ABSOLUTE DISPARITY AT THE ABSOLUTE LIMIT: HOW COURTS CAN ACHIEVE A TRULY REPRESENTATIVE CROSS-SECTION

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ABSTRACT

Defendants of color face challenges enjoying their right to a jury selected from a representative cross-section of the community, as is guaranteed by the Sixth Amendment. Many impediments stand in the way, including felony disenfranchisement, flawed jury pool source lists, restrictive language requirements, lower jury questionnaire response rates in minority communities, neighborhood instability resulting in failure to receive jury summonses, and increased failure to report to the courthouse for jury duty in minority communities. These impediments are especially salient in areas where a racial group constitutes a small percentage of the population. This piece explores how courts assess whether jury pools reflect a fair cross-section of the community and meet the requirements of the Equal Protection Clause of the Fourteenth Amendment. Through an analysis of the limitations of exclusive reliance on the absolute disparity test, which can mask underrepresentation in low-minority jurisdictions, this Note examines potential alternative measures like comparative disparity and standard deviation analyses. This piece concludes by arguing courts can and should utilize the absolute disparity, comparative disparity, and standard deviation tests together to measure underrepresentation.

TABLE OF CONTENTS

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INTRODUCTION

Defendants of color are frequently underrepresented on juries, despite the Sixth Amendment guarantee of a jury drawn from a fair cross-section of the community. This underrepresentation reflects substantial flaws in jury pool selection and administration processes caused in part by barriers such as English language proficiency requirements, felony disenfranchisement laws, jury source lists derived from skewed or incomplete records, chronically depressed juror questionnaire response rates, and low return rates to jury summonses in minority communities. Although these limitations exist nationwide, their effects are felt most acutely in jurisdictions where minority populations are a small portion of the population of the county or relevant political subdivision. Even slight deviations in the composition of the jury pool in such jurisdictions can effectively erase minority representation from venires, undermining the adjudicatory process's legitimacy.

This Note assesses whether jury pools reflect a fair cross-section of communities. It argues that the prevailing method of analyzing fair cross-section claims, the absolute disparity test alone, fails to safeguard defendants' Sixth Amendment rights, particularly in jurisdictions with a small percentage of a particular minority group. Instead, courts should adopt a multi-modal framework employing the absolute disparity, comparative disparity, and standard deviation analyses. Together, these measures more accurately capture the magnitude and statistical significance of minority underrepresentation and more faithfully implement the constitutional commitment to fair and inclusive jury pool selection.

This Note proceeds in three parts. Part I examines the legal and

structural barriers that prevent minority defendants from small population groups from receiving jury pools that reflect a fair cross-section of their communities, tracing the development of the fair cross-section requirement and the history of the Equal Protection Clause. Part II examines the primary statistical methods courts use to evaluate underrepresentation: the absolute disparity test, the comparative disparity test, and the standard deviation test. This Part proceeds by assessing the strengths and limitations of each test, focusing on how these tests operate in jurisdictions where a minority group is a small part of the population. Finally, Part III argues that courts should abandon exclusive use of the absolute disparity test in favor of a combined approach, like that employed in *State v. Plain*. By using absolute and comparative disparity together with standard deviation analysis, courts stand to more accurately capture systemic exclusion and better vindicate defendants' Sixth Amendment rights. This Part concludes by urging courts to adopt measurement tools that reflect demographic realities and promote fair, inclusive, and constitutionally-sound jury pool selection practices.

I. BARRIERS TO AND A HISTORY OF REPRESENTATIVE JURY POOLS

A. Barriers to Representative Jury Pools

There are many reasons why jury pools fail to represent the community. One major reason is felony disenfranchisement. In the United States, many citizens are not eligible for jury service because felony convictions bar the right to vote in some states, and voter registration lists are the most widely used source for jury pool selection.[1] In 2024, an estimated 4 million Americans were denied the right to vote because of a felony conviction.[2] This exclusion affects one in 22 adult African-Americans, a disenfranchisement rate over three times greater than that of non-African Americans.[3] All federal district courts use the respective voter list as a source of prospective jurors, thirty-six states mandate use of

[1] Dale Chappell, *How States Exclude People With Criminal Records From Jury Service*, PRISON LEGAL NEWS (Apr. 1, 2021), https://www.prisonlegalnews.org/news/2021/apr/1/how-states-exclude-people-criminal-records-jury-service/ [https://perma.cc/P99X-TQ2H] ("[I]f a state bars a person with a felony from voting . . . and it pulls the jury pool from voter records, the change would be meaningless because people with felony records would still be skipped."); *see also* Davis Kairys, Joseph B. Kadane & John P. Lehoczk, *Jury Representativeness: A Mandate for Multiple Source Lists*, 65 CAL. L. REV. 776, 777 (1977).

[2] CHRISTOPHER UGGEN, RYAN LARSON, SARAH SHANNON, ROBERT STEWART & MOLLY HAUF, LOCKED OUT 2024: FOUR MILLION DENIED VOTING RIGHTS DUE TO A FELONY CONVICTION 2 (2024).

[3] *Id.*

voter registration records to compile jury lists, and two states, Louisiana and Mississippi, restrict the master jury list to *only* registered voters to the exclusion of all other source lists.[4] In most jurisdictions, jury service is tied to voter eligibility, and Black people are subsequently disproportionately excluded from jury pools.[5]

Should states change their jury pool source lists, any improvement toward better inclusion of minorities would be minimal.[6] Even when people with felony convictions make it into the jury pool, they are often not selected to serve on juries. Forty-nine states and the District of Columbia restrict jury service for persons with felony convictions.[7] Twenty-four of those states place permanent exclusions on jury service for those with felony convictions.[8] These felony jury disqualifications also contribute to underrepresentation and reduced jury service by members of racial minorities.[9]

Further, to be legally qualified for federal jury service, an individual must "be able to adequately read, write, understand, and speak the English language."[10] Many states likewise have language requirements that remove those lacking English proficiency from the jury pool.[11] A jury pool

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[4] *See* JUROR SELECTION PROCESS, U.S. CTS., https://www.uscourts.gov/court-programs/jury-service/juror-selection-process [https://perma.cc/FQ9D-JG5D] (last visited Apr. 30, 2026); *see also* Paula Hannaford-Agor & Morgan Moffett, *State of the States Survey of Jury Improvement Efforts*, NAT'L CTR. FOR STATE CTS. 4 (2023), https://nationalcenterforstatecourts.app.box.com/s/j0fvqkpiuf1xv1ar7ofwevahg0iz3kox [https://perma.cc/7GXJ-BCKB].

