks. For example, if $n = 50$, the probability is about 6 out of 100; if $n = 500$, the probability is about 1 out of 1,000,000; and if $n = 5,000$, the probability is about 8 out of 10⁵⁴. If all of the source or pool is sampled, the probability of obtaining 20% blacks (or any percentage other than 30%) is zero. In this sense, the significance test tells us that there is a disparity without really providing any information concerning how big or substantial the disparity is and suffers from the contradiction that its results can be less revealing the more information (from a larger sample) we have.

The problem of sample size is not as acute in employment discrimination cases. There, tests of significance have been used to assess whether a group of individuals, such as those hired by a particular company, represent a random sample of people qualified for employment. If the probability of obtaining the composition actually hired by the company is very low, the conclusion is drawn that the company discriminated. See authorities cited note 94 *supra*. The dependence of this method on the sample size is less important because the sample size is the number of people hired and is typically small. This use of significance tests is inappropriate for assessing jury sources or pools. The source is not the result of a drawing from the population but a list or combination of lists compiled for other purposes and by other means, and the pool is the result of a drawing from the source. Moreover, if the composition of the source or pool is known exactly, as it must be for this type of significance test, the relevant question is whether the source or pool provides an adequate cross section of the community, not whether it is a random sample of the community. A standard of cross-sectionality, like the comparative disparity, is needed to address and resolve this question appropriately.

102. For example, the probability of randomly drawing a sample of 2,000 that is 28% black from a source or pool that is 30% black is .026 (about half of the commonly used 5% cutoff).

ity of serving for prospective jurors in a particular category, its results are not affected by the size of the sample or the proportion of the population in the specified category. Moreover, the comparative disparity standard can be easily calculated, readily understood, and consistently interpreted.¹⁰³

Judge Walter P. Gewin of the Fifth Circuit Court of Appeals, who has written extensively on this matter,¹⁰⁴ recognizes the deficiencies of the absolute disparity standard, the problems involved with use of statistical significance tests, and the advisability of the comparative disparity standard.¹⁰⁵ He does not, however, believe that the comparative

103. In using the comparative disparity standard, although the sample size does not affect the result, care should be taken that the sample size is large enough so the comparative disparity is reliably determined. The sample size necessary to insure any given degree of accuracy can be calculated. This is done by first stipulating an error, e , and a probability of that error occurring, p . Then, assuming the comparative disparity, R_2 has a normal distribution (an assumption supported in statistical theory by the central limit theorem), the sample size, n , necessary to have a probability of $(1 - p)$ that R_2 is between $R_2 + e$ and $R_2 - e$, is calculated as follows:

$$n \geq \frac{\left[\frac{z}{e} \right]^2 \left[\frac{L(1-L)}{p^2} \right]}{1 + \frac{\left[\frac{z}{e} \right]^2 \left[\frac{L(1-L)}{p^2} \right]}{M}}$$

where,

L = proportion of the source or pool with the specified characteristic,

P = proportion of the population with the specified characteristic,

M = size of the source or pool, and

z = a constant calculated from the normal distribution and dependent on p (specifically, it is the $(1 - p/2) \times 100$ percentile of the standard normal distribution).

Since L is not known before the sample is taken, it must be estimated based on an initial sample. An initial sample of about 100 will provide a sufficiently accurate estimate of L . The following table presents some sample calculations of n for an example where $L(1-L)$

$= 1$ and $p = .10$:

e (error)	M (size of source or pool)		
	5,000	100,000	∞
$\pm .01$	4,220	21,297	27,060
$\pm .015$	3,532	10,736	12,027
$\pm .02$	2,875	6,337	6,765
$\pm .05$	890	1,071	1,082

This means, for example, that with a source or pool of 100,000 and a sample of 21,297 that results in $R_2 = 15\%$, we are 90% sure that R_2 is between 14% and 16%.

104. See Foster Appendix, *supra* note 1; WORKS, *supra* note 27; Implementation in the Fifth Circuit, *supra* note 27.

105. See Foster Appendix, *supra* note 1, at 818-19, 834-45; WORKS, *supra* note 27,

disparity standard should be applied where the cognizable class is a very small percentage of the population.¹⁰⁶ For example, where blacks are 4% of the population and 2% of the source or pool, the comparative disparity is 50%. This is a large comparative disparity, although the resulting number of blacks who will not appear on jury panels because of this disparity is small. On a panel of 50 jurors, there should be 4%, or 2, blacks, but because of the disparity, there is 2%, or 1, black. Since the disparity results in a difference of only one black person out of 50 on the panel, this argument goes, it is insignificant and harmless.¹⁰⁷ Judge Gewin would apply the comparative disparity standard except when the cognizable class is a very small percentage of the population, in which case the absolute disparity standard would be applied.¹⁰⁸

This suggestion would have the effect of applying the absolute disparity standard in the range where it is least revealing or appropriate. Moreover, application of the absolute disparity standard where the cognizable class is small means that almost all underrepresentations of small and medium-sized minorities—even total exclusions—are validated,¹⁰⁹ for by definition, a small minority can never have a large absolute disparity. If the maximum allowable absolute disparity is 10%, total exclusion of a 9% minority is permissible.¹¹⁰ Even if the Constitution will tolerate discrimination against or underrepresentation of small or medium-sized minorities as opposed to large minorities,¹¹¹ the absolute disparity standard is inappropriate. A preferable test would be to apply a larger maximum comparative disparity to the small minority.¹¹²

at 107-9. See also JURY SELECTION PROCEDURES, *supra* note 4, at 92-98 (referring to the comparative disparity as the "rate of error"; "the comparative method is more revealing of the success of a selection scheme in achieving—or failing to achieve—the goal of producing a representative jury").

106. Foster Appendix, *supra* note 1, at 834-45.

107. Even only one minority person on the panel can hardly be considered insignificant, in practical as well as constitutional terms, particularly where one of the litigants is also in that minority. See note 133 *infra*.

108. Foster Appendix, *supra* note 1, at 835. Judge Gewin does not suggest where the line between large and small cognizable classes should be drawn.

109. See JURY SELECTION PROCEDURES, *supra* note 4, at 96-98.

110. Use of the absolute disparity standard for small minorities means that total exclusion of any minority that is smaller than the maximum allowable absolute disparity would be permissible.

111. See text accompanying notes 132-35 *infra*.

112. A 15% maximum comparative disparity has been advocated here. If the harmless error reasoning is adopted as to small minorities, a 25% maximum comparative disparity could be applied to cognizable classes that are less than 10% of the population. See JURY SELECTION PROCEDURES, *supra* note 4, at 98.

A continuous but not as easily comprehensible measure of representativeness that

The comparative disparity standard is a clear, easily understood and used, and conceptually valid measure of representativeness. Its adoption would fill a long standing vacuum and provide the courts with a workable standard for determining representativeness. Adoption of a standard for determining representativeness will not, however, alone insure the rights of litigants or define the duties of selection officials. A maximum allowable underrepresentation, a numerical cutoff beyond which a jury system loses its presumption of validity, must be established. Otherwise, inconsistent application of the comparative disparity standard could further erode the fundamental constitutional (and statutory) principle of representativeness.

The occasions on which establishment of workable standards for safeguarding constitutional rights requires the adoption of a precise numerical cutoff point are not frequent. Yet the Court has established precise numerical standards when defining constitutional rights concerning jury trials,¹¹³ voting requirements¹¹⁴ and privacy.¹¹⁵ In each

gives any given comparative disparity less significance the smaller the underrepresented group's proportion of the population is

$$R_g = \frac{L(1 - P)}{P(1 - L)}$$

R_g is the ratio of the odds of drawing a person in the underrepresented group from the source or pool, $\frac{L}{(1 - L)}$, to the odds of drawing a person in the underrepresented group from the population, $\frac{P}{(1 - P)}$. Also, $R_g = A/C$.

113. In *Duncan v. Louisiana*, 391 U.S. 145 (1968), the Court ruled that there is a right to a jury trial where the accused is charged with a "serious" as opposed to a "petty" offense. The accused in *Duncan* was charged with assault, which had a two-year maximum sentence. The Court ruled that this was a "serious" offense, but no further guidance was provided as to the line between "serious" and "petty." In *Baldwin v. New York*, 399 U.S. 66 (1970), the Court adopted the length of the maximum authorized penalty as the controlling criterion in drawing a line between petty and serious for purposes of the sixth amendment, setting six months as the maximum allowable penalty for nonjury trials. In drawing this precise line, the Court examined the practice in the various states, analyzed, as precisely as possible, the constitutional right and state interest involved, and adopted a numerical cutoff. See also *Bloom v. Illinois*, 391 U.S. 194 (1968) (an accused charged with criminal contempt has a right to a jury trial if the sentence imposed is greater than six months); *Codispoti v. Pennsylvania*, 418 U.S. 506 (1974) (consecutive sentences totalling more than six months for multiple criminal contempts arising from one trial require a right to a jury trial).

114. Residency requirements for voting pose a conflict between the citizen's constitutional right to vote and the state's interest in preparing and maintaining appropriate records to protect against fraud. The Court established a maximum allowable residency requirement of 50 days. *Burns v. Forsten*, 410 U.S. 686 (1973); *Marston v. Lewis*, 410 U.S. 679 (1973). See also *Dunn v. Blumstein*, 405 U.S. 330 (1972).

115. In the abortion cases, *Roe v. Wade*, 410 U.S. 113 (1973), the Court found a conflict between a woman's right to privacy concerning the abortion decision and the state's interest in protecting the health of pregnant women. The Court analyzed these

instance, the Court has analyzed the conflicting rights and interests involved and used available expertise to draw as accurate a line as possible. The right to a representative jury embodies a cross-sectional principle that is itself mathematically based, making it impossible to protect that right or define its limits without establishing a maximum allowable underrepresentation.

Determining how large an underrepresentation should be allowed before a *prima facie* case of invalidity is established involves determining a level at which the government is required to justify the disparity in representation of a cognizable group.¹¹⁶ For example, if the selected figure were 15%, the government would have to justify the comparative disparity of 33% in the hypothetical. If the selected figure were 35%, no justification need be made.

There is, of course, no legitimate governmental interest in unrepresentativeness, but the ease and costs of increasing representativeness should be considered¹¹⁷ in setting a standard¹¹⁸. The representativeness of sources can be increased by the use of multiple lists, which is the method already provided for in the Federal Act¹¹⁹ and the Uniform Act.¹²⁰ Easy and inexpensive methods for use of multiple lists are presented in this article;¹²¹ they are presently used in several jurisdictions.¹²² These methods can provide, at small cost, sources that are within a 5% comparative disparity concerning every cognizable class.

rights and interests, examined the available medical evidence, and concluded that a woman has a right to an abortion during the first trimester of pregnancy.

116. Under the rule of exclusion, the basis for rebuttal is a showing that the underrepresented group is less eligible or available. The representativeness principle may mean that there is no basis for rebuttal. See notes 68 & 70 *supra*.

117. In *Taylor v. Louisiana*, the Court said,

... the administrative convenience in dealing with women as a class is insufficient justification for diluting the quality of community judgment represented by the jury in criminal trials.

