

The Representative Jury Requirement: Jury Representativeness and Cross Sec- tional Participation from the Beginning to the End of the Jury Selection Process

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The paper specifically addresses the many ways in which the facially neutral procedures actually fail to secure representative jury pools. Although the Sixth Amendment's fair cross-section requirement forbids systematic discrimination in the creation of the jury venire and panel, it does not guarantee that the criminal jury will in fact reflect an accurate cross-section of the community. As a result, not only does the Court fail to focus on non-legally recognized screening mechanisms and factors such as exemptions, excuses, failure to followup jurors, etc., may affect jury representativeness, but also the Court never examined cross-sectional representation at the entirety of the jury selection processes, except jury panels and final juries.

The first section of this paper presents a brief overview of the constitutional law impacting impartial juries, especially addressing the fair cross-section doctrine that is the focus of contemporary jury selection procedures. In providing empirical and systematic comparisons of jury participation at each of the distinct jury selection stages encompassing a general population, jury wheels, jury qualified pools, jury eligibles, jury panels, and actual trial jurors, the second section of this paper makes critical analyses of the cumulative effects of screening mechanisms in jury selection. The paper assesses jury compositions by looking at demographic, socio-economic, and ideological profiles of prospective jurors, illustrating that those jury profiles do not necessarily reflect cross-sectional representation of the community population at comprehensive stages of the jury selection process. The analytical findings show that unless some deep seated reforms are made to eliminate cumulative effects of selection biases and correct representative imbalances of jury wheels, qualified pools, jury panels, and trial juries, historically underrepresented groups such as racial minorities, the poor, and part-time employees will continue to be underrepresented on juries, negating the public's shared responsibility for the administration of justice in one of America's most heralded democratic institutions.

Introduction

Over the course of two centuries, the jury in the United States evolved into a democratic institution. Its foundation can be found in the Sixth Amendment to the Constitution that guarantees, "(i)n all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed" (U.S. Const. amend. VI.). Not until recent decades, however, has the Court interpreted the content of the "impartial jury" clause to mean that the jury must be drawn from a fair cross-section of the community (*Lockhart v. McCree*, 476 U.S. 162, 174-75 1986) — an understanding that Congress adopted as federal statu-

tory policy, stating it is the "policy of the United States" that "an accused faces a jury from a fair cross section of the community" (28 U.S.C. Section 1861, 1993).

While the law of juries requires that jury panels be randomly selected from the community in order to achieve a representative sampling of citizens, one recurrent problem with this method is that randomly selected jury panels are not always fully or regularly representative of all segments of the relevant community. More specifically, racial and ethnic minorities, as well as the young, old, and the poor, are consistently underrepresented in most federal and state court jury pools and venues.¹

This contrast between the procedural mechanism of random selection and the substantive goal of diverse and representative jury panels recurs for four reasons. First, many "random" procedures regularly yield very predictable, non-random deficiencies in their outcomes. For instance, random selection from the most common source list for juries, a list of registrar of voters (ROV), consistently underrepresents racial minorities across both jurisdiction and time largely because these groups neither register or vote (Piven and Cloward, 1988).

Second, in most jurisdictions there are a number of exclusionary screening questions covering exemptions and excuses that are statutorily recognized. Automatic exemptions, for instance, are given to certain occupations such as physicians, police officers, attorneys, and judges (Fukurai et al., 1993, p.67; Hoffman, 1993). The court also grants excuses, though there may be some variations among different jurisdictions, including physical incapacity to serve as jurors, personal obligations, economic hardship, difficulty in transportation, and other excuse items (Fukurai et al., 1993). Since excuses and exemptions are not randomly distributed across different populations, a random sampling of potential jurors does not lead to a representative, cross-section of community populations.

Third, selection criteria often rely on the court's subjective judgments of prospective jurors' ability to serve on juries. Subjective, yet mandatory jury qualification criteria include such standards as an eligible person must be mentally sound and possess good moral and "fair character," ordinary intelligence, "approved integrity" and "sound judgment" (CA, 1981, Section 17.205 (a)). While random selection procedures were intended to hinder the efforts of officials to discriminatorily manipulate the jury selection process, if the system is unaffected by actual discriminatory intent, little attention is focused on the outcomes produced by ostensibly neutral selection procedures. Some state courts still allow "key-man" selection methods to choose petit and grand jurors, for instance (Fukurai, 1996b).² Certain segments of potential jurors in the jurisdiction are thereby deemed unqualified to serve on juries and thus excluded from jury service (Benokraitis, 1975, pp.37-38).³

Fourth, the Court has recently recognized that race-based exclusion of jurors violates the equal protection rights of the excluded jurors, rather than the rights of the defendant, in an effort to bring all citizens into full and equal

participation in the institutions of American self-government.⁴ The Court's analyses nonetheless do not focus on how legally-recognized screening mechanisms and factors such as exemptions, excuses, and failures to follow-up potential jurors may affect the rights of those excluded from jury selection. Except the phases of jury panels (*Peters v. Kiff*, 1972) and at voir dire with discriminatory uses of peremptory challenges (*Power v. Ohio*, 1992), the Court has not specified at which stages of jury selection those factors may hamper constitutional ideals. Further, the Court's analyses also ignore the cumulative effects of discriminatory uses of race-based jury selection. For instance, if a large proportion of minority jurors in a jurisdiction fall into occupational categories from which exemptions are granted by the court, this will lead to an ever smaller pool of minority jurors receiving jury qualification questionnaires or jury summonses. As well, many may not even receive them because of high residential and economic mobility; and the court's failure to follow them up may lead to even smaller numbers of minority jurors appearing at the courthouse. Even then, many may ask to be excused; and few minorities can undergo voir dire and be selected for the final jury.

The consistent underrepresentation of racial minorities, the poor, and other societal groups which result from the disjunction between the cumbersome process and ideal goals of jury selection, indicates a need to reevaluate potentially discriminatory factors at each and every stage of the jury selection process. In the past, however, little research has been done to examine the representativeness of jurors' demographic and socioeconomic backgrounds at each stage of the jury selection process. The void in knowledge is due to the facts that: (1) the selection of representative cross-sections of jurors is a substantive goal that requires different, more closely examined procedures at each stage of jury selection and (2) a paucity of past research in tracing potential jurors from the beginning to the final stage of selection procedures has failed to offer important insights into what stages and factors exert the most significant influence on jury participation and hamper cross-sectional representation of the community population.⁵

The main thrust of this paper is two-fold: (1) to provide systematic and critical comparisons of jury participation at each of the distinct jury selection stages encompassing a general population, jury qualified pools, jury eligibles, jury panels, and actual trial jurors; and (2) to assess jury compositions by looking at demographic, socio-economic, and ideological profiles of prospective jurors, illustrating that those jury profiles do not necessarily reflect cross-sectional representation of the community population at entire stages of the jury selection process. This leads to this writer's conclusion that deep seated reforms may be in order in an effort to attain full-community participation in jury trials.

The paper presents a brief overview of the constitutional law impacting impartial juries, specifically addressing the fair cross-section doctrine that is the focus of contemporary jury selection procedures. It also addresses the many ways in which the facially neutral procedures used to compile jury

master lists and draw names from them actually fail to secure representative jury pools. In examining jury representation of various groups from a general population as well as qualified jury pools, jury panels, and actual jurors who served on trials, this writer attempts to make critical analyses of the cumulative effects of screening mechanisms in jury selection. As will be examined, such effects impact jury composition and a fair cross-sectional representation of demographic and socio-economic segments of the community at different stages of jury selection procedures.

THE GOAL OF RANDOM SELECTION AND THE FAIR CROSS-SECTION DOCTRINE

What are the major problems in achieving the two goals of juror master lists — inclusion of every eligible citizen and representation of all segments of the community? These matters enter at the very beginning of the juror identification process, when jurisdictions compile master lists of residents to serve as jurors (Fukurai et al., 1993).

Indeed, disparities arise from both policy choices and the logistical or mechanical difficulties of compiling and updating a master list of all residents in a community. For governments have traditionally turned to two sources that approximate such a list: voter registration rolls and, less often, driver registration records. Both are probably the most comprehensive single-source lists available in most jurisdictions. Yet each has significant deficiencies with regard to inclusiveness and representativeness.

Why does the use of voter rolls contribute to under-inclusive and unrepresentative jury panels? The underrepresentation of poor citizens and people of color on voter registration rolls had become so entrenched (Piven & Cloward, 1988) that it prompted a series of Supreme Court decisions (*Kramer v. Union Free Sch. Dist.*, 395 U.S. 621, 1969; *Harper v. Virginia Bd. of Elections*, 383 U.S. 663 1966; *Raynolds v. Sims*, 377 U.S. 533 1964) to do away with restrictions on the franchise and under the Voting Rights Act (Voting Rights Act of 1965, Pub.L. No. 89-110, 79 Stat. 445, codified as amended at 42 U.S.C. ss 1971, 1973 to 1973bb-1, 1988).

Several decades after those reforms, Congress still recognized a need for the National Voter Registration Act of 1993 to improve registration rates (42 U.S.C.A. s 1973gg, West Supp. Sept. 1993 — effective May 20, 1993). Until the Voter Registration Act, however, few serious efforts had been made to ensure that voter registration lists were fully inclusive of the eligible population. Still, some states refused to implement the act. The ROV lists are estimated to exclude up to one-third of the adult population, skewing the jury pool to overrepresent the elderly and relatively affluent and to underrepresent racial minorities (Fukurai et al., 1993, pp. 17-20). The decision to draw names from a source so well known — and in some cases deliberately manipulated — to be unrepresentative might be seen as a disingenuous effort to compile a representative jury wheel (Fukurai, 1996c).

The hope for a balanced representative jury must be contrasted to earlier views of jury selection that rest on the pre-cross-section vision of juries, which assumed that the best jurors are active, upstanding citizens of good moral character, and, in that respect, are an elite subgroup of the community. This pre-cross-section vision of the community does not mesh with the contemporary notion of impartiality that depends upon a representative cross-section of citizens. However, what is the foundation for this conclusion? Some people undoubtedly decline to register to vote not simply out of laziness; but most do so as an affirmative demonstration of their disaffection with the political process and public institutions (Dustin, 1986; King, 1994). Their non-registration, then, is a demonstration of a social perspective that needs to be represented as one element of a community's diverse viewpoints, particularly since part of role-task of many juries is to assess the credibility of public officials and institutions such as the police (Fukurai et al., 1993). If the community includes so-called lazy or disaffected nonvoters, then, so should the jury pool.

Recently, a minority of state jurisdictions have made efforts to improve the representativeness of the jury wheel by supplementing ROV with other sources of names. A common list is driver registration records (DMV lists). However, the DMV source — although they document all drivers including low-income citizens and racial minorities in numbers closer to their actual proportions in the population — still underrepresents the elderly and women, both of whom drive less than their younger, male counterparts (Fukurai et al., 1993, pp.43-45). Other source lists such as public welfare records, property tax records, and annual local census data are available. However, they are not in widespread use and are likely to have comparable problems of under-inclusiveness.