[5] Alexis Hoag, *An Unbroken Thread: African American Exclusion from Jury Service, Past and Present*, 81 LA. L. REV. 56, 70 (2020).

[6] Some states also select from unrepresentative lists like driver's license holders, property tax rolls, and similar lists that disproportionately exclude non-white people. *See* KATY NAPLES-MITCHELL & HARUKA MARGARET BRAUN, INEQUITABLE AND UNDEMOCRATIC: A RESEARCH BRIEF ON JURY EXCLUSION IN MASSACHUSETTS AND A MULTIPRONGED APPROACH TO DISMANTLE IT 77 (2023). Nevertheless, courts grant states great leeway in jury source list selection and note that states "remain free to prescribe relevant qualifications for their jurors and to provide reasonable exemptions so long as it may fairly be said that the jury lists or panels are representative of the community." Taylor v. Louisiana, 419 U.S. 522, 538 (1975). States could expand list sources to include school enrollment, public housing residents, or utility customer lists to more adequately capture minority demographics, but most have to date failed to do so in any meaningful way. *See* Hoag, *supra* note 5, at 77.

[7] *See* KATY NAPLES-MITCHELL & HARUKA MARGARET BRAUN, APPENDIX A TO INEQUITABLE AND UNDEMOCRATIC: A RESEARCH BRIEF ON JURY EXCLUSION IN MASSACHUSETTS AND A MULTIPRONGED APPROACH TO DISMANTLE IT 1 (2023).

[8] *Id.*

[9] *See* NAPLES-MITCHELL & BRAUN, *supra* note 7, at 1.

[10] *Juror Qualifications, Exemptions, and Excuses*, U.S. CTS., https://www.uscourts.gov/court-programs/jury-service/juror-qualifications-exemptions-and-excuses [https://perma.cc/6QVZ-W5J9] (last visited Apr. 30, 2026).

[11] Lydia D. Johnson, *What Does Justice Have to Do with Interpreters in the Jury Room*, 84 UMKC L. REV. 941, 961 (2016).

void of potential jurors "who are not considered proficient in English fails to accurately represent the communities that certain defendants standing trial would view as a jury of their peers" or a fair cross-section of their community.[12]

Finally, failure to complete juror questionnaires and respond to jury summonses also undermines the representativeness of jury pools. In some jurisdictions, juror response rates have reached critically low levels.[13] This is particularly true in urban areas,[14] where much of the nation's racial and ethnic diversity is concentrated.[15] Scholars attribute this underrepresentation to several overlapping factors, including economic hardship, residential instability, and distrust of the judicial system. Financial strain can make it difficult for individuals to take time off work for jury service, discouraging participation.[16] At the same time, higher rates of housing instability and frequent moves increase the likelihood that jury summonses never reach potential jurors.[17] Additionally, some

[12] *Id.* at 962. Challenges to these restrictions are difficult to assert and often fail. Jasmine B. Gonzales Rose, *Language Disenfranchisement in Juries: A Call for Constitutional Remediation,* 65 HASTINGS L.J., 811, 831–32 (2014) ("[D]ue to the limited development and protection of language-based discrimination in the courts, these claims are difficult to assert and have consistently failed."). For example, a defendant in a New York death penalty case moved for an order permitting the qualification of non-English speaking jurors to the jury pool. *See* People v. Owens, 713 N.Y.S.2d 836, 838 (N.Y. Sup. Ct. 2000). The Court denied his motion, holding "[c]omprehending and communicating in the English language is . . . a reasonable qualification." *Id.*

[13] Joseph A. Colquitt, *Using Jury Questionnaires: (Ab)using Jurors*, 40 CONN. L. REV. 1, 26 (2007).

[14] Richard Seltzer, *The Vanishing Juror: Why Are There Not Enough Available Jurors*, 20 JUST. SYS. J. 203, 204 (1999); *see also* FJD JUROR PARTICIPATION INITIATIVE 2 (First Jud. Dist. of PA, 2018) ("Philadelphia, like many large metropolitan areas, has had a persistent problem with people not responding to jury summonses.").

[15] Marcelo Castillo & John Cromartie, *Racial and Ethnic Minorities Made up About 22 Percent of the Rural Population in 2018, Compared to 43 Percent in Urban Areas*, U.S.D.A. ERS (Oct. 13, 2020), https://www.ers.usda.gov/data-products/charts-of-note/chart-detail?chartId=99538 [https://perma.cc/AA6E-WDXL].

[16] Susan C. Losh, Adina W. Wasserman, & Michael A. Wasserman, *What Summons Responses Reveal About Jury Duty Attitudes,* 83 JUDICATURE 304, 306 (2000).