419 U.S. 522, 535 (1975).

118. The ease and expense involved were seen as important considerations by the framers of the Federal Act. Foster Appendix, *supra* note 1, at 816; *Implementation in the Fifth Circuit*, *supra* note 27, at 383. Judge Gewin, who was a member of the Committee on the Operation of the Jury System of the Judicial Conference of the United States, has said:

[S]ubstantiality with regard to relatively small disparities had to be defined in terms of the practicalities of the circumstances. Thus a disparity which could be eliminated easily and effectively would tend to appear more substantial; and, conversely, a disparity which would be difficult to eliminate would tend to appear less substantial. This working definition of substantiality would, of course, have to be applied so as to place any error on the side of safety.

Id. (footnotes omitted).

119. 28 U.S.C. § 1863(b)(2) (1968).

120. UNIFORM ACT, *supra* note 9, § 5.

121. See text accompanying notes 218-49 *infra*.

122. See Table E *infra*.

The available nationwide data indicates that most systems are within a 10-15% comparative disparity concerning all or most cognizable classes without using multiple lists.¹²³

Since the available methodology for increasing representativeness is widely used and not prohibitively expensive, there seems to be no legitimate reason to allow more than a 15% comparative disparity for any cognizable class before the government must at least justify the disparity.¹²⁴

*C. The "Substantial Impact" Test: A Source
of Judicial Confusion*

Recently, a new rule, the "substantial impact" test, has been adopted by the Tenth Circuit in *United States v. Test*,¹²⁵ the Second Circuit in *United States v. Jenkins*,¹²⁶ and the Fifth Circuit in *United States v. Goff*.¹²⁷ In *Jenkins*, blacks were approximately 5.5% of the voting age population and 3.3% of the voter registration list.¹²⁸ The court referred to both the absolute disparity, 2.2%, and the comparative disparity, 40%, which the court noted was "substantial indeed."¹²⁹ Nevertheless, the court held that this disparity was insubstantial in terms of the number of blacks it eliminated from a panel of 60 jurors. Thus, if there were 5.5% blacks instead of 3.3%, a panel of 60 jurors would have 2.2% of 60, or 1.32, additional black jurors. The court then held that "a difference of one (1) Negro in a panel of 60 jurors is not substantial," and ruled, on this basis, that a *prima facie* case had

123. See Table C *infra*. For example, the nationwide data indicates that there was a comparative disparity concerning black people of 11.7% in 1974 and 9.4% in 1972.

124. The Civil Rights Commission has suggested a 20% maximum in terms of the proportion of eligibles standard. WORKS, *supra* note 24, at 105 n.12. This is directly related to the comparative disparity standard, and the values are close where the proportion of the source or pool in the overrepresented group is large. See note 89 *supra*. In JURY SELECTION PROCEDURES, *supra* note 4, at 98, a maximum allowable comparative disparity of 20% is recommended based on the Civil Rights Commission suggestion (without noting the difference between the comparative disparity and proportion of eligibles standards).

"The essential if not wholly satisfactory [task] of determining the line," Baldwin v. New York, 399 U.S. 66, 68 (1970), involves a value judgment and a balancing of interests that cannot be accomplished by mathematics. We have placed a high value on representativeness while allowing leeway for administrative feasibility. Selection systems within a 15% comparative disparity as to all cognizable classes are not difficult or expensive to accomplish.

125. 550 F.2d 577 (10th Cir. 1976).

126. 496 F.2d 57 (2d Cir. 1974).

127. 509 F.2d 825 (5th Cir. 1975).

128. 496 F.2d 57, 64 (2d Cir. 1974).

129. *Id.* at 64-65. The court did not calculate the comparative disparity, 40%, but referred to a "ratio of roughly 5 to 3," which is another way of saying the same thing.

not been established.¹³⁰ The same calculations were made in *Goff* (concerning a minority that constituted over a quarter of the population) and *Test*, with similar results and the same conclusion. The data concerning all three cases are presented in Table A.

Table A
Disparities in *Jenkins*, *Test* and *Goff* Cases

Case and group underrepresented	Proportion of Population (%)	Proportion of voter registration list (source) (%)	Absolute disparity (%)	"Impact"	Comparative disparity of source (%)
<i>Jenkins</i> (blacks)	5.5	3.3	2.2	1 (of 60)	40.0
<i>Test</i> (Chicanos)	10.4	6.9	3.5	2 (of 50)	33.7
<i>Goff</i> (blacks)	26.3	21.0	5.3	1 (of 23)	20.2

Although the "substantial impact" rule purports to shed some light beyond the substantiality of the absolute and comparative disparities, it is in fact just another way of expressing the absolute disparity. The "impact" is just the absolute disparity times the size of the panel. Thus, if a panel has 60 jurors, an absolute disparity of 10% is the same as an "impact" of 6, an absolute disparity of 2.2% is the same as an "impact" of 1.32, and so on. And since it adds another variable, the size of the panel, it confuses rather than enlightens. For example, the *Jenkins* court found insubstantial an "impact" of one juror on a panel of 60 and the *Goff* court found insubstantial an "impact" of one juror on a grand jury of 23. The smaller the panel, the smaller the "impact" of a given absolute disparity.¹³¹ The "substantial impact" rule adds nothing to the absolute disparity standard and is subject to the same mathematical and legal criticisms.¹³² It further confuses an already confused area of the law by introducing another variable, the panel size.

The absolute disparity standard and the substantial impact rule also raise serious constitutional questions. The unavoidable effect of both is to validate discrimination against small and medium-sized minorities. The use of voter registration lists resulted in a reduced probability of serving of 33% for eligible Chicanos in *Test*, 40% for eligible blacks in *Jenkins*, and 20% for eligible blacks in *Goff*—and

130. *Id.* at 66.

131. The maximum "impact" for any underrepresented group is the group's proportion of the population times the panel size.

132. See text accompanying notes 97-99 *supra*.

yet all three courts failed to require the government to explain or justify these serious underrepresentations. None of these opinions refers to any authority for the proposition that the Constitution only prohibits underrepresentation of or discrimination against large as opposed to small or medium-sized minorities, or that the exclusion of only one minority juror is insignificant.¹³³

On the contrary, discrimination against and underrepresentation of all cognizable classes—which surely include blacks and Chicanos, no matter what proportion of the population they may be—have always been the constitutional focus of the jury selection cases.¹³⁴ If any special rule is to be formulated for small minorities, our history and our constitutional tradition would seem to require that discrimination against them calls for a “more searching judicial inquiry,”¹³⁵ not a less stringent standard.

D. Standards of Inclusiveness

A source list can be fully representative of all cognizable classes but comprise only a small portion of the eligible population in a community.¹³⁶ For example, in a county of 1,000 eligible people of whom 25% are black, a source list of 100 people, 25 of whom are black, would be fully representative of blacks but only 10% inclusive, thereby excluding 90% of the eligible population. The principles underlying the jury selection cases require that source lists¹³⁷ be sufficiently inclu-

133. Even only one minority person on the panel can hardly be considered insignificant, in practical as well as constitutional terms, particularly if one of the litigants is a member of a minority or if racial or ethnic issues are involved in the case. The presence of one minority person can affect the tenor of a case and counsel's approach to the issues. See JURY SELECTION PROCEDURES, *supra* note 4, at 33; Note, *The Case for Black Juries*, 79 YALE L.J. 531 (1970). Although one person can be removed with a peremptory challenge, that in itself can affect the other jurors, and the number of peremptory challenges is small and the use of each one significant. In this regard, the Supreme Court has recently ruled that the exclusion of “merely one” juror in violation of *Witherspoon v. Illinois*, 391 U.S. 510 (1969) (“death-qualified” jury unconstitutional) requires a new trial. *Davis v. Georgia*, 97 S. Ct. 399 (1976).

134. E.g., *Taylor v. Louisiana*, 419 U.S. 522 (1975); *Hernandez v. Texas*, 347 U.S. 475 (1954); *Thiel v. Southern Pacific Co.*, 328 U.S. 217 (1946).

135. Justice Stone, in *United States v. Carolene Products Co.*, 304 U.S. 144, 152 n.4 (1938), said:

Discrete and insular minorities may be a special condition, which tends seriously to curtail the operation of those political processes ordinarily to be relied upon to protect minorities, and which may call for a correspondingly more searching judicial inquiry.

136. The converse is not true; a source that is fully inclusive is, by definition, fully representative.

137. Unlike the standards of representativeness, see text accompanying notes 74-96 *supra*, the inclusiveness requirement and the standards of inclusiveness discussed here are applicable only to the source and not to the pool.

sive that a significant proportion of the eligible population is not excluded, although the courts have not explicitly recognized an inclusiveness requirement.¹³⁸

A substantially underinclusive source, though sufficiently representative as to every cognizable class, can be in contradiction to the rights of citizens and litigants and to the societal interests in the legitimacy, integrity and impartiality of the judicial process. For example, the list of real property owners in a jurisdiction may be sufficiently representative but include less than half of the eligible people. The use of such a source list compromises the societal interest in broad based citizen participation.¹³⁹ Moreover, the people on such a source list may well have considerably different values, attitudes and experience from the rest of the eligible population, which would affect the rights of litigants and undermine the impartiality, legitimacy and integrity of the judicial process.¹⁴⁰ One court has suggested that a source list that contains only half of the eligible people in a community may be unconstitutional.¹⁴¹

If some degree of inclusiveness is deemed to be constitutionally required, the courts will have to establish standards. Experience with multiple list systems has shown that use of one or two well chosen supplemental lists can double the number of names on voter registration lists.¹⁴² In the context of easy and inexpensive methods for obtaining 95% inclusiveness,¹⁴³ perhaps 80% should be required.¹⁴⁴

138. *But see* *Broadway v. Culpepper*, 439 F.2d 1253 (5th Cir. 1971); *Simmons v. Jones*, 317 F. Supp. 397 (S.D. Ga. 1970); *United States v. Hunt*, 265 F. Supp. 178 (W.D. Tex. 1967).

139. See text accompanying notes 41-49 *supra*.

140. In *Thiel v. Southern Pacific Co.*, 328 U.S. 217, 227 (1946) the Court said: "[T]he broad representative character of the jury should be maintained, partly as assurance of diffused impartiality and partly because sharing in the administration of justice is a phase of civic responsibility," quoted in *Taylor v. Louisiana*, 419 U.S. 522, 530 (1974). In *White v. Crook*, 251 F. Supp. 401, 408 (M.D. Ala. 1966), the court said:

Jury service on the part of the citizens of the United States is considered under our law in this country as one of the basic rights and obligations of citizenship [and] a form of participation in the processes of government, a responsibility and a right that should be shared by all citizens . . .

See also *UNIFORM ACT*, *supra* note 9 and text accompanying notes 210-17 *infra*, which suggests the need for inclusiveness as well as representativeness, and Modified Plan for the United States District Court for the District of Columbia for the Random Selection of Grand and Petit Jurors (March 16, 1976), at 3, which recognizes the need to make a "greater number of citizens . . . eligible."

141. *United States v. Hunt*, 265 F. Supp. 178 (W.D. Tex. 1967).

142. See text accompanying notes 236-49 *infra*; see *JURY SELECTION PROCEDURES*, *supra* note 4, at 103-4. After Colorado adopted the Uniform Act, *supra* note 9, which makes use of multiple lists mandatory, "most Colorado counties had almost twice as many names for potential jurors as they had from the voters' list alone." *Id.* at 103. In North Dakota, which also adopted the Uniform Act, use of the lists of licensed drivers with actual voters' lists increased the sources by from 80% to 100%. *Id.* at 104.