Other logistical problems that hinder the gathering of a comprehensive jury pool have been documented (Fukurai et al., 1993). Combining two or more source lists creates obvious problems of name duplication that are surprisingly intractable; some jurisdictions have conceded that their computer programs simply cannot eliminate all duplicate names. Colorado once reported that, even after scanning for duplicate names, ten percent of residents' names appeared more than once on jury wheels (Fukurai et al., 1993, p. 50). Minority residents' names, therefore, are less likely to appear twice on a multiple-source list, which means that in a random selection of jurors from the combined list, they have a reduced chance opportunity of being called. Atlantic City-County, New Jersey, at one point had 180,000 names on its jury master list when only 130,000 adults lived in the county (Fukurai et al., 1993, pp.44-47). As minority jurors are underrepresented on both ROV and DMV records, though to a lesser extent on the latter, one list does not catch most of the names missing from the other. The representativeness of jury wheels is thus unintentionally, but distinctly undermined, by these logistical difficulties.

How frequent jury master lists are updated from source lists also affects jurors' representativeness. Federal law requires updating jury wheels once

every four years. Relying on ROV, such an interval between updates means that residents who are age seventeen at the time of an update will not be added to the jury wheel until they are twenty-one, if they register to vote in that interval. Past research identifies studies that have shown that infrequent updates of jury wheels further undermine the representation of minority residents found in voter rolls (Fukurai, 1994, 1995; Fukurai & Butler, 1994).

Finally, another practical difficulty that depresses minority residents' participation in jury pools is the relation between residential mobility and juror participation. African-Americans and other minority groups such as Asians and Hispanics, have higher rates of residential mobility than do whites. Studies suggest that this situation is a reflection of relative income and job status: minorities are more likely to be employed in low wage, seasonal or otherwise unstable sectors of the labor market, which correlates with more frequent residence changes (Bonvalet et al., 1995; St. John et al., 1995). Residential mobility may affect whether citizens are ever added to any jury master lists; but, even more directly, it affects the citizen's chance opportunity to be summoned once selected from the master list. If a master list underrepresents African-Americans at the onset, then the inability to track down those on the list with summons by mail adds to the deficiency. Worse, it is argued, jury commissioners often make little effort to track down "undeliverables" and purge them from master lists (Fukurai et al., 1993, pp.21-26).

While numerous legal and non-legal variables are considered as impacting selectivity in jury participation, however, the non-random nature of jury selection procedures and non-representative jury participation have not been systematically documented. Further, the application of the fair cross-section doctrine as a remedy to the non-representative juries has not been critically analyzed. Past social science research, for instance, has failed to critically examine the extent of the jury composition of various subpopulations from the entire scope of jury selection processes — namely screening from the general population to qualified jurors, then to jury pools, and finally to actual jurors. Although, in a 5-4 decision, the Supreme Court in *Holland v. Illinois* (110 S.Ct. 803 1990) refused to apply the same cross-sectional mandates to the final stage of jury selection of trial jurors, comprehensive analyses of jury composition covering the entirety of jury selection processes may help identify legal and non-legal factors and specific stages of jury selection procedures that disenfranchise some citizens from jury participation.

Furthermore, an evaluation of the fair cross-sectional representation by different demographic and socio-economic segments of the community is best performed by examining each and every stage of jury selection processes. Since past studies have largely concentrated on the composition of jury panels and trial jurors, their compositions gauged by general population characteristics have often failed to identify non-random factors and procedural deficiencies of jury selection.

Even more serious consequences of the failure to consider procedural and logistical difficulties of jury selection have appeared in socio-psychological

attitudinal studies. Past attitudinal research, for instance, almost always failed to screen their research participants for legal and non-legal factors that may affect their jury participation (Fukurai et al., 1993; Fukurai and Butler, 1994). Since not all subjects are eligible or qualified to serve on juries, their findings suffer from limited external validity and their conclusions become even more questionable. The non-random nature of unqualified or ineligible jurors have thus not been considered, possibly biasing their analyses and findings.

SEVEN DISTINCT STAGES OF JURY SELECTION

Before performing empirical analyses of jury representativeness of various groups, it is important to review the seven different stages of the jury selection procedure. Those distinct stages of jury selection include the following: (1) a general population defined by the court jurisdiction; (2) a ROV pool; (3) prospective jurors identified by multiple source master lists (or wheels); (4) qualified jurors; (5) jury eligibles; (6) jury panels; and (7) trial jurors who sit on jury boxes.

A general population refers to the composition of potential jurors in a given jurisdiction. A ROV pool refers to registered voters who reside within a jurisdiction. A pool of prospective jurors based on multiple source lists also include community populations who are identified by ROV and department of motor vehicle (DMV) lists, including registered voters or those who have automobile licenses or identification cards issued by DMV. A pool of qualified jurors include prospective jurors identified by the source lists and who have passed mandatory qualification criteria. Qualification requirements include such factors as: jurors have to be an U.S. citizen, eighteen years old or more, a resident of the county or jurisdiction, with a sufficient degree of knowledge of the English language, "in possession of natural faculties or of at least ordinary intelligence," with no conviction of "a felony, malfeasance in office or other high crime," and not currently "serving as a grand juror in a court" of jurisdiction.⁶ The question on the citizenship status is asked again at the last stage of jury selection, as prospective jurors identified by multiple source lists may include non-citizens, the DMV list not screening for citizenship status.

Qualified jurors are further screened for their eligibility to serve on juries. For example, automatic exemptions are given to certain occupations such as police officers, attorneys, and judges. Excuses are also granted, though there may be some variations among different jurisdictions, and include such factors as "physical or mental incapacity or disability that would entail undue risk of harm" to jurors' health; personal obligations "to provide actual and necessary care to another and it is not feasible to make alternative arrangements for that care"; "economic injury or extreme financial burden"; "extremely difficult transportation or travel conditions"; previous juror service "during the immediately preceding 12 months"; and other excuse requests that the court may grant.⁷

Jury panels include prospective jurors who actually appeared at the courthouse after receiving their summonses. A large proportion of qualified and eligible jurors, however, do not necessarily respond to jury summonses sent by the jury commissioner's office. As a stark example, 44% of prospective jurors in Los Angeles were classified as nonrespondents — including “undeliverables” (15%) that post offices failed to locate, and “recalcitrants” (29%) who refused to respond to jury calls (Fukurai et al., 1993, p.122). Not all jurors who appear at the courthouse end up on jury boxes, either. A large proportion of potential jurors on panels are excluded by peremptory challenges and/or challenges for cause during voir dire. Similarly, judges often screen prospective jurors for possible excuses and exemptions.

While similar screening questions are asked of qualified jurors at earlier stages of jury selection, the effect on jury participation by certain subpopulations at this stage of jury selection is considered to be even more significant since a large proportion of the same groups are already excluded before reaching jury panels (Fukurai et al., 1993). These seven distinct jury selection stages provide the basic framework for screening prospective jurors from a general population, defined by the court jurisdiction, to their status as final trial jurors who sit as participants on jury boxes.

This paper examines the level of jury participation and representativeness of various segments of general populations in all seven stages of the jury selection process, from the community population in a given jurisdiction, to jury qualified pools, jury eligibles, jury venires or panels, and trial jurors. Tracing jury participation from the first to the last stage of jury selection, a variety of legal and extra-legal variables that impact jury representativeness can be identified and analyzed. As well, the critical examination of jury representativeness between different stages of jury selection also provides important insights into how to counteract the effect of discriminatory factors that exclude from jury service racial minorities and other societal subgroups that have been historically underrepresented in both jury pools and jury boxes.

RESEARCH DESIGN

Sample:

A 1986 community research survey was utilized to examine the effect of jurors' socio-demographic and ideological backgrounds on jury representation. Survey questionnaires were sent to potential jurors who were randomly selected from an a California County Master Key List. The data identified socioeconomic, demographic, and ideological profiles of those who were placed on the master list.⁸

The purpose of the community survey was twofold: (1) to obtain accurate estimates of ethnic and racial compositions of eligible prospective jurors in the jurisdiction, and (2) to understand the pattern of jury participation by various race/ethnic and class segments of the community. Potential jurors were select-

ed from the master list by a systematic random selection method.⁹ A total of 1,275 community residents were contacted to gather information on their race/ethnic backgrounds, social class, perceptions on criminal justice and court processes, prior jury service, and eligibility to serve on juries. In examining respondents' jury participation, every respondent was asked about the qualification and eligibility for jury service. When the respondent was qualified, he was further questioned about his response to a jury summons. When the respondent appeared at the courthouse, then he was asked further about experiences with voir dire as well as whether he succeeded in serving on the jury. Respondents' step-by-step progress through the jury selection procedure was carefully monitored, computerized, and analyzed.

Measurement:**Jury Qualifications:**

The following seven questions are used to examine whether individuals identified by both DMV and ROV are qualified to serve as jurors: (1) "I am *not* now a citizen of the United States," (2) "I am *not* eighteen years of age or older," (3) "I am *not* now a resident of the County," (4) "I do *not* have sufficient knowledge of the English language to act as a juror," (5) "I am *not* now in possession of my natural faculties or of at least ordinary intelligence," (6) "I have been convicted of a felony, malfeasance in office or other high crime," and (7) "I am now serving as a grand juror in a court of this state." These qualification items are taken from the actual questions as listed by the jury commissioner of Orange County, California. Any prospective juror who responded "yes" to any of the seven questions is automatically disqualified from jury service.

Jury Eligibles (Exemptions and Excuses):

While potential jurors can meet all the qualification items, some of them are still exempted from serving on juries because of their occupations and/or vital functions they perform in society. Similarly some qualified jurors may have compelling excuses from serving on juries. Thus for qualified jurors to become eligible to receive jury summonses and appear at the courthouse, they have to be screened for their exemption and excuse status.

The following two sets of questions are asked in order to identify individual jurors who are exempted as well as excused from jury service, thereby becoming ineligible jury candidates to move on to the next stage of jury selection, i.e., jury panels. The following question is used to identify jurors' exemption status: (1) "Peace officer, as defined by C.P.C. 830., 830.2 and CCP 202.5," excluding potential jurors who hold private security positions, not public peace officers employed by the county or the state. The next five questions are also used to identify whether jurors have a compelling excuse from

serving on juries: (1) "I have a physical or mental incapacity or disability that would entail undue risk of harm to my health"; (2) "I have a personal obligation to provide actual and necessary care to another and it is not feasible to make alternative arrangements for that care"; (3) "I would suffer serious economic injury or extreme financial burden"; (4) "I have extremely difficult transportation or travel conditions"; (5) "I have serviced as a juror during the immediately preceding 12 months."