[17] *See* Matthew J. Dolliver, *Enhancing Public Trust and Participation in Jury Service*, SCHOLARS STRATEGY NETWORK (July 25, 2024), https://scholars.org/contribution/enhancing-public-trust-and-participation-jury [https://perma.cc/NA6J-R53C]; *see also Detroit Court Addresses Lack of Blacks in Jury Pool*, CBS DETROIT (June 8, 2012 6:11 AM), https://www.cbsnews.com/detroit/news/detroit-court-addresses-lack-of-blacks-in-jury-pool/ [https://perma.cc/F9EC-9UAS] ("U.S. District Judge Denise Page Hood says a just released report shows most blacks either don't respond to mailed questionnaires or don't show up when summoned"); *Local 4 Defenders Find Minorities Lacking in Metro Detroit Jury Pools*, CLICKONDETROIT, (June 26, 2012, 18:35), https://www.clickondetroit.com/news/2012/06/26/local-4-defenders-find-minorities-lacking-in-metro-detroit-jury-pools/ [https://perma.cc/DW9G-GXME]; *see also* Ralph B. Taylor, Jerry H. Ratcliffe, Lillian Dote, & Brian A. Lawton, *Roles of Neighborhood*

individuals in underrepresented communities may be reluctant to participate due to perceptions that the justice system is biased or that the government cannot be trusted to treat members of their communities fairly.[18] Empirical research supports the significance of these structural factors. In a 2024 poll, 70% of Black Americans responded that the courts and judicial process was "designed to hold Black people back a great deal or a fair amount."[19] Additionally, in a study investigating the impacts of neighborhood stability on the likelihood that a summoned citizen would appear for jury duty, results revealed "[a]ll else equal, a neighborhood with a homeownership rate of 75 percent . . . compared to a neighborhood [with] 25 percent [homeownership], would have a relative odds of turnout around 50 percent higher."[20] Thus, neighborhood stability impacts jury summonses response rates.[21]

Because defendants are entitled to a jury pool that represents a fair cross-section of their community, courts must correctly measure and remedy these disparities to ensure fair trials and the proper administration of justice for all defendants to ensure all groups are fairly represented in the jury pool.

B. A History of the Fair Cross-Section Requirement

In 1975, the Supreme Court held in *Taylor v. Louisiana* that the Sixth Amendment provides a guarantee to a jury pool that represents a fair cross-section of the community.[22] The case arose out of Billy Taylor, a convict on death row, who appealed his conviction and death sentence, arguing the Louisiana jury selection system deprived him of his Sixth and Fourteenth Amendment right to an impartial jury when it systematically excluded women from the venire.[23] The Supreme Court agreed, holding an "essential component" of criminal defendants' right to an impartial jury is the "selection of a jury from a representative cross-section of the community."[24] Four years later in *Duren v. Missouri*, the Court provided a framework for assessing fair cross-section claims.[25] To make out a prima facie case, the defendant must demonstrate:

Race and Status in the Middle Stages of Juror Selection, 35 J. CRIM. JUST., 391, 398–99 (2007).

[18] *See* Seltzer, *supra* note 14, at 205.

[19] *See* Kiana Cox, *Black Americans' Mistrust of the Criminal Justice System,* PEW RES. CTR. (June 15, 2024), https://www.pewresearch.org/race-and-ethnicity/2024/06/15/black-americans-mistrust-of-the-criminal-justice-system/ [https://perma.cc/J7CL-RX9W].

[20] *Id.* at 399.

[21] *Id.*

[22] Taylor v. Louisiana, 419 U.S. 522, 524–25 (1975).

[23] *Id.* at 525.

[24] *Id.* at 528.

[25] 439 U.S. 357, 366–67 (1979).

> (1) that the group alleged to be excluded is a 'distinctive' group in the community; (2) that the group's representation in the source from which juries are selected is not fair and reasonable in relation to the number of such persons in the community; and (3) that this underrepresentation results from systematic exclusion of the group in the jury-selection process.[26]

Once the defendant establishes a prima facie case, the burden shifts to the government to prove "a significant state interest [is] manifestly and primarily advanced by those aspects of the jury selection process."[27] The Court has given the states broad discretion to "prescribe relevant qualifications for their jurors and to provide reasonable exemptions."[28]

C. A History of the Equal Protection Clause's Application to Juries

While the Sixth Amendment focuses on the representativeness of the jury pool, the Equal Protection Clause of the Fourteenth Amendment also guarantees that people will not be excluded from jury service based on race, targeting intentional discrimination by state actors in the jury selection process.[29]

The Equal Protection prohibition against racial discrimination in jury selection was first articulated in *Strauder v. West Virginia*, which held that a statute explicitly excluding Black citizens from jury service violated the Fourteenth Amendment and the rights of defendants and prospective jurors.[30] The Court reasoned that racial exclusion from juries both stigmatized the excluded citizens and undermined the fairness of criminal trials for defendants of color.[31] Subsequent cases extend this principle beyond facially discriminatory statutes, applying to systems that, while race-neutral in form, produce racially discriminatory outcomes through their administration.[32]

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[26] *Id.* at 357.
[27] *Id.* at 367.
[28] Berghuis v. Smith, 559 U.S. 314, 317–18 (2010).
[29] *See* U.S. CONST. amend. XIV, § 2; *see also* Nina Chernoff, *Wrong About the Right: How Courts Undermine the Fair Cross-Section Guarantee by Confusing it with Equal Protection*, 64 HASTINGS L.J. 141, 144–45 (2012) ("The Equal Protection Clause protects against discrimination by state actors.").
[30] *See* Strauder v. State of West Virginia, 100 U.S. 303, 312 (1879), *abrogated by* Taylor v. Louisiana, 419 U.S. 522 (1975).
[31] *Id.* at 308.
[32] *See* Yick Wo v. Hopkins, 118 U.S. 356, 373–74 (1886) (holding that a law, neutral on its face, violates the Equal Protection Clause when "applied and administered by public authority with an evil eye and an unequal hand"); *see also* Avery v. Georgia, 345 U.S. 559, 562 (1953) (holding the use of different colored tickets for prospective Black and white jurors established a prima facie case of racial discrimination in violation of the

Like Sixth Amendment fair cross-section claims, courts rely on statistical showings to assess whether observed disparities are severe and persistent enough to support an inference of intentional discrimination.[33] While more difficult to establish under the Equal Protection Clause, if disparities are sufficiently large and unlikely to result from random variation, statistical evidence alone may be enough for a prima facie case of discrimination.[34]

The Sixth Amendment and the Equal Protection Clause reflect the fundamental principle that jury service must be administered in a racially neutral manner. Yet, the guarantees of each amendment are distinct and should not be confused. While "[a]n Equal Protection challenge concerns the process of selecting jurors, or the allegation that selection decisions were made with discriminatory intent," the Sixth Amendment "is concerned with impact" and protects the "broader interest in reasonable representation in the jury pool."[35] A defendant alleging a Sixth Amendment violation can establish a prima facie case by showing "underrepresentation of a distinctive group in the jury pool is inherent in the selection process, whether by accident or design" whereas the Equal Protection Clause "demands evidence of discriminatory intent."[36] Because of this broader reach, Sixth Amendment fair cross-section claims are the main focus of this paper.