143. See text accompanying notes 217-49 *infra*.

144. An additional standard, analogous to the representativeness standard based on

III

APPLICATION OF CONSTITUTIONAL AND STATUTORY
PRINCIPLES TO SOURCE LISTSA. *Representativeness and Inclusiveness of Voter Registration
And Other Single Source Lists*

Analysis of the evidence presented in recent challenges to jury systems reveals that most of the proven unrepresentativeness is attributable to the unrepresentativeness of the source list.¹⁴⁵

Table B summarizes the statistical evidence presented in four typical challenges.¹⁴⁶ For each court and category listed, the first three columns present the specified category's percentage of the population, source list and final pool, respectively. The fourth column presents the comparative disparity of the final pool, and the fifth column presents the percentage of the comparative disparity of the final pool that is attributable to the source. For example, in the challenge to the jury system in the United States District Court for the Northern District of Florida, evidence indicated that 22.8% of the population was black while 16.0% of the final pool was black. Since the source was only 16.3% black, 95.6% of the total resulting comparative disparity was attributable to the source and only 4.4% to the process.¹⁴⁷

Except for the underrepresentation of women in the challenge to the jury system in the Supreme Court of New York, Erie County, which officials admitted resulted from intentional discrimination against women in choosing names from the source, all or most of the unrepresentativeness proved in these cases was attributable to the unrepresentativeness of the sources utilized.

the systematic exclusion principle, discussed *infra*, could provide that a prima facie case of underinclusiveness is established by proof that a significantly more inclusive (perhaps 10%) list or combination of lists is available with reasonable costs and effort.

145. See note 4 *supra*.

146. One of the authors, David Kairys, has been counsel in several challenges, including the second and fourth challenges listed in Table B and the Philadelphia state court challenge discussed in *Juror Selection*, *supra* note 1, at 789-801, and works with the National Jury Project, which collects data concerning jury challenges. The examples presented in Table B are typical of challenges over the last several years. See also JURY SELECTION PROCEDURES, *supra* note 4, at 85-106 and Appendices.

147. This was calculated as follows: The disparity between the proportion of the pool and population that is black is 22.8 minus 16.0, or 6.8. The disparity attributable to the source is 22.8 minus 16.3, or 6.5, which is 95.6% of the total disparity. The result is the same whether the absolute or comparative disparities are used.

Table B

Proportion of Unrepresentativeness of Various Jury Systems
that is Attributable to Source Lists¹⁴⁸

Court and Category Under- represented	% of Population	% of Source	% of Final Pool	Comparative Disparity of Final Pool (%)	% of Comparative Disparity of Final Pool Attributable to Source
1. Superior Court of Beauford County, North Carolina					
Race					
Blacks	30.2	18.9	17.0	-43.7	85.6
2. U.S. District Court for the Eastern District of Pennsylvania					
Age					
Under 30	25.5	17.2	18.6	-27.1	100.0
Under 40	41.8	32.2	33.3	-20.3	100.0
Race					
Nonwhites	15.7	11.7	12.8	-18.5	100.0
3. U.S. District Court for the Northern District of Florida					
Race					
Blacks	22.8	16.3	16.0	-29.8	95.6
4. Supreme Court of New York, Erie County					
Race					
Blacks	8.4	6.5	5.1	-39.3	57.6
Age					
21 to 29	20.7	4.5	3.4	-83.6	93.6
Sex					
Women	53.0	53.0	16.7	-70.4	0.0

148. The data presented in the first three columns of Table B was submitted to the courts listed in challenges to the jury selection systems in the following cases:

1) *State v. Little*, No. 74 Cr. 4176, (Super. Ct. of Beauford County, N.C. 1975). The source was voter registration and tax lists (with no rules or established procedures for using the two lists together; see text accompanying notes 218-49 *infra*). The figure presented for the proportion of the source that is black, 18.9%, was for the voter registration list alone; the figure for the tax list was not known, but testimony established that it was lower than the corresponding figure for the voter registration list. The proportion of underrepresentation of blacks attributable to the source was therefore actually greater than the table indicates. Venue was changed before the challenge was resolved. See generally Michael, Mullin, O'Reilly & Rowan, *Challenges to Jury Composition in North Carolina*, 7 N. CAROLINA CENT. L.J. 1 (1976).

2) *United States v. Saxe*, Crim. No. 75-236 (E.D. Pa. 1976). The source was voter registration lists. The figures indicate that the process served to make the system more representative. The defendant pled guilty before a decision on the jury challenge was rendered.

3) *United States v. Briggs*, 366 F. Supp. 1365 (N.D. Fla. 1973). The source was

The overwhelming majority of jury systems throughout the country use voter registration lists as the source,¹⁴⁹ although all available studies and data indicate that voter registration lists do not represent a cross section of our communities and are substantially underinclusive.¹⁵⁰ The Census Bureau does a thorough study of voting and registration after each election. Since 1960, these studies have reached the same conclusions concerning the representativeness and inclusiveness of voter registration lists. The study of the 1972 election stated:

[H]igher levels of registration and voting were associated with persons who were male, white, those in the middle age group (35-64), those persons with at least a high school diploma, those in families with incomes greater than \$10,000, and those in white collar occupations. Conversely, females, Negroes, persons of Spanish ethnic origin, the youngest (18-34) and oldest age groups (65 or older), those who did not complete elementary school education, those in families with incomes less than \$5,000, and those in unskilled occupations, such as laborers and private household workers, were less likely to be registered and vote.¹⁵¹

The proportion of people not participating in the election process, a measure of the underinclusiveness of voter registration lists as a source, has been steadily increasing since 1960. In the 1972 presidential election, 27% of those eligible did not register, and 37% did not vote.¹⁵² In the 1974 nonpresidential election, 38% of those eligible

voter registration lists. The challenge was denied; defendants were acquitted, so there was no appeal.

4) *People v. Attica Brothers*, 79 Misc. 2d 492, 359 N.Y.S.2d 699 (1974). The source was a permanent pool supplemented with voter registration lists. The challenge was granted based on discrimination against women and students, and a new pool was constituted.

149. See note 5 *supra*.

150. In addition to the Census Bureau studies discussed in the text, see JURY SELECTION PROCEDURES, *supra* note 4, at 88-93, App. F-I; COMMITTEE FOR THE STUDY OF THE AMERICAN ELECTORATE, NON-VOTER STUDY 1976 (Sept. 5, 1976) (available from the Committee at 421 New Jersey Ave., S.E., Washington, D.C. 20003) [hereinafter cited as NON-VOTER STUDY 1976]; ROSENSTONE AND WOLFINGER, THE EFFECT OF REGISTRATION LAWS ON VOTER TURNOUT (1976) (presented to the 1976 Annual Meeting of the American Political Science Assoc.); W. FLANIGAN & N. ZINGALE, POLITICAL BEHAVIOR OF THE AMERICAN ELECTORATE 9 (1975); Note, *Voter Registration Lists: Do They Represent a Cross-Section of the Community?*, 5 J.L. REF. 385 (1971-72).

151. BUREAU OF THE CENSUS, U.S. DEPT. OF COMMERCE, VOTING AND REGISTRATION IN THE ELECTION OF NOV., 1972, SERIES P-20, No. 253, at 1 (1973). See also JURY SELECTION PROCEDURES, *supra* note 4, at 88-90; BUREAU OF THE CENSUS, U.S. DEPT. OF COMMERCE, VOTING AND REGISTRATION IN THE ELECTION OF NOV., 1974, SERIES P-20, No. 293 (1976); VOTING AND REGISTRATION IN THE ELECTION OF NOV., 1970, SERIES P-20, No. 225 (1971); VOTING AND REGISTRATION IN THE ELECTION OF NOV., 1964, SERIES P-20, No. 143 (1965). The Census Bureau studies are hereinafter cited as VOTING AND REGISTRATION IN THE ELECTION OF [YEAR].

152. VOTING AND REGISTRATION IN THE ELECTION OF 1972, *supra* note 151, at 22.

did not register and 55% did not vote.¹⁵³ In the 1976 presidential election, 33% of those eligible did not register and 41% did not vote.¹⁵⁴

The data provided by the Census Bureau studies are summarized in Tables C and D. Table C presents, from nationwide data for the 1972 and 1973 elections, the underinclusiveness (in columns 1 and 3) and unrepresentativeness (in columns 2 and 4), measured by the comparative disparity standard, of voter registration lists regarding the various categories of the population specified. The proportion of the whole population not appearing on voter registration lists was 27.7% in 1972 and 37.8% in 1974. These large segments of the population have no opportunity to serve as jurors; they are excluded from jury service by the use of voter registration lists as the source.

This large underinclusiveness is not evenly distributed among the various races, age groups, occupations, or income levels in the population. The proportions excluded are considerably higher for nonwhites, people under 40 years old,¹⁵⁵ people with less formal education, people employed in blue collar positions or unemployed, and people with annual incomes of less than \$10,000. Columns 2 and 4 indicate that the people in these categories¹⁵⁶ are significantly underrepresented.¹⁵⁷

Table D presents the underinclusiveness data for various states and metropolitan areas from the 1974 election study,¹⁵⁸ which indicate that the inadequacy of voter registration lists as the source is not limited to any particular area but is nationwide.

153. VOTING AND REGISTRATION IN THE ELECTION OF 1974, *supra* note 151, at 11.

154. BUREAU OF THE CENSUS, U.S. DEPT. OF COMMERCE, VOTER PARTICIPATION IN THE ELECTION OF NOV., 1976, *Advance Report*, SERIES P-20, No. 304 (Dec., 1976) (based on a preliminary study).

155. Elderly people are also seriously underrepresented. See JURY SELECTION PROCEDURES, *supra* note 4, at 35-39.

156. The underrepresentation of people in more than one of these categories is even more severe. For example, young blacks are underrepresented more than either young people or black people. *E.g.*, VOTING AND REGISTRATION IN THE ELECTION OF 1974, *supra* note 151, Table 1.

157. The Census Bureau has noted in its studies that these underrepresentations are actually significantly larger than their studies indicate, due to biases inherent in their procedures that cause an undercount of racial minorities, young people, and low income people. See VOTING AND REGISTRATION IN THE ELECTION OF 1972, *supra* note 151, at 7-8; SHRYOCK AND SIEGEL, *THE MATERIALS AND METHODS OF DEMOGRAPHY* (U.S. Government Printing Office 1973); Siegel, *Estimates of Coverage of the Population by Sex, Race, and Age in the 1970 Census*, 11 *DEMOGRAPHY* 1 (1974).