In order to examine the legitimacy of excused categories, the questionnaire provides the following statements before the excuse items are checked by potential jurors: "If you request an excuse based upon 'undue personal hardship,' mark appropriate box and explain below. Employer hardship is not a valid excuse." Using the same procedures employed by the Orange County Jury Commissioner's Office, prospective jurors who have met the burden of showing extreme personal hardship are classified as non-eligibles and excluded from the subsequent stages of the jury selection procedure.

Demographic Backgrounds:

For empirical analyses, we rely on a number of jurors' demographic identifications. While the Court has limited the Sixth Amendment to challenges arising at the jury pool and jury panel composition stages, the Supreme Court has recognized women, blacks, and Hispanics as cognizable groups to be protected against discrimination in jury selection.¹⁰ Similarly, state courts have recognized other demographic groups such as young adults as cognizable factors to evaluate a fair cross-sectional representation of jury panels (for example, see *United States v. Bureta*, 420 F.ed 564 1970). Jury research also shows that married jurors are overrepresented on jury panels and jury boxes (Fukurai et al., 1993). Thus four socio-demographic factors that are critical to a fair cross section of the community are examined for various stages of jury selection processes. Those factors cover: (1) sex, (2) race, (3) age, and (4) marital status.

Socio-economic Backgrounds:

In addition to jurors' demographic profiles, the Court has also recognized the socio-economic dimension of prospective jurors as cognizable status. The Court, for instance, considered daily wage earners as cognizable (*Thiel v. Southern Pacific Co.*, 328 U.S. 217 1946; in California, see *People v. White*, 43 Cal.2d 740 1954). Jury research also show that jurors' social class positions are closely intertwined with their ability to serve on juries. Thus, the present analyses include the following four variables to measure socio-economic backgrounds and social class positions of prospective jurors to assess jurors' representativeness at different jury selection stages. Those variables included: (1) education, (2) income, (3) organizational backgrounds, and (3) employment status. To examine jurors' organizational backgrounds, jurors were asked

if potential jurors owned their business. Second, since a managerial position is more closely related to having authority status, jurors' supervisory responsibility was used to indicate the extent of managerial control within a firm and job-related responsibility in work places. Third, prospective jurors were asked whether their companies were able to compensate for jury service, as past studies show that employees in organizations with salary continuation policies are more likely to respond to jury calls and serve on juries (Fukurai et al., 1991c).

The measurement of social class also includes the following two variables: annual family income and employment status. Annual family income reflects the economic well-being of potential jurors and further determines their chances to serve on juries. Three employment conditions included: (1) full-time, (2) part-time, and (3) retired. The socio-economic background is considered to be crucial because it is closely related to jurors' abilities to make the necessary financial sacrifice to take a time off and respond to jury calls.

Attitudinal Backgrounds:

With respect to attitudinal characteristics of jurors, the Court has yet to evaluate the distinctiveness of the group with specific attitudes and biases as cognizable. It is important to recognize, however, that jurors' attitudes and prejudice may not reflect a fair cross-section of the community population. For instance, perhaps one of the most misunderstood concepts of our legal process is the presumption of innocence until the accused is adjudicated guilty in a court of law.¹¹ Past studies substantiated that even after service as trial jurors, a substantial proportion of them are still unable to correctly understand the principles of the presumption of innocence, burden of proof, and reasonable doubts (Bonora and Krauss, 1993, pp.2-12,15; Ellers, 1993, p. 2185; Tiersma, 1995).

The present analyses focus on the following three questions to examine jurors' level of understanding of the basic criminal justice assumptions, namely presumed innocence and burden of proof, and how those assumptions are distributed at different stages of jury selection. The measurements of the presumption of innocence include the following two questions: (1) "if the prosecution goes through the trouble of bringing someone to trial, the person is probably guilty," and (2) "a person who has criminal record and is accused of a serious crime is probably guilty." The first question examines potential jurors' understanding of whether the presentation of criminal charges automatically leads to the presupposition of defendant's guilt. The second question is designed to measure potential effects of the accused's prior criminal records on the presumption of innocence.

The burden of proof is measured by the question: "regardless of what the law says, a defendant in a criminal trial should be required to prove his/her innocence." In our criminal justice system, the burden of proof rests on the prosecution or the state, not on the defendant. Thus, this question is designed

to measure respondents' knowledge and awareness of who shoulders the burden of proof in our criminal proceedings.

The present analyses take a variety of factors — demographic, socio-economic and class positions, and criminal justice biases — and examine jurors' representation at different stages of jury selection processes. The analyses also shed critical insights into the cumulative effects of each and every selection stage and assess the extent of a non-random nature of jury selection processes. Furthermore, the analyses of jurors' attitudinal dimensions on criminal justice assumptions assist researchers in examining the distribution of significant legal and non-legal factors that may disenfranchise certain segments of community populations at different stages of jury selection, thus further undermining jurors' fair cross-sectional representation.

Methods:

In order to examine representative disparity of jury participation by various population subgroups, the analyses rely on two statistical measures: (1) a comparative disparity and (2) z scores. The measure of disparity used most often in past Supreme Court cases have been absolute disparity, the mathematical difference between the racial composition of the population and that of the jury panels. This measure, however, does not adequately show discrepancies when the population category being examined is small. Analyzing differences more effectively, comparative disparity measures the percentage by which the probability of serving on a jury is reduced for people in a particular category or cognizable group. The formula for computing comparative disparity is the following:

$$\text{Comparative Disparity (\%)} = \frac{\text{Absolute Disparity}}{\text{Proportion of the population in specified category}} \times 100$$

$$\text{Absolute Disparity} = \frac{\text{Proportion of the source in specified category}}{\text{Proportion of the population in specified category}}$$

Another statistical test referred by z scores shows the probability that the observed underrepresentation of the group is the result of chance. The probability, which depends on the size of the panels or pools, is calculated by using the binomial distribution. In *Castenada v. Partida* (430 U.S. 482 1977), the Supreme Court took judicial notice of the use of statistical significance tests based on probabilities to examine the inference of racial discrimination in jury selection (430 U.S. at 496 n.17). The statistical index modeled by binomial distribution was referred to by the Court in showing the statistically significant

underrepresentation of Mexican-Americans on juries.¹² The present analyses thus rely on those statistical measures to examine jury participation by various segments of community populations in seven stages of jury selection.

RESULTS

Jury participation at seven stages of jury selection is shown in Table 1. Comparative disparity measures and z scores are shown in Tables 2 and 3, respectively. The first column in Table 1 shows jurors' different backgrounds — demographic, socio-economic, and attitudinal dimensions. The second through eight columns show seven different stages of jury selection: (1) a general population, (2) ROV pools, (3) multiple source pools (ROV and DMV), (4) jury qualified pools, (5) jury eligible pools, (6) jury panels, and (7) jury boxes. The figures in parentheses show the percentage of excluded jurors for respective variables. The cumulative effect of jury selection processes is also shown in the table that, for example, 43.83% of males in jury panels became trial jurors while 45.45% of males in jury panels failed to serve on juries (a figure shown in a parenthesis at the last column for males). The figures also suggest that 56.17% (100%-43.83%) of trial jurors were female and voir dire excluded 54.54% of female jurors from serving on juries. That is, while the majority of trial jurors were female, voir dire also eliminated more female jurors from serving on actual trials.

Table 2 shows comparative disparity figures for different jury pools. The second through seventh columns show the comparative disparity of individual jury pools from a general population. Positive figures show overrepresentation of a group and negative figures for underrepresentation. The last 5 columns indicate representative disparities of different jury pools from immediately preceding jury selection stages. The first of the last five columns in Table 2, for instance, shows comparative disparities pools between ROV and multiple source lists (ROV and DMV). The supplemental use of DMV lists lead to 26.69% increase for Hispanic jurors' representation over ROV alone.

Table 3 shows z scores, suggesting the statistical significance of under- or over-representation of groups as indicated in Table 2. For example, a z score of 4.213 for white (a second column) suggests that whites are overrepresented on the pool which is solely created by ROV source. If the selection of the jury pool is created by random selecting community residents in a jurisdiction, the overrepresentation of white potential jurors can only happen less than once in 10,000 tries.¹³ This also suggests that if ROV is the only source for creating a jury pool, it almost always leads to overrepresentation of white prospective jurors.

Demographic Backgrounds:

The tables show a number of important findings in jurors' demographic representation on different jury pools. First, the use of ROV list alone does not

TABLE 1. DEMOGRAPHIC, SOCIOECONOMIC, ATTITUDINAL BACKGROUNDS OF JURY POPULATIONS AT SEVEN STAGES OF JURY SELECTION

Jury Selection Stages (1) Through (7)											
Variable	(1) General Populations	(2) ROV	(3) ROV & DMV	(4) Jury Qualifiers	(5) Jury Eligibles	(6) Jury Panels	(7) Jury Boxes				
DEMOGRAPHIC BACKGROUND:											
Sex	Male	44.16%	44.85% (43.40%)	44.89% (35.64%) ¹	44.52% (42.80%) ²	48.71% (42.93%) ³	44.35% (44.68%) ⁴	43.83% (45.45%) ⁵			
Race											
	White	85.69	90.42 (64.25)	86.33 (73.33)	90.89 (65.04)	85.55 (86.19)	90.54 (90.26)	92.52 (87.61)			
	Black	0.74	0.62 (1.45)	0.60 (3.33)	0.41 (2.03)	0.73 (0.75)	0.92 (0.40)	0.31 (1.83)			
	Hispanic	7.69	5.77 (14.98)	7.31 (15.00)	5.22 (17.48)	7.43 (8.58)	5.38 (5.37)	4.67 (6.42)			
	Others	5.89	3.19 (19.33)	5.76 (8.34)	3.48 (15.45)	6.28 (4.48)	3.15 (3.97)	2.49 (4.13)			
Age											
	Less than 20	0.99	0.83 (1.99)	1.04 (0.00)	1.23 (0.00)	1.12 (0.96)	0.19 (2.19)	0.00 (0.46)			
	20 - 39	38.36	32.99 (67.16)	38.42 (37.04)	34.50 (54.51)	34.08 (39.57)	29.72 (41.63)	22.71 (39.91)			
	40 - 69	49.79	55.53 (26.87)	51.08 (22.22)	53.59 (33.91)	57.30 (47.66)	62.06 (43.23)	67.51 (54.13)			
	70 or More	10.85	10.65 (3.98)	9.45 (40.74)	10.68 (11.59)	7.49 (11.81)	8.04 (12.95)	9.78 (5.50)			
Marital Status⁶											
	Never Married	16.94	14.58 (31.13)	17.38 (11.88)	15.34 (22.88)	16.61 (17.03)	13.79 (17.87)	9.57 (20.20)			
	Married	64.31	69.93 (53.77)	67.21 (30.69)	66.93 (54.61)	63.35 (67.90)	71.51 (61.03)	73.15 (69.09)			
	Separated	8.47	8.56 (10.38)	8.94 (2.97)	7.38 (8.76)	8.07 (9.96)	7.34 (10.84)	8.33 (5.91)			
	Widowed	5.65	6.12 (2.36)	5.71 (4.95)	5.98 (4.43)	5.98 (4.43)	6.43 (5.32)	8.02 (4.09)			
SOCIO-ECONOMIC BACKGROUND:											
Education											
	Less Than High School	10.17	8.53 (18.13)	9.78 (34.15)	8.10 (21.56)	7.63 (11.52)	6.87 (9.41)	6.71 (7.11)			
	High School	31.03	30.06 (35.75)	31.03 (29.27)	31.45 (28.90)	30.15 (31.21)	29.96 (32.85)	32.59 (26.07)			
	Some College	27.85	27.83 (27.98)	28.34 (14.63)	28.89 (23.39)	28.63 (27.63)	27.67 (29.92)	26.84 (28.91)			
	College	16.80	18.34 (9.33)	16.86 (9.76)	18.12 (10.09)	18.70 (16.00)	20.99 (14.23)	18.85 (24.17)			
	Post Graduate	14.15	15.25 (8.81)	13.99 (12.20)	13.43 (16.06)	14.89 (13.65)	14.50 (13.60)	15.02 (13.74)			