Equal Protection Clause because, though not facially discriminatory, it facilitated bias in jury selection). *Castaneda v. Partida* established a three-pronged framework for evaluating equal protection claims in the jury context, requiring defendants to show: (1) "that the [excluded] group is one that is a recognizable, distinct class, singled out for different treatment under the laws, as written or as applied;" (2) "the degree of underrepresentation must be proved by comparing the proportion of the group in the total population to the proportion called to serve as grand jurors, over a significant period of time;" and (3) "a selection procedure that is susceptible of abuse or is not racially neutral supports the presumption of discrimination raised by the statistical showing." *See* Castaneda v. Partida, 430 U.S. 482, 494 (1977). Once satisfied, the defendant has established a prima facie case, and the burden shifts to the State to rebut the inference of discrimination. *Id.* at 494 ("With a prima facie case made out, the burden of proof shifts to the State to rebut the presumption of unconstitutional action by showing that permissible racially neutral selection criteria and procedures have produced the monochromatic result.") (internal citations omitted).

[33] *Castaneda,* 430 U.S. at 494; *see also* Alexander v. Louisiana, 405 U.S. 625, 629–30 (1972).

[34] *Castaneda,* 430 U.S. at 518 n.13 ("If a disparity is sufficiently large, then it is unlikely that it is due solely to chance or accident, and, in the absence of evidence to the contrary, one must conclude that racial or other class-related factors entered into the selection process.").

[35] Chernoff, *supra* note 29, at 144–45.

[36] *Id.* at 141.

II. MEASURING UNDERREPRESENTATION: STATISTICAL APPROACHES

To show a violation of the fair cross-section requirement, a defendant must establish a significant difference in the percentage of the distinctive group in the jury pool as compared to the relevant community.[37] In assessing this statistical evidence and measuring fair and reasonable jury pool representation, courts employ three main tests when evaluating these claims: absolute disparity, comparative disparity, and standard deviation.[38]

A. Absolute Disparity

1. Definition and Use by Courts

The absolute disparity test measures the numerical difference between the percentage of a distinct group in the community and the percentage of that group in the jury pool.[39] Courts use the percentage point gap as the measure of underrepresentation.[40] For example, if a county's population is 10% Hispanic, but only 5% of the jury pool is Hispanic, the absolute disparity is 10% minus 5%, or 5%.

Courts have utilized the absolute disparity test without naming it. In the 1972 case *Alexander v. Louisiana*, the Supreme Court noted it "has never announced mathematical standards for the demonstration of 'systematic' exclusion" from the jury pool."[41] Nonetheless, the Court found the petitioner had established a prima facie case of invidious racial discrimination after demonstrating that there were 16% fewer Black people in the venire than in the relevant population.[42] In *Castaneda v. Partida*, the Court found a prima facie case of discrimination where the relevant county was 79.1% Mexican-American but, over an 11-year period, "only 39% of the persons summoned for grand jury service were Mexican-American," an absolute disparity of 40%.[43] Absolute disparities

[37] *See id.* at 316; *see also* Duren v. Missouri, 439 U.S. 357, 364–65 (1979); Howell v. Superintendent Rockview SCI, 939 F.3d 260, 266 (3d Cir. 2019) ("Th[e] population percentage must . . . be compared to the percentage of [the distinctive group] included in the jury venire to determine whether representation was proportionately fair and reasonable.").
[38] Berghuis v. Smith, 559 U.S. 314, 324, 329 (2010).
[39] *Id*. at 314 (describing the absolute disparity test in application, noting "the percentage of African-Americans in the jury pool (6%) is subtracted from the percentage of African-Americans in the local, jury-eligible population (7.28%)" yielding an absolute disparity of 1.28%).
[40] *Id.* at 314.
[41] 405 U.S. 625, 630 (1972).
[42] *See id.* at 627–38.
[43] 430 U.S. 482, 495 (1977).

have been held unconstitutional at 40% and at 10%.[44] Courts typically find absolute disparities of 10% or less insufficient to establish a prima facie case.[45]

2. Strengths, Weaknesses, and Applicability in Low Minority Jurisdictions

The absolute disparity test's 10% floor is arbitrary, leads to inequitable results, overstates relatively insignificant disparities of large population groups, and understates meaningful disparities in small population groups.[46] In communities with low minority populations, this 10% threshold is even more problematic because the absolute disparity test "does not account for the relative size of the minority group in the general population."[47] Absolute disparity has limited value when applied to small populations,[48] as it can be misleading when distinctive group members make up only a small percentage of eligible jurors.[49] For instance, if a people from historically marginalized populations made up less that 10% of the relevant population, it would be mathematically impossible for there to be an absolute disparity of over 10%, meaning that courts applying the absolute disparity test would never find sufficient underrepresentation. This exclusion has far-reaching impact, making it impossible, in most

[44] *Compare* Taylor v. Louisiana, 419 U.S. 522, 524–25 (1975) (holding a disparity of 43% established a prima facie case); *with* Smith v. State, 571 S.E.2d 740, 745 (Ga. 2002) ("[A]n absolute disparity of over 10% is probably unconstitutional") (internal citations omitted).