158. Data concerning representativeness is not available.

Table C
Representativeness and Inclusiveness of Voter
Registration Lists Nationwide¹⁵⁹

Category	1972 Election		1974 Election	
	% Not on Registration Lists	% Over- or Under- represented	% Not on Registration Lists	% Over- or Under- represented
Whole population	27.7	—	37.8	—
Sex				
Men	26.9	+1.0	37.2	+1.0
Women	28.4	—1.0	38.3	—0.8
Race				
White	26.6	+1.5	36.5	+2.1
Black	34.5	—9.4	45.1	—11.7
Spanish origin	55.6	—38.6	65.1	—43.9
Age				
18 to 20	41.9	—19.6	63.6	—41.5
21 to 24	40.5	—17.7	54.7	—27.2
25 to 29	33.9	—8.6	48.6	—17.4
30 to 34	28.8	—1.5	41.4	—5.8
35 to 44	25.2	+3.5	33.3	+7.2
45 to 54	20.7	+9.7	27.5	+16.6
55 to 64	19.8	+10.9	24.9	+20.7
65 to 74	21.5	+8.6	27.0	+17.4
75 and over	19.3	+11.6	34.8	+4.8
Education				
Years Completed				
Elementary				
0 to 4	51.8	—33.3	60.7	—36.8
5 to 7	40.5	—17.7	48.2	—16.7
8	32.0	—5.9	38.9	—1.8
High School				
1 to 3	37.0	—12.9	45.7	—12.7
4	26.0	+2.4	38.1	+0.5
College				
1 to 3	18.3	+13.0	33.1	+7.6
4	12.9	+20.5	25.2	+20.3
5 or more	11.2	+22.8	22.1	+25.2
Not enrolled in school				
18 to 20	50.3	—31.3	—	—
21 to 24	44.1	—22.7	—	—

159. All of the data presented in Tables C and D is derived from the Census Bureau's VOTING AND REGISTRATION IN THE ELECTION OF 1972 and VOTING AND REGISTRATION IN THE ELECTION OF 1974, *supra* note 151, and the categories listed were established and defined by the Census Bureau. "Percentage Not on Registration Lists" was calculated by subtracting the percentage that is registered, which appears in the Census Bureau studies, from 100%. "Percentage Over- or Underrepresented," on Table C, is measured by the comparative disparity standard, which reduces to

$$1 - \frac{\text{Proportion of those in the specified category that are registered}}{\text{Proportion of the population that is registered}} \times 100.$$

The proportion of those in the specified category that are registered and the proportion of the population that is registered appear in the Census Bureau studies. Underrepresentations are shown as negative and overrepresentations as positive. See also JURY SELECTION PROCEDURES, *supra* note 4, at App. F-I.

Category	1972 Election		1974 Election	
	% Not on Registration Lists	% Over- or Under- represented	% Not on Registration Lists	% Over- or Under- represented
Employment Status				
Agriculture				
Wage and salary	47.9	-27.9	50.2	-19.9
Self-employed	13.4	+19.8	19.1	+30.1
Nonagriculture industry				
Wage and salary	38.8	-15.4	40.0	-3.5
Self-employed	20.7	+9.7	28.7	+14.6
Government employed	15.6	+16.7	24.0	+22.2
Unemployed	42.7	-20.7	55.7	-28.8
Occupational Groupings				
White collar workers	17.6	+14.0	28.9	+14.3
Professional & technical	13.3	+19.9	25.3	+20.1
Managers & administrators	16.9	+14.9	25.9	+19.1
Sales	19.8	+10.9	31.2	+10.6
Clerical	21.0	+9.3	32.2	+9.0
Blue collar workers	35.1	-10.2	45.7	-12.7
Craftsmen	29.8	-2.9	40.8	-4.8
Operatives	39.3	-16.0	48.1	-16.6
Transport eqt. operatives	34.0	-8.7	39.7	-3.1
Laborers	40.1	-17.2	51.9	-22.7
Service workers	31.8	-5.7	41.9	-6.6
Private household workers	37.1	-13.0	44.6	(only women) -10.9
Other	31.0	-4.6	41.7	-6.3
Farm workers	24.0	+5.1	29.6	+13.2
Farmers & Farm managers	11.2	+22.8	16.0	(only men) +35.1
Farm laborers & foremen	43.4	-21.7	43.0	-8.4
Income				
Under \$3,000	38.8	-15.4	—	—
\$3,000 to \$4,999	35.9	-11.3	—	—
Under \$5,000	—	—	47.8	-16.1
\$5,000 to \$7,499	34.3	-9.1	—	—
\$7,500 to \$9,999	29.1	-1.9	—	—
\$5,000 to \$9,999	—	—	43.1	-8.5
\$10,000 to \$14,999	22.3	+7.5	35.3	+4.0
\$15,000 and over	15.0	+17.6	—	—
\$15,000 to \$19,999	—	—	28.6	+14.8
\$20,000 to \$24,999	—	—	26.4	+18.3
\$25,000 and over	—	—	22.4	+24.8

Table D

Inclusiveness of Voter Registration Lists:
States and Metropolitan Areas¹⁶⁰

State	Inclusiveness	% Not on Registration Lists	Metropolitan Area	Inclu- siveness	% Not on Registration Lists
California	58.7	41.3	Atlanta, Ga.	62.3	37.7
Florida	56.1	43.9	Baltimore, Md.	61.8	38.2
Georgia	61.2	38.8	Boston, Mass.	68.7	31.3
Illinois	66.9	33.1	Chicago, Ill.	65.0	35.0
Indiana	69.6	30.4	Cleveland Ohio	66.2	33.8
Massachusetts	69.2	30.8	Dallas, Texas	52.5	47.5
Michigan	63.1	36.9	Denver, Colo.	67.2	32.8
Missouri	63.9	36.1	Detroit, Mich.	65.0	35.0
New Jersey	61.9	38.1	Houston, Texas	57.0	43.0
New York	57.8	42.2	Kansas City, Kan./Mo.	63.3	36.7
North Carolina	55.9	44.1	Los Angeles, Ca.	58.4	41.6
Ohio	60.6	39.4	Miami, Fla.	49.9	50.1
Pennsylvania	70.6	29.4	Milwaukee, Wis.	64.7	35.3
Texas	56.6	43.4	Minneapolis- St. Paul, Minn.	81.3	18.7
Virginia	54.0	46.0	Newark, N.J.	64.0	36.0
			New York, N.Y.	51.1	48.9
			Philadelphia, Pa.	67.7	32.3
			St. Louis, Mo.	64.3	35.7
			San Francisco, Ca.	60.4	39.6
			Washington, D.C.	54.8	45.2

Thus, voter registration lists are substantially unrepresentative and underinclusive. It has been suggested, however, that registration or actual voter lists are the most appropriate source because they include the "most concerned," "most competent," or "best" citizens. This argument reflects subjective, unsupported judgments about voters and nonvoters and a theoretical stance that directly contradicts basic constitutional and democratic principles.

There is no factual support for the notion that the almost one-half of our people who did not vote (or the third not registered) in the 1976 election are unconcerned, incompetent,¹⁶¹ or unintelligent.¹⁶² More-

160. See note 159, *supra*.

161. There is substantial evidence that the expert, "blue ribbon" or elite jury in fact yields no more quality or integrity of judgment than the representative jury. See JURY SELECTION PROCEDURES, *supra* note 4, at 15-19, 88-93; Note, *The Case for Black Juries*, 79 YALE L.J. 531 (1970); *Implementation in the Fifth Circuit*, *supra*, note 27, at 349-50; S. REP. NO. 891, 90th Cong., 1st Sess., 18-23 (1967).

162. Rather, the available evidence indicates that nonvoters view elections, the electoral or political process, the issues presented or ignored, and/or the choice presented by the candidates and major parties differently than voters. NON-VOTER STUDY 1976, *supra* note 150, at 3, concluded, based on a survey of nonvoters, that nonvoters have a "distrust of, and disaffection from major political and economic institutions, political leadership, and the media," not a lack of interest or concern. See also VOTING AND REGISTRATION IN THE ELECTION OF 1972, *supra* note 151, at 6; *Implementation in the Fifth Circuit*, *supra* note 27, at 350. The U.S. Commission on Civil Rights has concluded

over, the search for the "best" jurors, whether one believes them to be on voter registration lists or elsewhere, necessarily involves subjective judgments and intentional discrimination.¹⁶³ It is not a legitimate basis for constructing or evaluating a jury system.¹⁶⁴ From a societal and constitutional perspective, subjective notions of quality have no

that people vote when and if the issues or candidates interest or concern them, citing the following example:

In Alabama, the Negro turnout for the May 3, 1966 primary was estimated at 74% of the total Negro registration of just under 250,000; in the general election, faced with a choice between two segregationists who were the major candidates in the Governor's race, less than half the registered Negroes voted.

Id. at 350 n.85. Registration procedures also serve as a significant deterrent to registration and voting. See ROSENSTONE AND WOLFINGER, *THE EFFECTS OF REGISTRATION LAWS ON VOTER TURNOUT* (1976) (presented to the 1976 Annual Meeting of the American Political Science Assoc.); JURY SELECTION PROCEDURES, *supra* note 4, at 91-93.

One aspect of our electoral system, when compared to the systems in other countries, helps explain the lack of voter interest more than any negative judgments about nonvoters. Ours is a two-party, winner-take-all system, where compromises must be made and coalitions built in advance of elections since the loser, no matter how large his or her minority is, loses all. One result of this is a tendency toward moderation and a hesitance to address questions of principle on the part of our major candidates and parties. In a parliamentary or proportional, multi-party system, each party and candidate has power in proportion to the votes they receive. Since compromises and coalitions are made after the election, voters are provided with wider issue-oriented and ideological choices. It should not be surprising that voter turnout is significantly higher in countries with proportional, multi-party systems than in the United States. For example, in recent elections, the voter turnout was 94% in Australia and 80% in England. JURY SELECTION PROCEDURES, *supra* note 4, at 91-92. That voter turnout is directly related to this structural difference was dramatically demonstrated in Switzerland in 1919, when a change to proportional representation doubled the voter turnout in many districts (from 40% to 80%). See S. LIPSET, *THE FIRST NEW NATION* 310 (1963).

163. Selection systems that provide officials broad discretion to select jurors have consistently resulted in underrepresentation of racial and ethnic minorities, people of lower economic and social status, women and young people. See JURY SELECTION PROCEDURES, *supra* note 4, at 15-16, 23-44, App. F-I; *Juror Selection*, *supra* note 1, at 806; S. REP. NO. 891, 90th Cong., 1st Sess., 10, 19, 23 (1967); *Federal Jury Selection: Hearings Before the Subcomm. on Improvements in Judicial Machinery of the Senate Comm. on the Judiciary*, 90th Cong., 1st Sess., at 48-49, 56 (Attorney General Ramsey Clark), 255 (Judge Irving Kaufman) (1967). In *Witcher v. Peyton*, 405 F.2d 725, 727 (4th Cir. 1969), the court said, "It is a simple truth of human nature that we usually find the 'best' people in our own image, including, unfortunately, our own pigmentation." During the evidentiary hearings concerning a jury composition challenge in the state court in Philadelphia, jury selection officials were asked to define "good character," a standard they used for selection. The responses, from the transcript, included: "His mannerisms, the way he speaks"; "belief in an almighty"; "moral or ethical values"; no "personality faults". Concerning the standard "antagonism to our form of government," their responses included "no respect for government" and "doesn't believe in the jury system, law and order, judges, or anything else." *Juror Selection*, *supra* note 1, at 806. At the initial stage of this process, in which judges, law clerks, tipstiffs, secretaries and a sheriff were asked to select names, without provision of any standards, from a source list on which each person's occupation appeared, they selected "people with 'better' jobs who were not 'too busy' to serve. Unemployed persons were totally excluded by some and at least disfavored by the rest." *Id.* at 799.

164. See authorities cited note 40 *supra*. In *Glasser v. United States*, 315 U.S. 60, 86 (1942), the Court said selection officials "must not allow the desire for competent

place in a jury selection system, and the best jury system is one that is representative of a cross section of the community.