<u>Income</u>													
Less than \$10,000	8.88	6.78	(16.58)	8.10	(30.77)	7.54	(14.35)	4.31	(10.19)	4.47	(10.56)	5.25	(3.35)
\$10,000 - \$29,999	34.45	32.60	(42.21)	34.21	(41.03)	33.33	(39.01)	32.94	(34.88)	32.10	(34.91)	33.11	(30.62)
\$30,000 - \$49,999	28.47	29.10	(26.63)	29.94	(15.38)	28.85	(26.91)	30.20	(27.97)	27.63	(30.39)	24.26	(32.54)
\$50,000 - \$74,999	17.31	19.26	(9.55)	17.83	(2.56)	18.91	(10.76)	17.65	(17.21)	22.57	(14.87)	24.26	(20.10)
\$75,000 or More	10.90	12.25	(5.03)	10.92	(10.26)	11.37	(8.97)	14.90	(9.74)	13.23	(9.27)	13.11	(13.40)
<u>Organization</u>													
Business Owner	13.16	13.72	(10.29)	13.39	(7.14)	14.03	(9.61)	14.89	(6.84)	9.68	(17.99)	10.00	(9.22)
Supervisor	47.85	50.08	(38.22)	47.59	(56.52)	49.32	(41.67)	48.86	(44.72)	49.34	(50.47)	45.41	(54.60)
Salary Compensation	50.20	53.21	(39.58)	50.81	(28.57)	50.00	(51.15)	43.33	(71.51)	72.73	(24.75)	75.35	(69.18)
<u>Employment Status</u>													
Full-Time	59.25	57.92	(67.20)	59.56	(50.00)	59.18	(59.52)	57.81	(63.92)	63.17	(56.02)	59.67	(68.29)
Part-Time	12.97	12.65	(13.76)	12.94	(13.89)	12.88	(13.33)	13.22	(12.15)	9.50	(15.74)	9.00	(10.24)
Retired	18.12	19.95	(7.41)	17.89	(25.00)	18.47	(16.67)	18.39	(17.25)	18.61	(18.06)	21.67	(14.15)

ATTITUDINAL BACKGROUND:

Criminal Justice Biases

(1) Defendant Required to Prove Innocence	41.46	37.21	(67.05)	44.77	(71.43)	38.20	(55.65)	36.00	(42.86)	34.23	(42.92)	30.57	(40.95)
(2) Person is Guilty if Brought to Trial	25.49	25.09	(22.62)	25.59	(21.43)	25.85	(23.89)	25.00	(25.62)	22.92	(29.54)	19.49	(29.25)
(3) Person with a Criminal Record is Guilty	26.96	26.39	(30.58)	27.05	(23.08)	26.20	(30.36)	20.31	(28.72)	24.50	(42.92)	19.59	(33.65)

Note: The questions are phrased as: (1) If the prosecution goes to the troubles of bringing someone to trial, the person is probably guilty;

(2) Regardless of what the law says, a defendant in a criminal trial should be required to prove his or her innocence;

(3) A person who has a criminal record and is accused of a vary serious crime is probably guilty:

- 1: a figure shows a percentage of males who were not included in ROV (Registrar of Voters) or DMV (Department of Motor Vehicle) lists.
- 2: a figure shows a percentage of jurors who failed to qualify for jury service.
- 3: a figure shows a percentage of jurors who were unqualified or asked for exemptions or excuses.
- 4: a figure shows a percentage of qualified jurors who failed to appear at a courthouse.
- 5: a figure shows a percentage of qualified jurors in jury panels who failed to sit on jury boxes.
- 6: Other living arrangements including cohabitation or currently divorced are not included in the analyses.

TABLE 2. COMPARATIVE DISPARITIES FOR A FAIR CROSS SECTIONAL REPRESENTATION OF DEMOGRAPHIC, SOCIOECONOMIC, ATTITUDINAL BACKGROUNDS OF JURY POPULATIONS

Variable	Disparities from a General Population						Disparities from a Previous Selection Stage:					
	(2) ROV	(3) ROV & DMV	(4) Jury Qualifiers	(5) Jury Eligibles	(6) Jury Panels	(7) Jury Boxes	(2)-(3)	(3)-(4)	(4)-(5)	(5)-(6)	(6)-(7)	
DEMOGRAPHIC BACKGROUND:												
Sex	Male	1.56%	1.65%	0.82%	10.30%	0.43%	-0.75%	0.09%	-0.82%	9.41%	-8.95%	-1.17%
Race												
	White	5.52	0.75	6.07	-0.16	5.66	7.97	-4.52	5.28	-5.88	5.83	2.19
	Black	-16.22	-18.92	-44.59	-1.35	24.32	-58.11	-3.23	-31.67	78.05	26.03	-66.30
	Hispanic	-24.97	-4.94	-32.12	-3.38	-30.04	-39.27	26.69	-28.59	42.34	-27.59	-13.20
	Others	-45.84	-2.21	-40.92	6.62	-46.52	-57.72	80.56	-39.58	80.46	-49.84	-20.95
Age												
	Less than 10	-16.16	5.05	24.24	13.13	-80.81	-100.00	25.30	18.27	-8.94	-83.04	-100.00
	20 - 39	-14.00	0.16	-10.06	-11.16	-22.52	-40.80	16.46	-10.20	-1.22	-12.79	-23.59
	40 - 69	11.53	2.59	7.63	15.08	24.64	35.59	-8.01	4.91	6.92	8.31	8.78
	70 or More	-1.84	-12.90	-1.57	-30.97	-25.90	-9.86	-11.27	13.02	-29.87	7.34	21.64
Marital Status												
	Never Married	-13.93	2.60	-9.45	-1.95	-18.60	-43.51	19.20	-11.74	8.28	-16.98	-30.60
	Married	8.74	4.51	4.07	-1.49	11.20	13.75	-3.89	-0.42	-5.35	12.88	2.29
	Separated	1.06	5.55	-12.87	-4.72	-13.34	-1.65	4.44	-17.45	9.35	-9.05	13.49
	Widowed	8.32	1.06	5.84	5.84	13.81	41.95	-6.70	4.73	0.00	7.53	24.73
SOCIO-ECONOMIC BACKGROUND												
Education												
	Less than High School	-16.13	-3.83	-20.35	-24.98	-32.45	-34.02	14.65	-17.18	-5.80	-9.96	-2.33
	High School	-3.13	0.00	1.35	-2.84	-3.45	5.03	3.23	1.35	-4.13	-0.63	8.78
	Some College	-0.07	1.76	3.73	2.80	-0.65	-3.63	1.83	1.94	-0.90	-3.35	-3.00

College	9.17	0.36	7.86	11.31	24.94	12.20	-8.07	7.47	3.20	12.25	-10.20
Post Graduate	7.77	-1.13	-5.09	5.23	2.47	6.15	-8.26	-4.00	10.87	-2.62	3.59
<u>Income</u>											
Less than \$10,000	-23.65	-8.78	-15.09	-51.46	-49.66	-40.88	19.47	-6.91	-42.84	3.71	17.45
\$10,000 - \$29,999	-5.37	-0.70	-3.25	-4.38	-6.82	-3.89	4.94	-2.57	-1.17	-2.55	3.15
\$30,000 - \$49,999	2.21	5.16	1.33	6.08	-2.95	-14.79	2.89	-3.64	4.68	-8.51	-12.20
\$50,000 - \$74,999	11.27	3.00	9.24	1.96	30.39	40.15	-7.42	6.06	-6.66	27.88	7.49
\$75,000 or More	12.39	0.18	4.31	36.70	21.38	20.28	-10.86	4.12	31.05	-11.21	-0.91
<u>Organization</u>											
Business Owner	4.26	1.75	6.61	13.15	-26.44	-24.01	-2.41	4.78	6.13	-34.99	3.31
Supervisor	4.66	-0.54	3.07	2.11	3.11	-5.10	-4.97	3.64	-0.93	0.98	-7.97
Salary Compensation	6.00	1.22	-0.40	-13.69	44.88	50.10	-4.51	-1.59	-13.34	67.85	3.60
<u>Employment Status</u>											
Full-Time	-2.24	0.52	-0.12	-2.43	6.62	0.71	2.83	-0.64	-2.31	9.27	-5.54
Part-Time	-2.47	-0.23	-0.69	1.93	-26.75	-30.61	2.29	-0.46	2.64	-28.14	-5.26
Retired	10.10	-1.27	1.93	1.49	2.70	19.59	-10.33	3.24	-0.43	1.20	16.44
ATTITUDINAL BACKGROUND:											
<u>Criminal Justice Bias</u>											
(1) Defendant Required to Prove Innocence	-10.25	7.98	-7.86	-13.17	-17.44	-26.27	20.32	-14.68	-5.76	-4.92	-10.69
(2) Person is Guilty If Brought to Trial	-1.57	0.39	1.41	-1.92	-10.08	-23.54	1.99	1.02	-3.29	-8.32	-14.97
(3) Person with a Criminal Record is Guilty	-2.11	0.33	-2.82	-24.67	-9.12	-27.34	2.50	-3.14	-22.48	20.63	-20.04

Note: The questions are phrased as: (1) If the prosecution goes to the troubles of bringing someone to trial, the person is probably guilty;
 (2) Regardless of what the law says, a defendant in a criminal trial should be required to prove his or her innocence;
 (3) A person who has a criminal record and is accused of a vary serious crime is probably guilty:

TABLE 3. Z SCORES FOR A FAIR CROSS SECTIONAL REPRESENTATION OF DEMOGRAPHIC, SOCIOECONOMIC, ATTITUDINAL BACKGROUNDS OF JURY POPULATIONS