[45] *See, e.g.*, United States v. Shinault, 147 F.3d 1266, 1273 (10th Cir. 1998) ("Courts generally are reluctant to find that second element of a prima facie Sixth Amendment case has been satisfied when the absolute disparities are less than 10%."); United States v. Ashley, 54 F.3d 311, 314 (7th Cir. 1995) ("[A] discrepancy of less than ten percent alone is not enough to demonstrate unfair or unreasonable representation of blacks on the venire."); United States v. Grisham, 63 F.3d 1074, 1079 (11th Cir. 1995) (holding that the defendant must show an absolute disparity of at least 10% to show that a group was not fairly represented in the venire); Amy R. Motomura, *The American Jury: Can Noncitizens Still be Excluded?*, 64 STAN. L. REV. 1503, 1532 (2013) ("[C]ourts generally suggest that a disparity under 10% is insufficient.").

[46] *See* Jeffrey Abramson, *Jury Selection in the Weeds: Whither the Democratic Shore?* 15 U. MICH. J.L. REFORM 1, 19 (2018).

[47] State v. Plain, 898 N.W.2d 801, 823 (Iowa 2017).

[48] United States v. Chathadara, 230 F.3d 1237, 1256 (10th Cir. 2000).

[49] Berghuis v. Smith, 559 U.S. 314, 329 (2010) (internal citations omitted). In *United States v. Rodriguez*, the Eleventh Circuit held that "a prima facie case of underrepresentation has not been made where the absolute disparity between [the percentage of the 'distinctive group' . . . and the percentage of the group among the population eligible for jury service in the division] does not exceed ten percent." 776 F.2d 1509, 1511 (11th Cir. 1985). In *Howell v. Superintendent Rockview SCI*, the Third Circuit stated that "numerous courts have noted that an absolute disparity below 10% generally will not reflect unfair and unreasonable representation." 939 F.3d 260, 268 (3d Cir. 2019).

cases, for African Americans to challenge jury pool underrepresentation in 75% of United States counties.[50] The outcome is worse still for Asian Americans and Latinos, who cannot challenge underrepresentation in over 90% of counties.[51]

Some courts have recognized these problems. In *United States v. Hernandez-Estrada* the Ninth Circuit illustrated the test's inequitable consequences: "[I]f a minority group makes up less than 7.7% of the population in the jurisdiction in question, that group could never be underrepresented in the jury pool, even if none of its members wound up on the qualified jury wheel."[52] Functionally, under the absolute disparity test, a defendant of color's Sixth Amendment right to an impartial jury is less robust in Brattleboro, Vermont, where people of color make up less than 9% of the population, than it is in Gaithersburg, Maryland, where people of color are more numerous.[53] This cannot be an arbitrariness the Constitution meant to tolerate.[54]

The Second Circuit similarly summarized flaws of the test in *United States v. Biaggi*:

> The risk of using this approach is that it may too readily tolerate a selection system in which the seemingly innocuous absence of small numbers of a minority from an average array creates an unacceptable probability that the minority members of the jury ultimately selected will be markedly deficient in number and sometimes totally

[50] *See* Brief for Social Scientists, Statisticians, and Law Professors, Jeffrey Fagan, et al., as Amici Curiae Supporting Respondent at 22, Berghuis v. Smith, 2010 WL 1189555 (Mar. 30, 2010) (No. 08-1402).

[51] *Id.* In fact, in *State v. Plain*, the Court pointed out that "[t]he shortcoming of the absolute disparity formula is demonstrated by the fact that African-Americans do not represent more than ten percent of the population in *any* county in Iowa." *Plain*, 898 N.W.2d at 825 (emphasis added).

[52] 749 F.3d 1154, 1161 (9th Cir. 2014).

[53] World Population Review, *Brattleboro, Vermont Population* (2025) https://worldpopulationreview.com/us-cities/vermont/brattleboro [https://perma.cc/54V6-BPXP] (revealing racial makeup of Brattleboro, Vermont as of 2025 was 91.72% white, 6.39% two or more races, 1.04% Black, 0.81% Asian, and 0.04% other race); World Population Review, *Gaithersburg, Maryland Population* (2025) https://worldpopulationreview.com/us-cities/maryland/gaithersburg [https://perma.cc/F3WU-NA5T] (revealing racial makeup of Gaithersburg, Maryland as of 2025 was 35.6% white, 19.63% Asian, 16.34% other race, 15.46% Black, and 11.91% two or more races).

[54] *See* Colleen P. Fitzharris, *Can We Calculate Fairness and Reasonableness? Determining What Satisfies the Fair Cross-Section Requirement of the Sixth Amendment*, 112 MICH. L. REV. 489, 521 (2013) ("The fair cross-section requirement of the Impartial Jury Clause both protects defendants from arbitrary exercises of government power and preserves the most important principles of the criminal jury system . . . the absolute-disparity test . . . [is] deficient because [it] fail[s] to protect those underlying principles.").

> missing. Of course, the Sixth Amendment assures only the *opportunity* for a representative jury . . . but that opportunity can be imperiled if venires regularly lack even the small numbers of minorities necessary to reflect their proportion of the population.[55]

Still, many jurisdictions favor the absolute disparity test over alternative methods.[56] Even when defendants point out the ineffectiveness of the absolute disparity test as a measurement tool for low minority populations, the preference for the absolute disparity test prevents courts from considering alternative measures that might better illustrate underrepresentation of distinct groups in the jury pool.[57] Courts dispense with these arguments in favor of absolute disparities.[58]

For all its flaws, the absolute disparity measure is certainly the easiest, most administrable, and most widely used test.[59] Where statistical analyses can be difficult to compute, this test offers an easy way to succinctly assess the validity of a claim. Yet, ease of use may not justify inequitable effects.

B. Comparative Disparity

1. Definition and Use by Courts

The comparative disparity test evaluates underrepresentation by calculating how much lower the group's representation in the jury pool is

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[55] United States v. Biaggi, 909 F.2d 662, 678 (2d Cir. 1990).