It has also been suggested that voter registration lists are the best *single* available list.¹⁶⁵ They may well be;¹⁶⁶ but there is no legitimate reason for limiting jury sources to one list.¹⁶⁷

B. *Application of Constitutional Principles*

The constitutional principle that jury systems be representative of a cross section of the community applies to source lists,¹⁶⁸ so that a substantial disparity between the representation of a cognizable class in the source and in the population establishes a *prima facie* case of invalidity.¹⁶⁹ No particular type of source list or method of compiling the

jurors to lead them into selections which do not comport with the concept of the jury as a cross-section of the community." Professor Van Dyke has noted that

[e]xcluding certain people from participation in [the jury] process because, for one reason or another, they have not voted or do not want to vote contradicts the system itself. It further alienates those who may already be alienated, instead of providing them with an opportunity to participate and thus, ideally, to become more involved in society. Serving on a jury is not meant to be a reward for good citizenship; it is an opportunity and a responsibility that derives from citizenship itself.

JURY SELECTION PROCEDURES, *supra* note 4, at 91.

165. See, e.g., S. REP. NO. 891, 90th Cong., 1st Sess. 16-17; *Implementation in the Fifth Circuit*, *supra* note 27, at 368.

166. The Federal Act provides:

State, local, and Federal officials have custody, possession, or control of voter registration lists, lists of actual voters, or other appropriate records shall make such lists and records available to the jury commission or clerks for inspection, reproduction, and copying at all reasonable times as the commission or clerk may deem necessary and proper for the performance of duties under this title. The district courts shall have jurisdiction upon application of the Attorney General of the U.S. to compel compliance with this subsection by appropriate process.

28 U.S.C. § 1863(d). Nevertheless, the two lists that are generally more representative than voter registration, Census and Social Security, have been traditionally regarded as confidential. 13 U.S.C. §§ 8, 9 and 15 C.F.R. § 60 (1977) (census lists); 42 U.S.C. § 1306 and 20 C.F.R. § 401 (1976) (Social Security lists). For a general discussion, see JURY SELECTION PROCEDURES, *supra* note 4, at 98-100, suggesting that these lists be made available.

167. The Report of the President's Commission on Registration and Voting Participation (Nov., 1963) recommended that registration lists not be used for jury selection since such use deters people from registering. This consideration was cited in the Commissioner's Comment to § 5 of the Uniform Jury Selection and Service Act, which requires use of multiple lists. See also the comments of Sen. Edward Kennedy in this regard, 121 CONG. REC. S.5985-87 (daily ed. April 15, 1975).

168. Taylor v. Louisiana, 419 U.S. 522, 538 (1975) ("the jury wheels [source lists], pools of names, panels or venires from which juries are drawn must not systematically exclude distinctive groups or the community and thereby fail to be reasonably representative thereof").

169. Taylor v. Louisiana, 419 U.S. 522 (1975); Broadway v. Culpepper, 439 F.2d 1253 (5th Cir. 1971); Simmons v. United States, 406 F.2d 456 (5th Cir. 1969), *cert. denied*, 395 U.S. 982 (1969); King v. Cook, 298 F. Supp. 584 (N.D. Miss. 1969).

source list has been invalidated. In this regard, all the courts have said is that a source that is itself discriminatory, such as a list maintained on a segregated basis,¹⁷⁰ or one that is clearly a subterfuge for discrimination¹⁷¹ is invalid.¹⁷² Tax lists, property lists, actual voter lists, and even the "key man" system, where "key" people select names for the source from people they know or have heard about, have not been *per se* invalidated.¹⁷³ Voter registration lists have been uniformly upheld as a valid single source list,¹⁷⁴ although several courts have expressed substantial doubts about their representativeness.¹⁷⁵

170. *Sims v. Georgia*, 389 U.S. 404 (1967); *Whitus v. Georgia*, 385 U.S. 545 (1967); *Arnold v. North Carolina*, 376 U.S. 773 (1964).

171. *Simmons v. United States*, 406 F.2d 456 (5th Cir. 1964), *cert. denied*, 395 U.S. 982 (1969); *King v. Cook*, 298 F. Supp. 584 (N.D. Miss. 1969); *United States v. Van Allen*, 208 F. Supp. 331 (S.D. N.Y. 1962), *modified*, 349 F.2d 720 (2d Cir. 1965), *cert. denied*, 384 U.S. 947 (1966).

172. The courts have not considered whether selection officials may deliberately overrepresent a particular group in the source in order to assure that, even though they are disproportionally eliminated in the selection process, they will be proportionally represented in the pool. For example, in a jurisdiction that is 50% women and in which it is known that women request and receive excuses more than men, it may be constitutional or even constitutionally required for selection officials deliberately to compile a source that is more than 50% women in order to assure that the pool is 50% women. This is different from purposely *underrepresenting* women as a matter of administrative convenience because they ask to be excused anyway, which results in additional underrepresentation of women since some are excluded who would not request or receive an excuse. Pursuant to the representativeness principle, the primary concern is that the pool be representative of a cross-section of the community and that the selection system be designed to yield such a pool. In the example, women are 50% of the population, and they should be fully represented in the pool although many cannot serve.

A harder question is presented when a group is underrepresented in the pool because of eligibility problems. For example, should selection officials overrepresent Mexican-Americans in the source to assure that they are fully represented in the pool even though they will be disproportionally disqualified, because many cannot meet the language requirement? Again, the fact that many in this group are not eligible does not mean that the group should be underrepresented or have a smaller voice in the jury system. If selection officials are able to find sufficient numbers of people in such a group who are eligible without an undue burden, it would seem to be consistent with constitutional and democratic principles to assure their representation in and the cross-sectionality of the pool.

173. *Castaneda v. Partida*, 97 S. Ct. 1272 (1977); *United States v. Freeman*, 514 F.2d 171 (8th Cir. 1971); *United States v. Grant*, 475 F.2d 581 (4th Cir. 1973), *cert. denied*, 414 U.S. 868 (1973); *United States v. Butera*, 420 F.2d 564 (1st Cir. 1970); *Rabinowitz v. United States*, 366 F.2d 34 (5th Cir. 1966); *United States v. Hunt*, 265 F. Supp. 178 (W.D. Tex. 1967), *aff'd*, 400 F.2d 306 (5th Cir. 1968), *cert. denied*, 393 U.S. 1021 (1969). Although the key man system seems to be invalid pursuant to the "systematic exclusion" line of cases, see text accompanying notes 51-55 *supra*, the courts, while disfavoring this system, have not ruled it invalid *per se*.

174. *Hallman v. United States*, 490 F.2d 1088 (8th Cir. 1973); *Simmons v. United States*, 406 F.2d 456 (5th Cir. 1969), *cert. denied*, 395 U.S. 982 (1969); *Chance v. United States*, 322 F.2d 201 (5th Cir. 1963), *cert. denied*, 379 U.S. 823 (1964).

175. *Ford v. Hollowell*, 385 F. Supp. 1392 (N.D. Miss. 1974); *Pullum v. Greene*, 396 F.2d 251, 255 (5th Cir. 1968); *Dow v. Carnegie-Illinois Steel Corp.*, 224 F.2d 414,

Several recent lower court decisions,¹⁷⁶ decided before *Partida*, seem to require considerably more than proof of a substantial disparity to establish a prima facie case. These cases are best exemplified by *United States v. Test*,¹⁷⁷ recently decided by the Tenth Circuit.¹⁷⁸ In *Test* the defendants challenged use of the voter registration list as the single source list in the District of Colorado. They introduced evidence that Chicanos comprise approximately 10.4% of the voting age population but only 6.9% of the registered voters.¹⁷⁹ The court held that this proof failed to "establish a prima facie case of systematic exclusion"¹⁸⁰ since the absolute disparity, of approximately 4%, was less than the 16% absolute disparity referred to in *Swain v. Alabama*.¹⁸¹ The comparative disparity, not referred to in the opinion, was 33%.

Of course, there could never have been an absolute disparity of 16% concerning Chicanos, since they comprised only 10.4% of the population; even total exclusion of Chicanos would not have met the court's substantiality requirement.¹⁸² The court explicitly rejected a statistical analysis and praised the use of "subjective" rather than "objective" criteria.¹⁸³ The court also seemed to require proof of

427 (3d Cir. 1955); *King v. Cook*, 298 F. Supp. 584 (N.D. Miss. 1969); *United States v. Hunt*, 265 F. Supp. 178 (W.D. Tex. 1967), *aff'd*, 400 F.2d 306 (5th Cir. 1968), *cert. denied*, 393 U.S. 1021 (1969). See also *United States v. Grant*, 475 F.2d 581 (4th Cir. 1973) (Winter, J., dissenting), *cert. denied*, 414 U.S. 868 (1973); *United States v. Andrews*, 342 F. Supp. 1261 (D. Mass.), *rev'd on procedural grounds*, 462 F.2d 914 (1st Cir. 1972). One court has held that use of voter registration lists as the sole source was unconstitutional, but the decision was quickly reversed on appeal. *People v. Taylor*, No. A-277-425 (Super. Ct. for Los Angeles County, Oct. 11, 1974), *vacated*, Civ. No. 45230 (Cal. Ct. App., 2d Dist., Nov. 26, 1974).

176. *United States v. Test*, 550 F.2d 577 (10th Cir. 1976); *United States v. Goff*, 509 F.2d 825 (5th Cir. 1975), *cert. denied*, 423 U.S. 857 (1975); *United States v. Jenkins*, 496 F.2d 57 (2d Cir. 1974), *cert. denied*, 420 U.S. 925 (1975).

177. 550 F.2d 577 (10th Cir. 1976).

178. The *Test* court also adopted the "substantial impact" test, discussed at text accompanying notes 125-35 *supra*.

179. 550 F.2d 577, 582-83 (10th Cir. 1976).

180. *Id.* at 587.

181. 380 U.S. 202 (1965). In *Swain*, the Court referred to an absolute disparity of 10-16% as a minimal showing for a prima facie case, but this has never been regarded by the Court as a minimum standard or even referred to in later opinions of the Court. See note 40 *supra*. The *Test* court adopted and mechanically applied the outside limit referred to in *Swain*, 16%, as a necessary requirement for proof of a substantial disparity, stating that in *Swain* the Court "implicitly held that a prima facie case of systematic exclusion was not established by demonstrating a disparity of as much as 16%." 550 F.2d at 577, 587 (10th Cir. 1976). See note 81 *supra*.

182. The court did observe that "token" representation may establish a prima facie case, 550 F.2d 577, 586, but no line or concrete exception to the 16% absolute disparity requirement was suggested.

183. The court said:

Defendants' 'standardized' approaches merely present alternative methods of measuring departures from a statistically ideal cross section of the community. Irrespective of the analytical approach selected, the process of characterizing

some discrimination in addition to the discrimination inherent in the use of the voter registration list. First, citing Supreme Court decisions discussing the "opportunity to discriminate," a concept derived from early systematic discrimination cases that invalidated jury systems solely on the basis of such opportunity,¹⁸⁴ the court required proof of some opportunity to discriminate beyond the opportunity inherent in the choice of the source list or lists. In addition, the court ruled that the defendants could not establish a *prima facie* case "simply because an identifiable group votes in a proportion lower than the rest of the population" and seemed to require proof of electoral discrimination,¹⁸⁵ as if registration to vote were a qualification for jury service and the unrepresentativeness of the voter registration list were irrelevant. This reasoning is tautological, since it allows voter registration lists to be upheld by their bootstraps: all disparities between a voter registration list and the population result from an identifiable group voting in a proportion lower than the rest of the population,¹⁸⁶ and to validate the use of voter registration lists on this basis is to validate all voter registration lists, no matter how unrepresentative.¹⁸⁷

the 'substantiality' of the data derived therefrom remains a subjective function. . . . What defendants in effect urge is that we reject the collective experience of the courts . . . and instead allow ourselves to be 'led' by defendants' visceral reactions to the substantiality of the disparities demonstrated below.