Variable	Disparities from a General Population						Disparities from a Previous Selection Stage:				
	(2) ROV	(3) ROV & DMV	(4) Jury Qualifiers	(5) Jury Eligibles	(6) Jury Panels	(7) Jury Boxes	(2)-(3)	(3)-(4)	(4)-(5)	(5)-(6)	(6)-(7)
DEMOGRAPHIC BACKGROUND:											
Sex Male	0.435	0.504	0.230	1.508	0.089	-0.120	0.028	-0.236	1.388	-2.035	-0.188
<u>Race</u>											
White	4.231	0.626	4.705	-0.066	3.230	3.511	-4.761	4.206	-3.055	3.310	1.218
Black	-0.439	-0.560	-1.220	-0.019	0.490	-0.903	-0.087	-0.780	0.824	0.521	-1.150
Hispanic	-2.257	-0.489	-2.937	-0.161	-2.022	-2.040	2.263	-2.544	1.636	-1.823	-0.566
Others	-3.592	-0.189	-3.243	0.273	-2.714	-2.599	5.011	-3.101	2.515	-3.009	-0.680
<u>Age</u>											
Less than 20	-0.506	0.173	0.768	0.216	-1.885	-1.800	0.793	0.593	-0.164	-2.061	-0.785
20 - 39	-3.459	0.042	-2.515	-1.449	-4.144	-5.793	3.957	-2.554	-0.145	-2.145	-2.761
40 - 69	3.596	0.884	2.408	2.473	5.724	6.379	-3.068	1.591	1.225	2.244	2.022
70 or More	-0.201	-1.542	-0.173	-1.778	-2.107	-0.619	-1.333	1.332	-1.700	0.487	1.152
<u>Marital Status</u>											
Never Married	-1.971	0.402	-1.352	-0.145	-1.959	-3.537	2.719	-1.706	0.580	-1.767	-2.203
Married	3.674	2.074	1.733	-0.330	3.505	3.321	-2.032	-0.189	-1.253	3.950	0.654
Separated	0.101	0.578	-1.240	-0.236	-0.947	-0.091	0.465	-1.732	0.434	-0.625	0.683
Widowed	0.638	0.089	0.453	0.235	0.788	1.848	-0.586	0.369	0.000	0.443	1.167
SOCIO-ECONOMIC BACKGROUNDS:											
<u>Education</u>											
Less than High School	-1.699	-0.442	-2.170	-1.383	-2.546	-2.061	1.533	-1.792	-0.284	-0.668	-0.114
High School	-0.657	0.000	0.288	-0.313	-0.539	0.607	0.725	0.288	-0.461	-0.097	1.033
Some College	-0.014	0.375	0.735	0.286	-0.094	-0.406	0.390	0.387	-0.094	-0.495	-0.334

College	1.290	0.055	1.119	0.837	2.614	0.987	-1.310	1.066	0.248	1.370	-0.946
Post Graduate	0.989	-0.157	-0.655	0.350	0.234	0.449	-1.201	-0.512	0.705	-0.256	0.266
<u>Income</u>											
Less than \$10,000	-2.312	-0.940	-1.493	-2.645	-3.616	-2.297	1.799	-0.650	-2.014	0.184	0.679
\$10,000 - \$29,999	-1.219	-0.173	-0.747	-0.523	-1.153	-0.508	1.177	-0.588	-0.136	-0.417	0.389
\$30,000 - \$49,999	0.437	1.116	0.267	0.631	-0.434	-1.679	0.634	-0.754	0.491	-1.306	-1.357
\$50,000 - \$74,999	1.614	0.471	1.340	0.148	3.243	3.307	-1.243	0.894	-0.530	3.010	0.728
\$75,000 or More	1.357	0.022	0.478	2.113	1.744	1.276	-1.390	0.457	1.831	-1.094	-0.064
<u>Organization</u>											
Business Owner	0.519	0.233	0.815	0.842	-2.401	-1.683	-0.329	0.595	0.408	-3.413	0.195
Supervisor	1.398	-0.178	0.932	0.333	0.696	-0.879	-1.706	1.098	-0.151	0.224	-1.415
Salary Compensation	1.886	0.418	-0.127	-2.262	10.510	9.054	-1.648	-0.513	-2.196	13.838	1.059
<u>Employment Status</u>											
Full-Time	-0.848	0.216	-0.045	-0.482	1.861	0.154	1.138	-0.245	-0.459	2.531	-1.306
Part-Time	-0.298	-0.031	-0.085	0.122	-2.409	-2.127	0.299	-0.057	0.167	-2.562	-0.307
Retired	1.488	-0.205	0.288	0.115	0.297	1.659	-1.766	0.480	-0.034	0.132	1.415
ATTITUDINAL BACKGROUNDS:											
<u>Criminal Justice Biases</u>											
(1) Defendant Required to Prove Innocence	-2.702	2.302	-2.097	-1.824	-3.423	-3.979	5.359	-4.187	-0.745	-0.860	-1.388
(2) Person is Guilty if Brought to Trial	-0.287	0.079	0.262	-0.185	-1.375	-2.478	0.395	0.189	-0.320	-1.120	-1.469
(3) Person with a Criminal Record is Guilty	-0.402	0.069	-0.543	-2.467	-1.293	-2.990	0.513	-0.606	-2.205	2.429	-2.055

Note: The questions are phrased as: (1) If the prosecution goes to the troubles of bringing someone to trial, the person is probably guilty;
 (2) Regardless of what the law says, a defendant in a criminal trial should be required to prove his or her innocence;
 (3) A person who has a criminal record and is accused of a vary serious crime is probably guilty:

lead to a fair cross-sectional representation of various demographic subgroups of the population. Rather it leads to significant overrepresentation of the following groups as they show that percentages of ROV representation are higher than those who are excluded (as shown in parentheses). Those overrepresented groups include: (1) males, (2) whites, (3) those 40 years old or over, (4) the married, and (5) the widowed. Similarly the use of ROV alone also leads to significant underrepresentation for blacks, Hispanics, other racial groups, less than 40 years old, the single or never married, and the separated. The DMV supplemental list, however, recovers the loss of the same disenfranchised groups back into the jury pool, raising percentages of the groups to the same or even greater than ones in the general population. The only exception is prospective jurors of 70 years old or more. The finding coincides with previous research as the elderly are less likely to retain automobiles and thus DMV identification (Van Dyke, 1977; Hans and Vidmar, 1986; Fukurai et al., 1993). While many state and federal courts still rely on ROV alone to create a jury pool, the findings show that the use of ROV does not lead to representative jury pools and support the use of multiple source lists to create a fair cross-sectional representation of community populations in jury pools.

The proportional demographic representation, however, changes once the qualification requirements are introduced into the selection process. Jury qualification requirements tend to skew the jury representation towards (1) males, (2) whites, (3) 40 to 69 years old, (4) the married, and (5) the widowed, showing similar effects of the ROV list upon jury participation. The only exception is that less than 20 year old jurors are overrepresented on the qualified jury pool. However, citizenship status, language requirements, prior criminal records, and subjective selection criteria such as possessions of "natural faculties" and "ordinary intelligence" tend to disenfranchise racial minorities, the single, the separated, and those between 20 and 39 years of age.

After screening for both exemptions and excuses, a mixed pattern of jury participation begins to emerge. For instance, both exemptions and excuses made racial representation of jury eligible pools very similar to that of a general population. Significant departures from the general population are observed for two groups, males and those between 40 and 69 years of age. For instance, after being screened for exemption and excuses, 57.30% of jurors are between 40 and 69 years of age, and their proportion in eligible pools is even greater than one in jury qualified pools (53.59%).

Among those who respond to jury summonses and appear at the courthouse, the jury panel composition shows mixed results. Males, whites, those between 40 and 69 years of age, the married and widowed are overrepresented on jury panels — results similar to the jury pool selected by only ROV lists. Jury box composition becomes even more skewed to show greater representation of the same groups and the retired, except males. The significantly underrepresented groups include blacks and those less than 20 years old. In fact, the findings showed no one younger than 20 years old served on the juries.

Socio-economic Backgrounds:

Similar to demographic jury profiles of prospective jurors, the use of ROV lists alone leads to skewed jury representation, over-identifying the following groups: (1) those with college or post graduate education, (2) higher income (over \$30,000), (3) business owners, (4) those with supervisory responsibilities, (5) prospective jurors with jury compensation, and (6) the retired. The use of supplemental lists (DMV) also show similar attenuating effects found in demographic representation by correcting the skewed jury representation to the general population breakdowns by socio-economic dimensions, further supporting that the multiple source lists are more likely to represent the socio-economic cross-section of community populations.

Jury qualification requirements, however, tend to skew jury compositions to those with higher education (some college or more), higher income (\$30,000 or more), business owners, supervisors, and the retired. Exemption and excuse clauses further skew the profile of jury eligibles with the same groups. The greatest increase is observed for those with annual incomes of more than \$75,000 (10.92% of jury pools based on multiple source lists and 14.89% of jury eligibles).

The analyses of jury composition at jury panels show mixed results. While jurors with higher education and greater annual income are overrepresented, the greatest increase is observed for those with salary compensation programs. Prospective jurors from organizations with salary continuation policies make up approximately a half of a general population (50.20%) as opposed to 72.73% of jurors at the jury panel. Table 3 shows that in comparing with the general population in the community, the overrepresentation of salary compensated jurors is statistically significant ($z = 10.510$ and 9.054 for jury panels and boxes, respectively), suggesting that if jury selection is truly random, such overrepresentation of jurors whose salaries are to be continued during jury service would occur in less than one in one million trials, suggesting that all jury selection stages prior to the jury panel are more likely to disenfranchise individual jurors who lack organizational resources and benefits of salary continuation policies. Moreover, their disproportionate representation becomes even greater when they are assessed for actual jury service (75.35%), showing that more than three out of four trial jurors who sit on jury boxes are compensated for jury duties. The trial jurors are also even more skewed to higher income (\$50,000 or more) and the retired population.

Ideological Backgrounds and Jury Biases

Similar to demographic and socio-economic backgrounds of community members, attitudinal profiles of individual jurors also show significant fluctuations throughout the seven stages of jury selection procedures. Empirical analysis shows that the general population is most likely to hold the assumptions of guilt when the criminal defendant is brought to the trial (25.49%).

Similarly the general population is most likely to assume that the offender has to prove their innocence (41.46%) and that if a person has a prior criminal record, he or she is assumed guilty (26.96%).

The jury eligible population is more likely to show less bias about the assumption of guilt (25.00%), the burden of proof (36.00%), and negative perceptions due to prior criminal records than the general population (20.31%). The perceptive biases of criminal justice are less for prospective jurors available for jury trials than the general population and the jury eligibles. The one exception, however, is that summoned jurors are more likely than the jury eligibles to assume that the offenders with criminal records are guilty (24.50%). Those who served on jury trials showed the least bias with respect to the presumption of innocence, prior records biases, and burden of proof. The analysis shows the statistically significant difference between served jurors and other subgroups ($z = -3.979$, -2.475 , and -2.990 for the burden of proof, presumed innocence, and guilt with criminal records, respectively).