[56] United States. v. Scott, 545 F. Supp. 3d 152, 166 (S.D.N.Y. 2021) ("Of these, in the Second Circuit, the absolute disparity method is the favored approach for Sixth Amendment claims.") (citing United States v. Rioux, 97 F.3d 648, 655 (2d Cir. 1996)).

[57] *See, e.g.*, United States v. Tuttle, 729 F.2d 1325, 1327 (11th Cir. 1984) ("Appellants dispute the findings of the trial court, but since appellants concede that the figures most favorable to them show a disparity of 9.1%, we need not address the correctness of the district court's findings. Because appellants' evidence shows an insufficiently stark absolute disparity, we reject their sixth amendment argument.").

[58] *See* Floyd v. Garrison, 996 F.2d 947, 950 (8th Cir. 1993) ("Although Floyd contends we should apply a comparative disparity analysis, we decline to adopt that concept as a better means of calculating underrepresentation"); *see also* United States v. Butler, 611 F.2d 1066, 1069–70 (5th Cir. 1980) ("[W]e decline to abandon the absolute disparity method for dealing with jury challenge"). For example, in *People v. Cunningham*, the Court held an absolute disparity of 6.2% was not "constitutionally significant," meaning more than a quarter of Hispanic residents were excluded from participating in the jury system. 352 P.3d 318, 351–52 (Cal. 2015).

[59] *See* Sara Sun Beale, *Integrating Statistical Evidence and Legal Theory to Challenge the Selection of Grand and Petit Jurors*, 46 LAW & CONTEMP. PROBS. 269, 273 (1983) ("[The absolute disparity test's] advantages are the simplicity and ease of the calculation, which is easily understood by persons with no advanced training in mathematics or statistics.").

compared to its representation in the community, expressed as a percentage reduction.[60] Rather than looking at percentage points, as the absolute disparity test does, the comparative disparity test asks: by what percentage has the group's presence in the jury pool effectively been reduced?[61] The Supreme Court of California, in *People v. Sanders*, offers a formula for calculating comparative disparity:

> [(A - B) / A] x 100 = the comparative disparity, where: A = the percentage of the community that makes up the cognizable group in question . . . and B = the percentage of the jury venire which is composed of the cognizable group in question[62]

Put simply, "[c]omparative disparity is calculated by dividing the absolute disparity by the population figure for a population group."[63] For example, if 10% of the community is Hispanic but only 5% of the jury pool is Hispanic, the comparative disparity would be 50%, calculated by dividing the absolute disparity by the population percentage. The resulting 50% disparity means that half of the eligible cognizable group members were excluded from the jury pool.

2. Strengths, Weaknesses, and Applicability in Low Minority Jurisdictions

In low minority jurisdictions, some courts apply the comparative disparity test "because it measures the reduced probability of serving for prospective jurors in a particular category" and thus "its results are not affected by the size of the sample or the proportion of the population in the specified category."[64] It "provides a more meaningful measure of systematic impact *vis-a-vis* the 'distinctive' group" by calculating the representation of the distinctive group in jury pools relative to the distinctive community "rather than relative to the entire population."[65]

The comparative disparity test is not without criticism. Some argue comparative disparity measures drastically overstate underrepresentation if the relevant group is a very small percentage of the population.[66] For

[60] *See* Berghuis v. Smith, 559 U.S. 314, 323 (2010) ("'Absolute disparity' is determined by subtracting the percentage of African-Americans in the jury pool (here, 6% in the six months leading up to Smith's trial) from the percentage of African-Americans in the local, jury-eligible population (here, 7.28%). By an absolute disparity measure, therefore, African-Americans were underrepresented by 1.28%.").
[61] *Id.*
[62] 797 P.2d 561, 570 n.5 (Cal. 1990).
[63] Ramseur v. Beyer, 983 F.2d 1215, 1231 (3d Cir. 1992).
[64] Kairys et al., *supra* note 1, at 794–95.
[65] United States v. Rogers, 73 F.3d 774, 777 (8th Cir. 1996).
[66] United States v. Weaver, 267 F.3d 231, 242 (3d Cir. 2001).

example, where the Hispanic population of the total community is 4% and Hispanic participation in the jury pool is 2%, the comparative disparity comes out to 50%.[67] This number is clearly significant but has been "distorted by the small population" of the minority group.[68] Using this same population applied to a jury pool of 1000 potential jurors, there should be forty potential Hispanic jurors. Because of the disparity, there will be only twenty.[69] A difference of twenty potential jurors in a jury pool of 1000 seems negligible, but when using the comparative disparity measure, parties can demonstrate a 50% rate of underrepresentation. Some argue this broader percentage term distorts the proportional representation, making a small difference of ten potential jurors appear quite significant indeed.[70]

In response to these deficiencies, courts often find the comparative disparity test is most useful when dealing with a group that compromises a larger percentage of the population, typically ten to twenty percent.[71] This approach may be similarly misguided as "when the group is very large the comparative method tends to validate deviations that are unlikely to have been produced by chance despite the fact that the disparity alters the representation of the average jury substantially."[72] For populations that exceed 20%, "the comparative-disparity test seems to underrepresent the extent of the exclusion."[73]

The comparative disparity test might make small differences look meaningful when the distinctive group's representation in the community is low and large differences look meaningless when the distinctive group's representation in the community is high. Because of this questionable usefulness at the margins, courts find it difficult to "pick a clear threshold," sparking confusion and inconsistent application across courts.[74] Some circuits use the comparative disparity test only as a supplement to the absolute disparity test.[75] This might be because the two tests prove difficult to integrate and harmonize, often producing outcomes

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[67] *See* Kairys et al., *supra* note 1, at 796.
[68] United States v. Weaver, 267 F.3d 231, 242 (3d Cir. 2001).
[69] *See* Kairys et al., *supra* note 1, at 796.
[70] *See* United States v. Royal, 174 F.3d 1, 7–8 (1st Cir. 1999).
[71] *See Weaver*, 267 F.3d at 242; *see also* Fitzharris, *supra* note 54, at 502 ("The comparative-disparity test becomes more meaningful . . . when the population of the distinctive group is larger, and it can be particularly meaningful when the group comprises between 10% and 20% of the total community.").
[72] Beale, *supra* note 59, at 274.
[73] Fitzharris, *supra* note 54, at 502.
[74] *Id.*
[75] United States v. Hafen, 726 F.2d 21, 24 (1st Cir. 1984) ("[T]he comparative disparity calculation might be a useful supplement to the absolute disparity calculation, . . . [but] the smaller the group is, the more the comparative disparity figure distorts the proportional representation.").