550 F.2d 577, 589. The defendants had offered a statistical analysis, not a visceral reaction; the court applied its "subjective" and visceral reaction and a mechanical rule that legitimizes discrimination against small and medium sized minorities.

184. See note 59 *supra*.

185. 550 F.2d 577, 586 & 586 n.8. See also *United States v. Freeman*, 514 F.2d 171 (8th Cir. 1975); *United States v. Guzman*, 468 F.2d 1245 (2d Cir.), *cert. denied*, 410 U.S. 937 (1972); *United States v. James*, 453 F.2d 27 (9th Cir. 1971).

186. In *United States v. Burkett*, 342 F. Supp. 1264, 1265 (D. Mass. 1972), Judge Wyzanski said:

The defendant has a right . . . not to have the pool diminished at the start by the actions or inactions of public officials, nor by the inertia, indifference, or inconvenience of any substantial group or class who do not choose to vote or to serve on juries. From the viewpoint of a black, or young, or poor, or rich defendant, his interest is in having a pool with a fair proportion of blacks, young, poor, and rich. To him it is a matter of indifference as to whether a diminished pool is due to action or inaction or third persons, whether public or private. In substance, the defendant is entitled to require that the public officials charged with jury selection, including judges who excuse jurors, proceed in such a way as to compel the calling of all eligible for jury duty who do not have socially valid excuses. In this connection jury duty is an obligation owed to the defendant, not a privilege which at the juror's pleasure the juror may choose to exercise or forego.

187. "The use of voter lists is not the end sought. Rather, that is the principal source. If the source is deficient or infected its use alone will not suffice," *Broadway v. Culpepper*, 439 F.2d 1253, 1257 (5th Cir. 1971). Similarly, to reject a challenge to the use of voter lists on the grounds that nonvoters are not a cognizable class, as many courts have done, see, e.g., *United States v. Lewis*, 472 F.2d 252 (3d Cir. 1973); *United States v. Dangler*, 422 F.2d 344 (5th Cir. 1970); *United States v. Van Allen*, 208 F. Supp. 331 (S.D. N.Y. 1962), *modified*, 349 F.2d 720 (2d Cir. 1965), *cert.*

From both a legal and mathematical perspective, a *prima facie* case of invalidity of a source or pool should be established by proof of a comparative disparity of at least 15%. This standard would have had the effect of requiring the government to justify the disparities in *Test*, *Jenkins* and *Goff*.¹⁸⁸ Furthermore, the "systematic exclusion" line of cases¹⁸⁹ yields an additional standard for evaluating source lists. Selection officials should not be required to go door to door to find every eligible person in a community. However, under the systematic exclusion standard, which requires proof of only a minimal disparity,¹⁹⁰ where a challenger can prove that a significantly¹⁹¹ more representative list or combination of lists is available with reasonable cost and effort, the burden should shift to selection officials to justify their failure to use such lists. The choice of which list or lists will be utilized, whether made by a legislature, by a court, or by selection officials, is an intentional act, and any resulting discrimination is systematic.¹⁹² The "systematic exclusion" cases have never required proof of an improper motive or a lack of good faith. If selection officials cannot, pursuant to the systematic exclusion standard, choose women from the source less frequently than men because men are thought to be better jurors or because women usually ask to be excused anyway,¹⁹³ surely they cannot choose to utilize a source list that underrepresents women or any other cognizable class, for the same or other purposes, when another list or combination of lists is available that would remedy the imbalance with reasonable costs and effort.

In sum, based on analysis of the interests underlying the representativeness principle (and the rule of exclusion), it is suggested that a constitutional violation has occurred if the comparative disparity between a source list and the population is greater than 15% concerning

denied, 384 U.S. 947 (1966), is to base the decision on a nonsequitur. The question is whether the list is representative of cognizable classes.

188. Since these courts held that the challengers failed to establish a *prima facie* case, we do not know whether the disparities proved were justifiable. Following the initiation of the challenge in *Test*, the district court adopted a multiple list system. See note 199 *infra*.

189. "Systematic exclusion cases" refers to the line of cases in which proof of actual systematic or intentional discrimination was presented, as opposed to proof only of a disparity. See text accompanying notes 51-55 *supra*.

190. See note 51 *supra*.

191. "Significantly more representative" is used to connote a standard that is less stringent than the "substantial disparity" or "substantial deviation" standards. If the comparative disparity standard is adopted, it would be appropriate to consider an additional list or combination of lists significantly more representative if it will lower the comparative disparity by 10%.

192. See Foster Appendix, *supra* note 1, at 823, 828.

193. See *United States v. Zirpolo*, 450 F.2d 424 (3d Cir. 1971); *People of New York v. Attica Brothers*, 79 Misc. 2d 492, 359 N.Y.S.2d 699 (1974).

any cognizable class or if a source list is less than 80% inclusive,¹⁹⁴ unless the unrepresentativeness or underinclusiveness can be appropriately justified in terms of eligibility or availability.¹⁹⁵ If use of a single source list, such as a voter registration list, or a multiple source list results in a violation of these standards, supplementation by additional lists to correct the violation should be constitutionally required.¹⁹⁶

The failure of the courts to formulate and enforce appropriate standards for source lists has confused the issues and eroded the constitutionally mandated representativeness principle. The rules advocated here would provide the courts with understandable and workable standards that could secure and safeguard the representativeness principle while providing due consideration to administrative feasibility.

C. *Statutory Mandate for Multiple Lists*

Although the legislatures have left the task of formulating standards of representativeness to the courts, federal and state statutes presently in effect require use of multiple source lists when single lists are not representative.

1. *The Federal Act.* The Federal Act provides that "voter registration lists or lists of actual voters" are to be the primary source and that each district "shall prescribe some other source or sources of names . . . where necessary to foster the policy [of representation of a cross section of the community]."¹⁹⁷ Although the language of this provision clearly requires supplementation where voter lists are not representative, and the legislative history supports that interpretation,¹⁹⁸

194. Pursuant to the intentional or "systematic exclusion" line of cases, it is also concluded that a prima facie constitutional violation is established by proof that a significantly more representative (resulting in a reduction of 10% in the comparative disparity) or significantly more inclusive (resulting in an addition of at least 10% to the inclusiveness) list or combination of lists is available.

195. A justification based on eligibility is appropriate only concerning a stage in the process before which eligibility criteria have been applied. See notes 68 & 172 *supra*. The representativeness principle places an affirmative duty on selection officials and limits the availability justification to situations in which, even with affirmative efforts, sufficient numbers of persons in specific categories cannot be made available. See notes 70 & 172 *supra*.

196. With a multiple source list, it is possible that the disparity can best be remedied by eliminating one or more of the lists used.

197. 28 U.S.C. § 1863(b)(2).

198. The Report of the Committee on the Operation of the Jury System of the Judicial Conference of the United States, 42 F.R.D. 353 (1967), which drafted the Act, states that, although supplementation was not envisioned for most districts, "the committee's draft bill requires the use of other lists in addition to the voter lists to obtain the representative cross-section." *Id.* at 362. The Senate Report recognizes the particular importance of the source stage in terms of the purposes of the Act, and states:

The bill *requires* that voter lists be supplemented by other sources whenever they do not adequately reflect a cross-section of the community. . . .

The voting list requirement, together with the provisions for supplementa-

only two districts supplement voter lists,¹⁹⁹ and no court has as yet ordered supplementation.²⁰⁰

The failure to implement this provision is not because of a lack of challenges.²⁰¹ Most of the decisions have required proof of a constitutional violation and have adopted the substantial impact and electoral discrimination standards discussed above,²⁰² even though the Act clearly establishes less stringent standards.²⁰³ The Act requires representation of a cross section of the community and mandates that relief (supplementation) be granted where there is a "substantial" deviation.²⁰⁴

tion . . . is therefore the primary technique for implementing the cross-sectional goal of this legislation. . . . [A]ny substantial percentage deviations must be corrected by the use of supplemental sources.

[T]he bill recognizes that in some areas voter lists of all kinds may be insufficient to implement the policies of the Act, by reason of local voting practices. Where that is true, the plan must prescribe other sources to supplement the voter lists.

S. REP. NO. 891, 90th Cong., 1st Sess. 17, 27 (1967) (emphasis added). The House "adopt[ed] for its report the Senate committee report." H.R. REP. NO. 1076, 90th Cong., 2d Sess. 3 (1968). In a brief submitted to the Supreme Court, Solicitor General Robert Bork stated that "Congress intended that voter lists be supplemented by other sources where the use of voter lists results in substantial failure to achieve the cross-sectional goal." Brief for the United States, *Test v. United States*, No. 73-5993, at 15. See also Foster Appendix, *supra* note 1; WORKS, *supra* note 27, at 64.

199. See Modified Plan for the U.S. District Court for the District of Columbia for the Random Selection of Grand and Petit Jurors (March 16, 1976) and Amended Plan for the Random Selection of Grand and Petit Jurors in the U.S. District Court for the District of Colorado (August 18, 1975), on file with the Administrative Office of the U.S. Courts, Washington, D.C., both of which provide for supplementation of voter registration lists. These are the only two districts, out of a total of 94, that have used supplemental lists. Letter of September 23, 1976 from William R. Burchill, Jr., Associate General Counsel of the Administrative Office of the U.S. Courts, to David Kairys, on file at the *California Law Review*.

200. But see *Ford v. Hollowell*, 385 F. Supp. 1392 (N.D. Miss. 1974); *United States v. Grant*, 475 F.2d 581 (4th Cir. 1973) (Winter, J., dissenting), *cert. denied*, 414 U.S. 868 (1973).

201. See cases cited notes 12-17 *supra* & 202 *infra*.

202. E.g., *United States v. Test*, 550 F.2d 577 (10th Cir. 1976); *United States v. Jenkins*, 496 F.2d 57 (2d Cir. 1974), *cert. denied*, 420 U.S. 925 (1975); *United States v. Jones*, 480 F.2d 1135 (2d Cir. 1973); *United States v. Lewis*, 472 F.2d 252 (3d Cir. 1973); *United States v. Dangler*, 422 F.2d 345 (5th Cir. 1970); *United States v. Gordon*, 455 F.2d 398 (8th Cir. 1972); *United States v. Ross*, 468 F.2d 1213 (9th Cir. 1972). In a brief presented to the Supreme Court, Solicitor General Robert Bork stated that, pursuant to the Act, "substantial underrepresentation of a cognizable group . . . would necessitate resort to supplementary sources . . . even though no history of voter discrimination against the group is proved." Brief of the United States, *Test v. United States*, No. 73-5993, at 13-14.

203. Indeed, these cases also misconstrue the actual constitutional standard, since, although the courts use the term "systematic exclusion," they only require an inference of discrimination from proof of a "substantial disparity." See text accompanying notes 32-73 *supra*.

204. 28 U.S.C. § 1867(d). See authorities cited notes 15 & 198 *supra*.