DISCUSSIONS

The historical evolution of the requirement that an impartial jury must necessarily be drawn from a cross-section of the community entailed a shift in several earlier views about the nature of juries, collective impartiality, and human judgment.¹⁴ The contemporary requirement that the jury represent a fair cross-section of society premises the concept of impartiality on the jury's diversity. The present research shows that the ROV list tends to skew jury representativeness more towards whites, males, higher incomes, those over 40 years of age, the married and the widowed. The similar effect is observed for jury qualification requirements, especially after screened for jurors' citizenship status, residency requirements, sufficient knowledge of the English language, no previous felony convictions, and other subjective items including possessions of ordinary intelligence, sound judgment, and a fair character.

Research findings also show that the supplemental use of DMV lists and jury exemptions and excuses tend to correct the representative imbalances caused by ROV and jury qualification requirements, suggesting that both demographic and socio-economic backgrounds of potential jurors are more likely to resemble those of the general population. Specifically, the use of DMV leads to greater inclusiveness of racial minorities such as African Americans and Hispanics, those less than 39 years of age, and never-married groups, and those with less than high-school education and earn less than \$30,000 annually.

Similarly, while the general population does not seem to possess correct factual knowledge of the burden of proof (41.46%), jurors' bias in criminal processes, particularly the burden of proof, becomes similar to those of the general population after the DMV is used as a supplemental list to ROV. While it is peculiar to argue that the level of "biases" is recovered by the

introduction of DMV source, such biases and prejudice are represented in jury pools as one element of community's diverse perspectives.

Further, excuses and exemptions also help correct the skewness of jury representativeness back to that of the general population. After screened for jurors' physical and mental incapacity or disability, personal obligations, economic hardship, transportation difficulties, and previous jury service, previously underrepresented groups such as racial minorities, never-married and separated jurors, and part-time employees are more likely to be included in jury pools. The exceptions, however, are that jurors with earnings exceeding \$75,000, those with college or post graduate degrees, and jurors between 40 and 69 are further overrepresented after qualified jurors are screened for their exemption status and excuse items for jury service.

Our findings also show that the jury panel stage of jury selection tends to accentuate further underrepresentation of the same groups that ROV excluded from jury service, such as Hispanics, those less than 39 years of age, jurors who separated or never-married, those with high school education or less, the pool with less than \$10,000 annual income, and part-time employees. Since jury panels include prospective jurors who actually appeared at the courthouse after receiving jury summonses, the present research finds that a large proportion of qualified and eligible jurors do not necessarily respond to jury summonses sent by the jury commissioner's office, suggesting that the effective enforcement of follow-up strategies may be necessary for those who failed to respond to jury summonses.

Research findings also suggest that not all jurors who appeared at the courthouse end up on jury boxes, either. A large proportion of potential jurors on panels are excluded by peremptory challenges and/or challenges for cause during voir dire. Similarly, judges often screen prospective jurors for possible excuses and exemptions once jurors report to the courthouse. While similar screening questions are asked of qualified jurors at earlier stages of jury selection, the effect on jury participation by certain subpopulations at this stage of jury selection is considered to be even more significant because a large proportion of the same groups are already excluded before reaching jury panels. Analytical findings show significant overrepresentation of the following groups on the jury seats after jury venire-persons are screened for voir dire processes and jury qualification and eligibility requirements at the courthouse: whites, those who are 40 years or more, the married and the widowed, high school graduates and those with post graduate education, those with earnings between \$50,000 and \$74,999, business owners, jurors with salary continuation plans, and the retired. With respect to jurors' attitudinal backgrounds, those with less biases in presumed innocence and burden of proof are more represented on final jury boxes.

The present research thus finds that ROV and jury qualification requirements tend to disrupt the representative composition of the general population. The findings also suggest that DMV and jury eligibility requirements are more

likely to correct the representative imbalances caused by ROV and qualification requirements to the original demographic and socio-economic makeup of the general population. However, without effective enforcement of follow-up at the jury panel stage of the selection process, particularly requiring those who are screened for both qualifications, exemptions, and excuses to show up at the courthouse, the representative cross-section of the general population is less likely to be accomplished at the jury panel stage of jury selection. Further, an even greater skewness is found between jury panels and actual jurors, showing that voir dire screening processes are more likely to even further disrupt the jury pools towards whites and middle class groups that already dominate the vast majority of both state and federal courts. Perhaps more effective judicial control over the use of peremptory challenges and challenges for cause is in order in an effort to achieve cross-sectional representation at the jury trial. One of the most important findings is that employees in firms or organizations that have salary continuation plans tend to dominate both jury panel and jury box compositions, suggesting that more than three out of four trial jurors do not need to worry about their declining income because of jury service. In California, jurors are awarded \$5 for their day's commitment in jury service, not enough incentives for daily or hourly wage earners to report to the courthouse, let alone to carry out their civic duties by serving on juries.

The present research suggests that the representative cross-section of the general population is not found at a number of jury selection stages, particularly after the list of potential jurors are created by voter registration and jury qualification items. Similarly, when jurors are given discretion to report to the courthouse after summoned for jury service, jury representativeness becomes even more remote from the socioeconomic and demographic makeup of the original jurisdiction. Similarly, voir dire processes tend to show similar disrupting effects on the representative balance of jury participation.

One important finding is that jurors' organizational resources are more likely to determine whether jurors are able to manage to survive throughout the cumbersome jury selection process. The present analyses substantiate that jurors' ability to serve on juries may depend on whether jurors are monetarily compensated for their civil service.¹⁵ Currently Massachusetts, Connecticut, and Colorado have instituted similar jury compensation measures with employers required to pay jurors their full salary for the first three days. A problem with requiring employers to compensate juror-employees is that it may have disparate impact on small businesses.¹⁶ Similarly, the imbalance of organizational resources and lack of salary continuation requirements tends to skew the jury pool in terms of economic status as well as by other socio-demographic denominators such as race and gender, to the extent that they begin to correlate with jurors' economic status. Thus granting excuses based on economic hardship may introduce a systematic bias in jury pools as those excuses are not randomly distributed in the population (Fukurai et al., 1993, p.120).

EXTERNAL VALIDITY OF THE STUDY AND POSSIBLE REFORMS FOR JURY'S FAIR CROSS SECTIONAL REPRESENTATION

The survey was conducted in 1986 and there have been a number of significant changes in jury selection since that time, specifically addressing racial representativeness. The Batson and Batson progeny cases are perhaps the most important because they explicitly forbid attorneys to rely on race in the exercise of their peremptory challenges. The Court in *Kentucky v. Batson* (106 S. Ct. 1712 1986) has ruled that the Equal Protection Clause forbids prosecutors from exercising peremptory challenges to strike prospective jurors on account of their race. Under Batson, the state will not exclude all members of the defendant's race from the jury box on account of race, or on the false assumption that members of his/her own race as a group are not qualified to serve as jurors (pp. 1716-1718). Although Batson initially offered hope that the goal of a representative jury was attainable, an examination of cases decided since 1986 suggests otherwise.

In the landmark study of post-Batson peremptory challenges on jury representativeness, Melilli (1996) reviewed virtually all relevant reported decisions of every federal and state court applying Batson between April 30, 1986 (the date of the Batson decision) and December 31, 1993, concluding that many of the currently accepted bases for peremptory challenges such as economic and geographic criteria and attorneys' subjective judgments continued to exert a disproportionate impact on blacks and Hispanics (Melilli, 1996, p.501). The study revealed that among 1156 Batson complaints, 95% were logged against criminal prosecutors' uses of peremptory challenges and that blacks and Hispanics constituted 87.3% and 6.7% of targeted groups of peremptory challenges.¹⁷ The study also found that the vast majority of black and Hispanic jurors were removed by peremptory challenges because of group stereotyping such as prior criminal activities (31.6%) and unemployment (19.3%) (pp.496-498).¹⁸ State and federal appellate courts have also ruled that leaving one or two African Americans on the jury precludes any inference of purposeful racial discrimination on the part of the prosecutor and that striking only one or two jurors of the defendant's race does not constitute a "pattern" of strikes.¹⁹ Trial and appellate courts have been willing to accept virtually any explanation offered by the prosecutor to rebut the defendant's inference of purposeful discrimination. Because the Batson and its progeny have failed to eradicate unlawful discrimination in jury selection, many scholars and commentators have advocated the elimination of peremptory challenges (Alschuler, 1989, p.209; Cammack, 1995, p.486; Fahringer, 1995, p.299; Ward, 1995, p.1362).

Given Batson's ineffectiveness and persistent racial disparity in jury selection, the present research proposes the following possible remedies and future reforms in the jury selection process. First, as present analyses substantiated that jury qualifications eliminate a large proportion of racial and ethnic minorities, it may be important to consider possible modifications in jury qualifica-

tions. The specific proposal may include jury participation by non-citizens, previously convicted felons, and potential jurors lacking sufficient knowledge of the English language.²⁰

In the history of modern juries, non-citizens actively participated in the grand and petit juries. For instance, before Okinawa reverted from U.S. control to Japan in 1972, general residents of Okinawa enjoyed the right to jury trials (Japan Federation of Bar Associations (JFBA), 1992, p.14). Similar to the jury trial in the U.S., the petit jury deliberation in Okinawa required the unanimous verdict, while the grand jury deliberation was based on majority vote. The jury qualification also required that potential jurors be at least 21 years of age; those established the Okinawa residency after living three months in islands; those with English proficiency; and both U.S. and non-U.S. citizens allowed to participate on juries. The simple random selection method was used to select potential jurors from not only Okinawa but also from surrounding Ryukyu islands. They were subject to voir dire and might be peremptorily stricken or excused for cause. The grand jury consisted of six to nine members and the petit jury was made up of twelve members (JFBA, 1992, pp.11-14).²¹

Similarly, in the late Twelfth century England, another tribunal called the jury de medietate linguae also allowed non-citizens to participate in jury trials. The term literally means the jury of the "half tongue" in Latin because the jury selection method applied to people who were considered alien or foreign, and this jury system lasted until the nineteenth century (Constable, 1994). Permitting non-citizens to participate in jury trials may have a significant impact in extending greater opportunities for the underrepresented groups such as Hispanics (Bleyer, McCarty, and Wood, 1995, p.250; Fukurai, 1997b).²²

The ABA standards also recommend that convicted felons "who have not had their civil rights restored" be excluded from jury service because many may resent the justice system and unduly favor criminal defendants, and noting that their presence on juries would weaken respect for judicial system (ABA, 1993, pp.39-40). In 1992, 44.8% of those arrested for violent crimes and 31.8% of those arrested for all serious crimes were black, while black males only constitute 6% of the U.S. population (U.S. Department of Justice, 1993, p.432). Similarly, of 829,334 of felony convictions in state courts, 47% of convicted felons were black (p.535). While the majority of states provide a certificate of discharge or an order of discharge to the convicted person as evidence that the person is restored to his or her civil rights, some states still automatically disqualify persons ever convicted of a felony. For instance, Missouri forever disqualifies individuals with prior felony convictions from jury service, imposing legal disabilities on convicted felons (Mo. Rev. Stat. s 561.026 (3), 1989). New Jersey requires that in order to qualify for jury service, one "shall not have been convicted of a crime" (N.J. Stat. Ann. s 2A:69-1 (West 1976), see also *United States v. Breckenridge*, 899 F.2d 540 541, n.2 (6th Cir. 1990)). Individuals with prior felony convictions face greater difficulties in serving as jurors. The issue of the qualification for jury service may suggest the desirability of legislation in order to establish a procedure for the

restoration of civil rights for convicted felons. Similarly, some studies suggested that voir dire procedures such as peremptory challenges, challenges for cause, and court discretions for declining to summon ex-felons need to be eliminated from jury selection procedures (Komives and Blotner, 1991; King, 1993). Otherwise, a large proportion of blacks and other ethnic minorities continued to be excluded from jury service.