"at odds with one another."[76] Still, others abandon the comparative disparity test altogether, as the Ninth Circuit did in *Thomas v. Borg*, noting "the comparative disparity test is strongly disfavored in the Ninth Circuit on the ground that it exaggerates the effect of any deviation."[77]

Certainly, the comparative disparity test makes it easier for defendants in areas where the population of their distinct group is low to meet the second prong of the *Duren* test.[78] However, the risk the comparative disparity test will overstate or understate jury pool representation often means courts are reluctant to use it.[79] Reliance on this test alone might prove unsuccessful for defendants in the long run.

C. Standard Deviation

1. Definition and Use by Courts

The standard deviation test asks whether the observed underrepresentation of a group in the jury pool is likely due to chance or instead indicates a systemic problem in the jury pool selection process.[80] This method uses basic probability theory, requiring the court to "ascertain the standard deviation from the expected random allocation of jurors, and then compare whether the disparity is beyond that standard deviation."[81] A standard deviation is "the measure of the predictable fluctuation in a random selection process."[82] The Sixth Circuit, in *Jefferson v. Morgan*, offers a formula for calculating standard deviation:

> The formula for determining standard deviation is: $[\sqrt{n * p * (1-p)}]$ . . . where "n" is the sample size . . . [or] the total number of [jurors] selected by the county . . . and "p" is the proportion of items possessing the characteristic that is being investigated . . . [for example] the proportion of [Black people in a county].[83]

Put simply, to calculate standard deviation, courts multiply the number of prospective jurors in the jury pool by the percentage of the community

[76] Fitzharris, *supra* note 54, at 503.
[77] 159 F.3d 1147, 1150 (9th Cir. 1998).
[78] *Id.* at 1152.
[79] *See* Fitzharris, *supra* note 54, at 502.
[80] Berghuis v. Smith, 559 U.S. 314, 333 n.1 (2010) ("Standard deviation analysis seeks to determine the probability that the disparity between a group's jury-eligible population and the group's percentage in the qualified jury pool is attributable to random chance.") (internal citations omitted).
[81] People v. Smith, 615 N.W.2d 1, 10 (Mich. 2000) (Cavanaugh, J., concurring).
[82] Beale, *supra* note 59, at 276.
[83] 962 F.2d 1185, 1190 (6th Cir. 1992) (internal citations omitted).

in the distinct group.[84] This product is then multiplied by the percentage of the community not in the distinct group.[85] The standard deviation is the square root of that product.[86] For example, if 1,000 individuals are summoned for the jury pool and the community is 80% white and 20% non-white, the standard deviation is calculated by multiplying 1000 by 0.8 and 0.2, and then taking the square root of that product. Thus, the standard deviation for that population is approximately 12.6.

The standard deviation formula was created such that roughly 68%, 95%, and 99.7% of the data will fall within one, two, or three standard deviations, respectively.[87] As a general rule among social scientists, for larger samples, a deviation of more than two or three standard deviations is typically considered statistically significant, meaning the disparity is unlikely to have occurred randomly.[88] Applied to the above example, given that 80% of the population is white, the expected number of white persons among the 1000 persons summoned should be 800. If the observed number of white persons among the 1000 persons summoned was instead 400, the difference between the expected and observed number of white persons would be approximately 32 standard deviations because 400, the difference between the expected and observed number, divided by 12.6, the standard deviation for that population, is 31.75. The likelihood such a substantial departure from the expected value would occur by chance is slim, as this is 30 standard deviations above what is typically considered statistically significant.

2. Strengths, Weaknesses, and Applicability in Low Minority Jurisdictions

Occasionally, both the absolute disparity and comparative disparity tests fail to capture substantial underrepresentation. Where these tests fail, the standard deviation test offers a new perspective. In *Ramseur v. Beyer*, a case about representation of Black people in the Essex County jury pool, "both the absolute and comparative disparity analyses present[ed] results at the margin of the range found acceptable by the courts."[89] When the Court applied the standard deviation analysis, it "revealed 28.9 standard deviations, a departure from the expected value which would occur by random chance in less than 1 in 10 occasions."[90] This test revealed the underrepresentation of Black persons in the Essex County jury pool was

[84] Castaneda v. Partida, 430 U.S. 482, 518 n.17 (1977).
[85] *Id*.
[86] *Id.*
[87] *See* Hall v. Florida, 572 U.S. 701, 713–14 (2014); *see* also Barnes v. GenCorp Inc., 896 F.2d 1457, 1463 (6th Cir. 1990).
[88] Castaneda v. Partida, 430 U.S. 482, 518 n.17 (1977).
[89] 983 F.2d 1215, 1232 (3d Cir. 1992).
[90] *Id.* at 1232.

not the result of random selection.[91] Where both absolute and comparative disparity tests are subject to distortion based on population size, standard deviation may better expose the reality of underrepresentation because the test is "firmly grounded in statistical theory, and generally applicable to both large and small population groups."[92]