The Committee on the Operation of the Jury System of the Judicial Conference of the United States, which drafted the Act, has noted "the increasing number of cases challenging the process of jury selection" and has responded with proposals regarding source lists.²⁰⁵ Unfortunately, rather than encouraging enforcement of the supplementation provision or investigating the representativeness of voter lists, the Committee has proposed an amendment to the Act that would "establish a presumption that names of prospective jurors contained in voter lists represent a fair cross-section of the community."²⁰⁶ The basis for this presumption is surely not factual,²⁰⁷ since all available data directly opposes it.²⁰⁸ The Committee's proposal would define away a serious problem, and sacrifice the basic principles of the Act.²⁰⁹

The Act provides the basis for representative and inclusive source lists in the federal courts; all that is required is enforcement by the courts.

2. *The Uniform Act.* The Uniform Act, adopted in five states,²¹⁰ provides that:

"The jury commission for each [county] [district] shall compile and maintain a master list consisting of all [voter registration lists] [lists of actual voters] for the [county] [district] supplemented with names from other lists of persons resident therein, such as lists of utility customers, property [and income] taxpayers, motor vehicle registrations, and drivers' licenses, which the [Supreme Court] [Attorney General] from time to time designates."²¹¹

The Commissioners' Comment to this provision states that supplementation is "mandatory."²¹²

The Uniform Act embodies provisions designed to maximize the representativeness and inclusiveness of sources and the entire jury system. There are no exemptions,²¹³ and all requests for excuse are re-

205. REPORT, *supra* note 1, at 9.

206. *Id.*

207. The Committee's report does not state or refer to any factual basis; rather, the Committee said: "This proposal is a response to the increasing number of cases challenging the process of jury selection." *Id.*

208. See text accompanying notes 145-60 *supra*. The Uniform Act creates the opposite presumption and makes it irrebuttable, requiring use of multiple lists. See text accompanying notes 215-17 *infra*.

209. This proposal seems to suggest an implicit recognition of the deficiencies in the decisions construing the present supplementation provision. However, contrary to the apparent belief of its proponents, it would lead to more, not less, litigation, since the provision itself and the unrepresentative sources and pools it would spawn would be subject to constitutional attack.

210. See note 8 *supra*.

211. UNIFORM ACT, *supra* note 9, § 5.

212. UNIFORM ACT, *supra* note 9, Commissioners' Comment to § 5.

213. UNIFORM ACT, *supra* note 9, § 10.

solved on an individual basis by the court "only upon a showing of undue hardship, extreme inconvenience, or public necessity, for a period the court deems necessary" ²¹⁴ Jurors are reimbursed for travel expenses and paid at a "more adequate [rate] than has commonly been provided" to compensate them adequately and to "reduce the occasions for excusing prospective jurors . . . because of financial hardship." ²¹⁵ Length and frequency of service is limited, ²¹⁶ and employers are prohibited from punitive actions because of absence from work. ²¹⁷ Presumably, states adopting the Uniform Act will have representative and inclusive jury source lists and pools, making challenges rare.

IV

METHODOLOGY FOR USE OF MULTIPLE LISTS

In order to achieve the representative source lists and pools required by the Constitution, relevant statutes, and societal considerations, multiple lists must be used. This section deals with the theoretical and practical aspects of implementing multiple-list systems, ²¹⁸ and discusses various techniques for combining multiple lists and the choice of the lists to be used.

A. Methods for Combining Multiple Lists

Any multiple list plan must be governed by the fundamental principle that each person whose name appears on at least one of the lists used should have an equal chance of being selected, independent of the total number of lists on which the name appears. For example, if four lists are used and one individual is on all four lists while another individual is on only one list, then a procedure must be used that results in both having the same chance of selection. Otherwise, the result will be no better and may even be worse than with single list procedures.

At first glance, it may appear that implementation of a nondupli-

214. *Id.* at § 11. Experience with various excuses and exemptions has shown that any group offered a basis for not serving will take it. See note 4 *supra*. The provisions eliminating exemptions and narrowing excuses should result in a broader cross-section and widespread participation.

215. *Id.* at § 14, and Commissioners' Comment to § 14.

216. UNIFORM ACT, *supra* note 9, § 15.

217. *Id.* at § 17.

218. For a general discussion see *Multiple Lists*, *supra* note 30, in which the authors present the theoretical basis and relevant equations concerning the procedures outlined here.

cating, multiple list procedure is both costly and time consuming.²¹⁹ However, simple methods have recently become available that can eliminate the effect of duplications and require only slight additional cost or time.²²⁰

The most straightforward procedure consists of combining the lists into a single master list on which all duplicates are eliminated and each individual is listed only once. In most jurisdictions only a small proportion of the people on a source would actually be called for jury duty, so that much of the effort of compiling such a master list is unnecessary. A better approach involves not combining the lists initially, but selecting random samples from each and then using a procedure regarding the names selected that insures each individual has an equal chance of being selected independent of the number of lists on which he or she appears.²²¹

Such a procedure begins by ordering the lists to be used. For example, the voter registration list may be first, the driver's license list second, the public assistance list third, and the telephone list fourth. The particular ordering used does not influence the probability of any particular individual being selected, but it does affect the cost.²²² Once the lists have been ordered, they are still kept separate, but, for purposes of this procedure, they are regarded collectively as one long list containing many duplications. If a person's name appears on more than one list, it is regarded as "good" on the first list on which it appears, while all further appearances are regarded as duplicates or "blanks."²²³ Using this definition, each person listed at least once has one good listing and possibly several duplicate listings or blanks.

In order to insure that each individual has an equal chance of being selected, only good listings can result in a person being selected, and all blank listings are ignored. Names are selected from each of the lists, and each selection is then checked to determine if it is good or blank. For example, a name selected from list 1 is automatically good. A name selected from list 2 must be checked against list 1. If

219. See, e.g., *Facets of the Jury System*, *supra* note 5, at 13, where, without benefit of the techniques discussed here and based upon the experience in one jurisdiction, use of multiple lists is said to be "desirable" but "expensive". The problem of duplications has been cited as one of the primary reasons that multiple list systems have been viewed as impractical. *Implementation in the Fifth Circuit*, *supra* note 27, at 383. The author was not aware of the methodology discussed here.

220. On the costs, see text accompanying notes 236-40 *infra*.

221. These procedures also allow an updated version of any one or all of the lists to be used without requiring a re-compilation of an entire master list.

222. See *Multiple Lists*, *supra* note 30, at 212-18.

223. For example, if an individual were on lists 3 and 4, the listing on list 3 would be good and the one on list 4 would be a blank.

it is on list 1, the selection is blank, and if it is not on list 1, it is good. In general, a name from a particular list is good provided that it is not to be found on any of the lists preceding it in the order described above. The concept of good and blank names will give each individual an equal chance of selection if an appropriate number of names is selected randomly from each list. This can be accomplished in a number of ways, two of which are described here.²²⁴

One plan requires that a fixed sampling fraction of the names on each list be selected and checked. The total number of good names that will result from this process is not known in advance; it will be approximately the sampling fraction multiplied by the total number of good names on all lists.²²⁵ Since all names on the first list are good and therefore require no checking, time and costs will often be minimized by ordering the lists so that the longest is first.²²⁶

A second plan consists of two stages. First, after the lists are ordered, one of them is selected with a probability proportional to the total number of names on that list. A name is then chosen at random and checked as described above. If it proves to be a duplicate, it is discarded; otherwise, it is kept as a good selection. Then a list, perhaps the same, perhaps a different one, is again chosen at random and the checking procedure is followed. This continues until the required number of names has been selected. This method is quite flexible and is particularly useful when only a small number of names is required.

The costs and effort involved in use of multiple lists will depend on many factors, including the number of lists used, their lengths, the number to be selected, and whether or not the procedure is computerized. The most costly aspect is the checking procedure, implementation of which requires a method for determining whether a given name is on a particular list. There are three basic alternatives.²²⁷

First, checking can be accomplished manually.²²⁸ The cost and

224. Five plans are presented and discussed in *Multiple Lists*, *supra* note 30, at 208-11.

225. For example, suppose the lists utilized are voter registration, licensed drivers, telephone and public assistance and they contain, respectively, 1,000,000, 800,000, 500,000 and 40,000 names. If the sampling fraction is 5%, then 50,000, 40,000, 25,000 and 2,000 names would be selected and checked from the voters, drivers, telephone and public assistance lists respectively. Of these 2,340,000 names, if 1,500,000 were good and 834,000 were blanks, then the yield of good names would be approximately 5% of 1,500,000 or 75,000. The sampling fraction can be varied to yield the required good names.

226. This is so if the cost of a check for each name and on each list is uniform throughout, which is not always the case.

227. Equations for computation of costs are presented in *Multiple Lists*, *supra* note 30, at 212-15.

228. See Table E *infra* for jurisdictions in which a manual checking procedure has been utilized.

time involved with this method are significant, but it has been used without undue expenditures.²²⁹

Second, computer programs are available that will check lists for duplications at a minimal cost.²³⁰ These programs may not be able to detect all the duplications because of spelling mistakes and differing conventions for names, addresses, and districts. Failure to detect these duplications results in certain individuals having a slightly larger chance of selection; however, this bias should not be serious, for it is unlikely to affect a significant number of names, and no particular group should have a special concentration of these errors.

Third, checking can be accomplished by questionnaire.²³¹ Once a name is selected, a qualification questionnaire is usually sent to determine whether or not the individual meets the established requirements for jury service. In addition to the usual questions, each person can be asked to identify the lists on which his or her name appears. It is then a simple matter for selection officials to determine whether a selection was good or a blank. With such a procedure, the only added burden is the cost of mailing additional questionnaires.²³²

Finally, perhaps the best checking procedure from the standpoint of costs and complete accuracy is a combination of the computer and questionnaire techniques. A computer will eliminate almost all of the blanks. Any remaining blanks can be detected by use of the questionnaire technique. The additional costs of such a hybrid procedure over a single list procedure would be minimal.²³³

The methods for multiple list systems utilized in several jurisdictions are presented in Table E. Most of these jurisdictions have used the master list method and computerized checking procedures. However, three jurisdictions are using or are about to use the new methods discussed here for minimizing the number of names to be checked.

229. See text accompanying notes 236-40 *infra* concerning the costs.

230. See Table E, *infra*, for jurisdictions in which a computerized checking procedure has been used. Information concerning computer programs and methods for formatting the lists is available from Judicial Department, State of Colorado, 323 State Capital, Denver, Colorado 80203 (Attention: Rayma Jordon); Office of Court Administrator, 29th Judicial District, Kansas Courthouse, Kansas City, Kansas 66101 (Attention: Jerry Larson); Administrative Office of the Courts, 303 K St., Anchorage, Alaska 99501 (Attention: M. Martin).

231. No jurisdiction of which we are aware has utilized a questionnaire checking procedure.

232. The use of questionnaires raises the possibility that the information received could be inaccurate or unreliable, but experiences in similar situations have demonstrated that this is not a serious problem. The Census Bureau used this technique in its studies of voting and registration, determining who was registered and who voted by asking the respondents, and a check of the procedure revealed minimal inaccuracies and unreliability. See *Voting and Registration in the Election of 1972*, *supra* note 151, at 7-8.

233. This procedure has been recommended in San Diego County, California. See Bird Engineering—Research Associates, *The Use of Multiple Lists for Jury Selection, A Report to the Superior Court of San Diego County* (May 2, 1977).