A language proficiency requirement as another jury qualification criterion further eliminates a large proportion of eligible Hispanics. Brown (1994) argues that juror qualification provision which bars non-English speaking citizens from jury service violates not only the Sixth Amendment but also the Equal Protection Clauses of the Fourteenth Amendment, and that the statute such as the New York Judiciary Law with its English language requirement failed to meet the fundamental right for citizens to participate equally in the important judicial process of serving jury duty.²³

Many state laws require jurors to read, write, and speak English language with a degree of proficiency. Hispanics are the largest growing segment of the U.S. population, accounting for 9.0% of the U.S. population and 25.8% of the population in California. In some jurisdictions, thus, a proportion of potential Hispanic jurors who speak Spanish as their primary language also increased dramatically for the last several decades.²⁴ However, many states continue to exclude non-English speakers from serving on juries, thus possibly denying equal access to the fundamental right based on language (Perea, 1992; p. Brown, 1994, pp. 479-90;). While an alien in Canada is entitled to a jury at least half of whose members speak her language, jury service in the U.S. still requires English language proficiency, thus eliminating a large proportion of Hispanic populations (Potash, 1973, p.92).

Besides the disparate effect of jury qualifications on racial representation, the present study also found that the voir dire process still leads to racially and socially unrepresentative juries. Because the present analysis relied on the hypothetical analyses of the effectiveness of voir dire including peremptory challenges and challenges for cause, it is not entirely clear to the true extent of voir dire's impact on the disproportionate jury representation. However, given the skewed distribution of trial jurors after voir dire, it may also be important to examine possible affirmative applications of race-conscious measures to ensure the inclusion of racial minorities on the final jury. While the extended categories for qualified jurors may increase racial minorities' chances to be included in the jury pool or venire, they do not guarantee the inclusion of racial minorities on the jury, arguing that color-conscious jury selection may be necessary to ensure the presence of racial minorities on the final jury.

Jury studies suggest that the recognition of the importance of racially mixed juries does not begin with the Rodney King beating case or even with the civil rights revolution of the 1960s (Ramirez, 1994; Fukurai, 1997a). The emergence of heterogeneous juries even predates the American experience of the jury trial. As early as the twelfth century, English law recognized the danger that inhered in allowing members of a minority community to be tried

entirely by English majority jurors — the jury de medietate linguae — in both civil and criminal cases involving minority members including Jews, Italians, Germans, and other foreigners. As noted earlier, this practice of mixed juries of half English natives and half aliens endured throughout almost seven hundred years until it was finally repealed in 1870 (Constable, 1994). In the United States, the jury of the half tongue was also in existence from the colonial period to the late nineteenth century (Ramirez, 1994). The make-up quota of the mixed jury remained half for natives and the remaining half for foreigners, suggesting that the Court's color-blindness in the jurisprudence of jury selection and jury trials is a relatively recent concept.

Another affirmative action jury selection measure is proposed in Hennepin County, Minnesota, in which the extent of juries' racial representativeness reflects respective proportions of both majority and minority groups in the general population. Similar affirmative action measures are also currently under consideration or already established in some jurisdictions. In DeKalb County, Georgia, for instance, eligible jurors are divided into thirty-six classified groups, and jury commissioners rely on computer selection to obtain proportional representation of various demographic groups in jury venires (Kull, 1992). Similarly, the Arizona bar committee has proposed juror classifications by race to obtain proportional jury representation (Ide, 1994, p.8). However, those race-conscious selection procedures are used to ensure proportional jury representation at jury panel or venire stages of jury selection, not in actual jury boxes. The Hennepin model of racial quotas remains unique as it sets proportional racial representation on the final jury itself.

Another jury quota was suggested by social scientists. Jury research indicates that without a minority of at least three jurors, group pressures by the majority may be too overwhelming (Johnson, 1985, p.1698). The affirmative mechanism that endures racially mixed juries and the verdicts that are to remain viable and legitimate should mandate at least three minority jurors to be included in the jury (Fukurai, 1997a, 1997b, Fukurai and Davies, 1997).

The Supreme Court once declared that a jury is more likely to fit contemporary notions of neutrality if it is composed of representatives of all segments and groups of the community, thereby creating a body that can reflect "the commonsense judgment of a group of laymen" (Apodaca, 406 U.S. at 410), declaring that the jury cannot exercise such judgment "if the jury pool is made up of only special segments of the populace or if large, distinctive groups are excluded from the pool" (*Taylor v. Louisiana*, 419 U.S. 522, 530 1975). The Court also stated that "our democracy itself, requires that the jury be a 'body truly representative of the community,' and not the organ of any special group or class ... It is part of the established tradition in the use of juries as instruments of public justice that the jury be a body truly representative of the community" (*Smith v. Texas*, 311 U.S. 128, 85-86, 130-131 1940). Justice Marshall reiterated the importance of representative juries in a frequently quoted passage from *Peter v. Kiff*:

When any large and identifiable segment of the community is excluded from jury service, the effect is to remove from the jury room qualities of human nature and varieties of human experience, the range of which is unknown and perhaps unknowable. It is not necessary to assume that the excluded group will consistently vote as a class in order to conclude, as we do, that its exclusion deprives the jury of a perspective on human events that may have unsuspected importance in any case that may be presented (407 U.S. 493, 503-504 1972).²⁵

The subject of the jury structure in the U.S. is thus the social and legal expression of a wider, underlying conflicts by class, race, and gender. Jury composition reflects the struggle to dominate or emancipate, for inequality or equitability, the ongoing conflict leading to alternative ways to structure a body of peers in our time, especially by racial makeup. Given the overwhelming evidence of legal and extra-legal factors that lead to racially disproportionate juries, it may be of great importance to look at possible modifications in jury qualifications and potential uses of affirmative action programs and policies to ensure racially and socially diverse juries.²⁶ Recent studies suggest that the public may not view strict racial quota standards favorably, and its possible implementation is more likely to meet greater challenges from the general public (Fukurai, 1997a; Fukurai and Davies, 1997). However, another study shows that the public also favors racially neutral principles of jury verdicts rendered by racially mixed juries over single race juries, embracing democratic notions of diversity and diverse perspectives in making collective and unified judgment in criminal trials (Fukurai, 1997b).

While legislative actions would be less problematic than judicial actions, legislative actions are very unlikely, especially in current political and social climates that tend to oppose any race conscious remedies to correct racial discrimination, arguing that court-initiated actions may be needed to energize the public debate, concerning the importance of racially mixed juries, the use of mandated racial quotas, and implications regarding affirmative action in jury proceedings (Fukurai, 1997a). Moreover, the progressive court action on affirmative action policies and modifications of extended categories for qualified jurors must not be postponed in order to increase the public's respect and confidence in jury trials and jury verdicts.

CONCLUSIONS

Current jurisprudence offers no specific mechanism to guarantee the cross-sectional representation on the jury itself. Although the Sixth Amendment's fair cross-section requirement forbids systematic discrimination in the creation of the jury venire and panel, it does not guarantee that the criminal jury will in fact reflect an accurate cross-section of the community. This paper then examined jurors' representativeness in all stages of the jury selection process, from the community population in the jurisdiction, to jury qualified pools, jury eligibles, jury venires or panels, and trial jurors. The comprehensive analyses of jury representativeness identified a number of legal and extra-legal factors

that impact jury participation. Similarly, the critical examination of jury representativeness between different stages of jury selection also provided important information on how to counteract discriminatory factors excluding racial minorities and other subgroups which have been historically underrepresented in both jury pools and jury boxes in state and federal courts.

The Supreme Court has stated that a jury drawn from a fair cross-section is better suited to fulfill the jury's function of serving as a democratic check on government functionaries who run the criminal justice system — including judges, prosecutors, and police. The fair cross-section doctrine thus “guard[s] against the exercise of arbitrary power” and “make[s] available the common-sense judgment of the community as a hedge against the overzealous or mistaken prosecutor” (*Taylor*, 419 U.S. at 530-31) as well as the “compliant, biased, or eccentric judge” (*Duncan v. Louisiana*, 391 U.S. 145, 156 1968). The judgment of the community, after debate among its various subgroups, is less likely to share the prejudices of prosecutors or judges (Massaro, 1986).

Despite the ideal goal of juries representative of the community, a number of legal and extra-legal variables impact jury participation. The present research shows that the supplemental use of DMV lists and jury exemptions and excuses tend to correct the representative imbalances caused by ROV and jury qualification requirements. However, the lack of followup by jury commissioners, voir dire procedures, and jury qualifications tend to disrupt representative pools after jurors are summoned to appear at the courthouse. Research findings also suggested that jurors employed in firms or organizations that have salary continuation plans significantly dominate the composition of jury pools in the entire stages of jury selection procedures. In particular, more than three out of four trial jurors do not need to worry about their declining income because of jury service.

The Supreme Court has stated that the fair cross-section requirement serves to preserve “public confidence in the fairness of the criminal justice system” (*Lockhart v. McCree*, 476 U.S. 162, 174-175). In order to increase minority jury participation and improve the public's respect and confidence in the jury system, the present analysis proposes a number of deep seated reforms to correct representative imbalances of jury wheels, qualified pools, jury panels, or trial juries. Such proposals include possible modifications of extended categories for qualified jurors, applications of affirmative action in jury selection, and potential monetary compensation to neutralize differences in jurors' organizational resources. Otherwise, historically underrepresented groups such as racial minorities, the poor, and employees lacking organizational resources will continue to be underrepresented on juries, negating the public's shared responsibility for the administration of justice in one of America's most heralded democratic institutions.

NOTES

1. See, for example, Domitrovich, 1994; Fukurai, 1994, 1996a, 1996c; Fukurai and Butler, 1991a, 199b, 1994; Fukurai et al., 1991a, 1991b, 1994; Johnson, 1985; King, 1993a, 1993b, 1994; Ramirez, 1994, 1995; Wishman, 1986.