Table E

Jurisdictions that Presently Use Multiple Lists²³⁴

Jurisdiction	Lists	Method of Combination	Implemen- tation Technique	Present Status
U.S. District Court for the District of Colo.	Voter registration Licensed drivers	1	Computer	In use
U.S. District Court for the District of Columbia	Voter registration Licensed drivers	1	Computer	In use
Alaska (statewide)	Voter registration Fish and game Income tax	1	Computer	In use
California:				
San Diego Co.	Voter registration Licensed drivers	3	Under study	Under study
San Joaquin Co.	Voter registration Licensed drivers	1	Computer	In use
San Mateo Co.	Voter registration Licensed drivers	1	Computer	In use
Colorado (statewide)	Voter registration Licensed drivers City directory	1	Computer	In use
Idaho:				
Ada Co.	Voter registration Licensed drivers	1	Computer	In use
All other Counties (separately)	Voter registration Licensed drivers	1	Manual	In use
Wyandotte Co., Kansas	State census Voter registration	1	Computer	In use
Jefferson Co., Kentucky	Voter registration Property tax	*	Computer	In use
Hennepin Co., Minnesota	Voter registration Licensed drivers	3	Under study	Under study
St. Louis Co., Missouri	Voter registration Licensed drivers	1	Computer	In use shortly
North Dakota:				
Burleigh Co.	Actual voters Licensed drivers	3	Manual	In use
Canyon Co.	Actual voters Licensed drivers Utilities	1	Manual	In use
Ward Co.	Actual voters Licensed drivers	1	Manual	In use
New York:				
Bronx Co.	Voter registration Licensed drivers City income tax	*	Computer	Under study
Kings Co.	Voter registration Licensed drivers	*	Computer	In use
New York Co.	Voter registration City income tax	1	Computer	In use
Queens Co.	Voter registration Licensed drivers City income tax	*	Computer	Under study
Allegheny Co., Pennsylvania	Voter registration Telephone book Welfare	3	Manual	In use (Plan 3 system under study)

234. Table E was compiled by Bird Engineering—Research Associates (P.O. Box

Application of these techniques and the cost and effort involved can be illustrated by a recent example. Allegheny County, Pennsylvania (which includes Pittsburgh) has recently adopted the fixed fraction multiple list system (Plan 2) using three lists: voter registration, telephone and public assistance.

The total number of names, the number of "good" names, and the number of "checks" on each list are presented in Table F. Once the overlap has been determined, the sampling fraction, or the proportion of names to be selected from the lists, can be determined based on the total number of jurors needed.²³⁵ In this instance, 50,000 names are needed, and 72,880 must be drawn from the lists in order to meet this requirement. In addition, a total of 29,647 checks must be made. The added tasks attributable to the use of multiple lists, in addition to conceptual and developmental tasks,²³⁶ are drawing 22,880

37, Vienna, Virginia 22180), a firm with extensive experience in developing techniques and advising courts concerning multiple list methods for jury selection (the authors appreciate the assistance given by Bird, particularly by Chester Mount, Thomas Munsterman and William Pabst). The plan numbers listed under "Method of Combination" indicate the following: Plan 1 is the master list plan discussed *infra* at text accompanying notes 219-20 (see *Multiple Lists*, *supra* note 30, at 209, where this plan is also referred to as plan 1); Plan 2 is the proportional list selection plan discussed *infra* at text accompanying notes 224-26 (see *Multiple Lists*, *supra* note 30, at 210, where this plan is also referred to as plan 2); Plan 3 is the random list selection plan discussed *infra*, at text accompanying notes 226-27 (see *Multiple Lists*, *supra* note 30, at 210, where this plan is referred to as plan 4). An asterisk (*) means the lists are used without combination method to eliminate the effect of duplications.

235. The sampling fraction is 4.81%. It is determined from the equation:

$$N_0 = (N_1 + d_2N_2 + d_3N_3)f,$$

where,

N_0 = number of names needed,

N_1 = number of names on list 1,

N_2 = number of names on list 2,

N_3 = number of names on list 3,

d_2 = proportion of names on list 2 that are not on list 1,

d_3 = proportion of names on list 3 that are not on list 1 or 2, and

f = sampling fraction.

In this example,

$$50,000 = [921,000 + (.2016)559,000 + (.1630)35,000]f$$

$$f = 4.81\%$$

d_2 and d_3 are determined by a sample survey. The checks required for the telephone and public assistance lists are determined as follows. A total of $(.0481)559,000 = 26,980$ names will be selected from the phone book, all of which must be checked against the voters registration list. A total of $(.0481)35,000 = 1684$ names must be selected from the public assistance list. All of these names must be checked against the telephone book. Of the 1684 names, 611 will be found in the telephone book and be discarded as bad names. The remaining 1073 must be checked against the voters registration list which gives a total of $1684 + 1073 = 2757$ checks for the public assistance names.

236. The Federal Judicial Center and other agencies could reduce the costs and effort of development and programming by developing programs for using the various plans and making them generally available, as they have already done concerning the task of picking randomly from source lists.

additional names and checking 29,647 names. This has not yet been done in Allegheny County,²³⁷ but cost figures for the same tasks are available from the experience in San Mateo County, California. If all the lists are available on computer tapes and therefore no keypunching is necessary,²³⁸ the cost in computer time would be less than \$30.00.²³⁹ Compilation of a master list, which would require approximately 600,000 checks, would cost approximately \$600.00 in computer time.²⁴⁰

Table F
Allegheny County, Pa. Multiple List System²⁴¹

List	Total names	"Good" (non-duplicating) Names	Number of "Checks" Required (for 50,000 "good" names)
Voter registration	921,000	921,000	0
Telephone	559,000	112,694	26,890
Public Assistance	35,000	5,705	2,757
Total	1,515,000	1,039,399	29,647

B. Choice of Lists

Multiple list procedures are necessary to overcome the biases and exclusiveness inherent in available single lists. As more lists are employed, the total number of unique names increases, and the overall list becomes more inclusive. However, care must be exercised in choosing the lists to insure that no biases result. If a group is underrepresented on all the lists, it will be underrepresented in the combined source no matter how many lists are used. Moreover, supplementation with some lists can increase a group's underrepresentation or create an underrepresentation of another group.²⁴²

This observation indicates that if the purpose of using multiple lists is to be achieved, the additional lists utilized must overrepresent the groups underrepresented on the primary list.²⁴³ The most widely used

237. Allegheny County plans to do the drawing and checking manually, and it is not known how long this will take or how much it will cost.

238. If the lists are not available on tapes and have to be keypunched, there is a significant additional cost.

239. In San Mateo County, computer time costs \$63.00 per hour. The cost of computer time and the amount of time necessary vary with various machines and locations.

240. 600,000 checks would require approximately 20 times as much computer time, which would cost about \$600.00.

241. These data are from Report of Dr. William Brinckloe to the Jury Commission of Allegheny County (May 29, 1974).

242. Care should always be taken that the use of lists that compensate for the underrepresentation of one group and/or increase inclusiveness does not result in underrepresentation of another group. For example, city directory and telephone customer lists will increase inclusiveness, but they seriously overrepresent men and higher income people. See note 244 *infra*.

243. See WORKS, *supra* note 27, at 109; JURY SELECTION PROCEDURES, *supra* note 4, at 98-104.

primary list is the voter registration list, which significantly underrepresents racial minorities, people under 40, those with lower incomes and less education, blue collar workers, and the unemployed. The lists chosen to supplement the voter registration list should therefore compensate for these specific deficiencies. Some commonly available lists, including lists of telephone and utility customers, city directories and tax lists, generally underrepresent the same groups as voter registration and actual voter lists.²⁴⁴ However, public assistance²⁴⁵ and unemployment lists generally give strong representation to people with lower socio-economic status and minority groups.²⁴⁶ Licensed drivers' lists are typically a good source for young people and provide substantially increased inclusiveness.²⁴⁷

The advisability of various combinations will, of course, vary in different areas. Data from various jurisdictions indicate that generally voter registration lists combined with licensed drivers, public assistance and unemployment lists will provide representative and inclusive sources.²⁴⁸ These and other lists should be examined and evaluated before determining which lists to use.²⁴⁹

244. JURY SELECTION PROCEDURES, *supra* note 4, at 100-2.

245. In *Implementation in the Fifth Circuit*, *supra* note 27, at 384, Judge Gewin states, without citing any authority or indicating his basis, that public assistance lists are not useful because people on them are mostly excusable or disabled. He does not discuss unemployment lists. See JURY SELECTION PROCEDURES, *supra* note 4, at 102, recommending public assistance lists.

246. A 1975 study by the Department of Health, Education and Welfare determined that of the people receiving aid to families with dependent children, 50.2% were white, 44.3% were black, 1.1% were American Indian, .5% were Asian, and 3.9% were in some other minority or unknown. Of those classified in the study as white, about 13% were from a Spanish speaking background, mostly Mexican and Puerto Rican. NATIONAL CENTER FOR SOCIAL STATISTICS, POPULATION SURVEY (December 21, 1976). See also NATIONAL CENTER FOR SOCIAL STATISTICS, FINDINGS OF THE 1973 AFDC STUDY, DHEW PUBLICATION No. (SRS) 74-03764 (1974) (provides detailed demographic data on public assistance recipients, some of which is broken down by states). For a demographic breakdown of unemployed people (not all of whom are on unemployment lists), see U.S. DEPT. OF LABOR, BUREAU OF LABOR STATISTICS, EMPLOYMENT AND EARNINGS, Vol. 24, No. 4 (April, 1977) (published monthly); U.S. DEPT. OF LABOR, BUREAU OF LABOR STATISTICS, GEOGRAPHIC PROFILE OF EMPLOYMENT AND UNEMPLOYMENT, Report 481 (1975).

247. JURY SELECTION PROCEDURES, *supra* note 4, at 102-4. In California, there were about 12 million licensed drivers in 1973, while as of 1970 there were only 8.7 million registered voters. *Id.* at 102. See CAL. CIV. PROC. CODE, § 204e (West Supp. 1977) which provides for use of licensed drivers lists with voter registration lists. In some counties in North Dakota, use of licensed drivers lists with lists of actual voters increased the number of people included by from 80% to 100% and greatly increased the number of young people. JURY SELECTION PROCEDURES, *supra* note 4, at 104.

248. These lists are typically computerized and are therefore easily used with computerized selection and checking procedures.

249. It is advisable to include demographic questions on jury questionnaires so the demographic composition of the source and pool will be known and appropriate changes can be made. Such data is also useful regarding possible challenges to the jury system.

CONCLUSION

This article advocates the adoption of concrete standards of representativeness or cross-sectionality for jury source lists and pools pursuant to the representativeness principle and the rule of exclusion. The representativeness principle embodies the fundamental right of litigants to a fair trial, the right of citizens to serve on juries, and the societal interest in the legitimacy, integrity and impartiality of the judicial process. Adoption of concrete standards directly based upon the representativeness principle is analytically appropriate and would ensure that jury selection systems are evaluated in terms of the underlying constitutional concerns.

Most of the unrepresentativeness in our jury systems is directly attributable to the unrepresentativeness of the source lists. Multiple lists are in use in several jurisdictions, and the methodology for easy and inexpensive implementation of multiple list systems is now available. Constitutional and statutory mandates concerning source lists must be enforced, or representativeness will be an empty generalization rather than a constitutional cornerstone.