2. Under the key-man selection system, prominent individuals in the community such as judges, jury commissioners, business persons, pastors, lawyers, and other influential individuals are given discretions to select who to serve on juries, negating random selection of citizens from a broad spectrum of the entire community.

3. Similar to trial jurors, grand jurors are also selected by the similar criteria. For example, Penal Code Section 893 states:

(a) A person is competent to act as a grand juror only if he possesses each of the following qualifications:

(1) He is a citizen of the United States of the age of 18 years or older who shall have been a resident of the state and of the county or city and county for one year immediately before being selected and returned.

(2) He is in possession of his natural faculties, of ordinary intelligence, of sound judgment, and of fair character.

(3) He is possessed of sufficient knowledge of the English language.

(b) A person is not competent to act as a grand juror if any of the following apply.

(1) The person is serving as a trial juror in any court of this state.

(2) The person has been discharged as a grand juror in any court of this state within one year.

(3) The person has been convicted of malfeasance in office or any felony or other high crime.

(4) The person is serving as an elected public officer.

4. For detailed discussions, see King (1993a, 1993b, 1994).

5. For example, in order to prove a prima facie of discrimination on jury selection, the litigant must prove that the underrepresentation of a distinct group on jury panels is due to the systematic discriminatory intent. For detail discussions, see Fukurai et al. (1993).

6. Those were actual wordings specified in jury qualification questionnaires sent by the jury commissioner's office of Orange County, California.

7. Again the jury qualification questionnaire specifically uses the phrases as specified in the main text.

8. The participants of the community survey were the following: Dr. Edgar W. Butler, Dr. Hiroshi Fukurai, and Dr. Tonya Schuster from the University of California, Riverside. Dr. Ray Jassen, the statistician and sampling specialist from the University of California, Los Angeles, also participated in the project. The research was funded by the Superior Court of Orange County. In order to obtain accurate estimates of racial and ethnic compositions in the community, the cluster sampling with probabilities proportionate to size (PPS) was applied with the comprehensive list of all households in Orange County (see Fukurai et al., 1991b for greater discussions of the sampling method). The entire survey took almost six months and the results were presented at the Superior Court in Orange County.

9. The original sample size of 2175 households was randomly drawn from the California County Master Key List. Of the original sample, 1500 were subsampled and the respondents were contacted by both mail and telephone interviews. Originally survey respondents were sent the questionnaire, and the initial mailing of the questionnaire resulted in 855 returns. The first followup resulted in 330 responses. The second followup, however, resulted in only 9 returned questionnaires. The follow-up continued until the third mailings using certified mails (see Dillman, 1978, for the total research design for strategies to increase response rates). The certified mails were sent to 275 recalcitrant respondents and 50 respondents returned the questionnaire.

Finally, the remaining respondents were contacted by telephone interviewers. Since the California County Master Key List did not provide the telephone number of potential jurors, the commercial directory called the Chris-Cross Directory (CCD) was used to identify the telephone number of recalcitrant respondents. The CCD provides both listed and unlisted telephone numbers according to residents' county addresses. Remaining 31 respondents were then contacted by telephone interviewers after their telephone numbers were identified by CCD. A total of 1275 individuals responded to questions in the jury questionnaire regarding their demographic, socioeconomic, and attitudinal information (i.e., response rate of 83.33%).

10. See, for example, *Strauder v. West Virginia*, 100 U.S. 303 1880 (holding that blacks as cognizable groups; *Hernandez v. Texas*, 347 U.S. 475 1954 (Hispanics as cognizable groups; and *Taylor v. Louisiana*, 419 U.S. 522 1975 (women as cognizable groups). While the Court has recognized both demographic and socio-economic groups as cognizable, the Court has not offer significant opinions in evaluating a common thread or political characteristics within the group. While persons from some groups, including specific religious and political groups, are excluded from jury service, they had faced difficulty in qualifying as distinctive or cognizable (see *People v. Fields*, 35 Cal.3d 329 1985).

11. The probability is based on an one-tailed test since past studies already suggest that whites are more likely than racial minorities to be selected to serve on juries.

12. Although statistical significance tests have been cited and used by the Supreme Court and many lower courts, they have never been the sole evidence used in making a decision. Two courts have even rejected them: *Test v. United States*, 550 F.2d 577 (10th Cir. 1976) and *United States v. Maskeny*, 609 F.2d 183 (5th Cir. 1980). Although statistical significance tests are not as intuitively comprehensible as the absolute or comparative disparity standards, the Supreme Court indicated that the statistically significance test can be referred to in substantiating the underrepresentation of cognizable groups.

13. The probability is based on an one-tailed test since past studies already suggest that whites are more likely than racial minorities to be selected to serve on juries.

14. The representative jury replaced the notion of the elite "blue ribbon" jury composed of "handpick(ed) jurors of exemplary moderation and wisdom" (Ortez, 1989), a necessarily unrepresentative group from which some members of the community were deliberately excluded (Amar, 1984).

15. Indeed, most jurisdictions failed to compensate jurors adequately. In many states, \$5 or \$10 per day do not cover the cost of parking, lunch, or the cost of child or elder care for those who have responsibilities at home. While daily jury fee varies substantially, from \$4 in Illinois to \$30 in Hawaii, Vermont, Virginia, Wyoming, and District of Columbia, as of December 1994, the average daily jury fee for state courts is \$12.75 with a standard deviation of \$7.84. While there are variations of daily compensation for long trials and federal jury service may pay more than any other state courts, jury fees still remain both insufficient and inadequate in both state and federal courts.

16. The 1994 report of the New York Jury Project recommends that for the first three days of service, employers are required to pay their juror-employees \$40, the same as the federal rate. Thereafter, for longer trial commitment, the court may pay \$40 per day unless the employer continues to compensate the employee for the remainder of jurors' service (McMahon, 1994, p.98). Similarly the American Bar Association recommends that employers be required to pay jurors' salaries for the first three days of jury service (ABA, p. 135). In order to balance the organizational inequities in firms' jury leave policies, the New York Jury Project recommends that unemployed jurors and those who work for employers with fewer than 19 employees should receive \$40 per day from the state beginning with the first day of jury service (p.98-99).

17. Success rates of the same groups had only 16.9% and 13.3%, respectively, compared with whites (53.3%), women (30.0%), and men (33.3%). Batson remains a tool used almost exclusively by criminal defendants. Analyses also found that while it is relatively easy for a Batson complainant to establish a prima facie case, it is much more difficult ultimately to prevail on a Batson challenge (a success for criminal defendants was 15.8%, while prosecutors had 84.6% success rate). Similarly, a very high percentage of successful Batson claims was concentrated in a few jurisdictions such as Alabama, Florida, Illinois, New York and Texas (58.7% of all successes) (Melilli, 1996, pp. 501-505).

18. Melilli concluded his study, arguing that "Batson has provided us with the first opportunity to examine the reasons lawyers use peremptory challenges, and what has emerged is the legal version of the emperor's new clothes. ... It has also been revealed to be the refuge for some of the silliest, and sometimes nastiest, stereotypes our society has been able to invent" (p.503). Similarly, "the exclusion from jury service because of group stereotyping brands the excluded group members as inferior, insults individuals by reducing their worth as jurors to a cosmetic or trivial characteristics, makes underrepresented groups less accepting of the court system and its results, and injures society as a whole by frustrating the ideal of equal citizen participation in the jury process" (p.501).

19. See *United States v. Montgomery*, 819 F.2d at 851; however, the Eleventh Circuit Court of Appeals rejected this line of reasoning in *Fleming v. Kemp* (794 F.2d 1478 [11th Cir. 1986]) and *United States v. David* (803 F.2d 1567 [11th Cir. 1986]; see also *United States v. Vaccaro*, 816 F.2d 443, 457 (9th Cir. 1987); *Fields v. People*, 732 P.2d 1145, 1158 n.20 (Colo. 1987)

20. As the ABA standards recommend, the privilege and responsibility of jury service should be extended to "[a]ll persons," except minors, non-citizens, non-residents of the jurisdiction, convicted felons whose civil rights have not been restored, and those who "are not able to communicate in the English language" (see ABA Standard 4). Currently, thirty eight states exclude from jury service persons who are incompetent "by reason of physical or mental ability to render satisfactory jury service," thirty nine states also exclude persons who cannot read, speak, and/or understand the English language, and twelve exclude persons of unsound mind or who are insane or adjudicated incompetent (Bleyer, McCarty, and Wood, 1995, p.250).

21. The jury selection of the first-ever trial took place on March 20, 1963, and the first petit jury was composed of eight Okinawans and 12 U.S. citizens which included the alternates ("Baishin seido ga sutaato," 1963; JFBA, 1992, p.180). The first jury selection for the grand jury occurred in March 27, 1963, including three Americans, one Phillipino, and five Okinawans ("Daibaishin 9 nin kimaru," 1963; JFBA, 1992, p.182).

22. An important side effect of antiforeign sentiments is the inability of noncitizens to obtain a fair trial in the U.S.(Raskin, 1993). The jury may be influenced by xenophobic views or more subtle antiforeign sentiments in deciding cases involving non-citizens. The potential threat is acute because non-citizens are barred from jury service.

23. The Equal Protection Clause analysis examines whether the statute eliminating non-English speakers from serving on a jury is preemptively unconstitutional because of the following three conditions: (1) the state fails to treat similarly situated individuals alike with respect to the legislature's objectives in enacting the law; (2) the legislature acted for an impermissible purpose; and (3) the state is denying Hispanic citizens a fundamental right by assuming that their lack of knowledge of the English language makes them incapable of performing jury service (Brown, 1994, p.479).

24. For instance, the 1990 U.S. Census information indicates that approximately half of the Hispanic surnamed population over five years of age in New York, Bronx, Kings, Queens, and Richmond counties, speak Spanish as their primary languages at home (Bureau of Census, U.S. Dept. of commerce, 1990 Census of Population and Housing: Social and Economic Characteristics — New York 340-44 (1991) (Table 138: Nativity, Citizenship, Year of Entry, Area of Birth and Language Spoken at Home: 1990).

25. While Justice Marshall was writing for only three Justices, his sentiments echo those of the Court in *Ballard v. United States* (329 U.S. 187, 193-194 1946), and they are quoted approvingly by Justice White writing for the Court in *Taylor v. Louisiana* (419 U.S. 522, 532 n.12 1975). In *Ballard* and *Taylor*, male defendants were challenging the exclusion of women; in *Peters*, a white defendant was challenging the exclusion of blacks. Thus, in each case the Court felt obliged to explain how a defendant could be injured by the exclusion of a group to which the defendant did not belong.

26. The disclaimer of the affirmative jury may argue that the support of affirmative action in jury selection may be the result of a defeatist logic in which any procedural or logistical problems of jury selection procedures may never lead to a jury that will reflect a fair cross sectional representation of the community.

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