Nevertheless, the standard deviation test has been criticized for being an inaccurate measure because, unlike the absolute and comparative disparity tests, this method presumes randomness, but general population characteristics differ from characteristics of a pool of qualified jurors.[93] Because probability predictions are skewed if applied to non-random samples, and qualified jury pools are not the product of random selection since they entail "reasoned disqualifications based on numerous factors," critics argue the standard deviation test is illogical in application.[94] Further, in *United States v. Rioux* the Second Circuit posits that standard deviation analysis rests on a false equivalence:

> It is illogical to apply a theory based on random selection when assessing the constitutionality of a qualified wheel. By definition, the qualified wheel is not the product of random selection; it entails reasoned disqualifications based on numerous factors. It is irrational to gauge the qualified wheel—an inherently non-random sample—by its potential for randomness.[95]

Yet, the Iowa Supreme Court in *State v. Lilly* notes these criticisms are not entirely accurate. Rather than a flaw, presumption of randomness can be a strength, enabling judges "to determine whether there has been a deviation *from* randomness that would indicate a problem."[96] Where characteristics of the general population differ from a pool of qualified jurors, it is possible for courts to adjust for this difference.[97] If courts fail to adjust for the difference, it would actually make it *easier* for a defendant to meet the second prong if the distinct population tends to contain fewer qualified jurors.[98] While the standard deviation test is more cumbersome to calculate and apply than the absolute and comparative disparity tests, the court in *State v. Lilly* points out that courts routinely conduct standard deviation analyses in employment discrimination cases and are thus

[91] *Id.*
[92] United States v. Hernandez-Estrada, 749 F.3d 1154, 1163 (9th Cir. 2014).
[93] *Id.*
[94] United States v. Rioux, 97 F.3d 648, 655 (2d Cir. 1996).
[95] *Id.*
[96] State v. Lilly, 930 N.W.2d 293, 302 (Iowa 2019) (emphasis in original).
[97] *Id.*
[98] *Id.*

perfectly capable of doing so in the criminal cases.[99] Further, parties may bring experts to present the statistical results and opine on their accuracy and reliability.[100] These experts may be computer programmers capable of analyzing and explaining the jurisdiction's jury data.[101]

In sum, where absolute disparity tests "understate[] the disparity and comparative disparity overstates the results," the Iowa Supreme Court concluded that standard deviation analysis "get[s] at the heart of the matter . . . 'the probability that the disparity between a group's jury-eligible population and the group's percentage in the qualified jury pool is attributable to random chance.'"[102]

III. COURTS SHOULD EMPLOY A COMBINATION OF THREE STATISTICAL TESTS TO MEASURE UNDERREPRESENTATION IN THE JURY POOL

No Supreme Court opinion to date specifies "the method or test courts must use to measure the representation of distinctive groups in jury pools."[103] This silence does a disservice to litigants. Circuits have long been plagued by inconsistent approaches and applications of tests to measure underrepresentation. The Second Circuit, in *United States v. Rioux*, said that on the issue of which statistical method to use, the court had "admittedly waffled . . . in the past."[104] The Ninth Circuit, in *United States v. Hernandez-Estrada*, noted "[a] survey of our sister circuits demonstrates the inconsistency of approaches."[105] The Supreme Court of Iowa agrees, acknowledging in *State v. Lilly* that both the defendant and State wish for more clarity as to how to use the three statistical tests.[106] The statistical tests and the application of their resultant statistics "create[] considerable uncertainty" to be resolved by the Court.[107] Courts, governments, and defendants alike would benefit from clarity and a uniform standard.[108]

Courts should abandon the practice of relying exclusively or even primarily on the absolute disparity test. Some Circuits have consistently applied or indicate a willingness to apply multiple tests to determine underrepresentation.[109] Others indicate a desire to abandon exclusive use

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[99] *Id.* at 300.
[100] *See, e.g.*, Ramseur v. Beyer, 983 F.2d 1215, 1230 (3d Cir. 1992); *see also* Chernoff, *supra* note 29, at 187.
[101] *See* Chernoff, *supra* note 29, at 187.
[102] *Lilly*, 930 N.W.2d at 302 (citing Berghuis v. Smith, 559 U.S. 314, 324 n.1 (2010)).
[103] *Berghuis*, 559 U.S. at 329.
[104] 97 F.3d 648, 655 (2d Cir. 1996).
[105] 749 F.3d 1154, 1164 (9th Cir. 2014).
[106] 930 N.W.2d at 301.
[107] *Id.*
[108] *Id.* (noting the statistical tests and their application has "created considerable uncertainty" and both the defendant and the State urge the court to provide more clarity).
[109] *See* United States v. Orange, 447 F.3d 792, 798 (10th Cir. 2006) ("[W]e have

of the absolute disparity test, warning it creates "problems of constitutional significance," offering insignificant protections "for a minority group as the group's percentage of the community's total population decreases"[110] Still others have examined the results of all three statistical tests to inform their decision.[111] The absolute disparity test alone makes it virtually impossible to remedy underrepresentation of groups that are a small percentage of the population. Many courts favor the absolute disparity test because of its easy administration,[112] and it is the "starting point for all other methods of comparison" in some circuits.[113] Ease of administration does not justify a measure that, absent deeper research, obfuscates clear constitutional violations and impedes access to a fair trial for minority defendants.[114]

Any fear that alternatives like the comparative disparity test *overstate* underrepresentation in the jury pool should be more palatable than the analogous fear that the absolute disparity test *understates* underrepresentation in the jury pool, given that the "standard for neutrality under adversary democratic due process" requires that institutions strive to be over protective rather than under protective of society's most vulnerable populations.[115] Equal justice rests on the constant pursuit of "fairness and impartiality in the delivery of justice" and a "commitment to non-discrimination, regardless of race, sex, age, ethnicity, religion, national origin, color, sexual orientation, gender identity, pregnancy, disability status, or political affiliation."[116] The absolute disparity test

consistently relied upon two measurements: absolute and comparative disparity."); *see also* Mosley v. Dretke, 370 F.3d 467, 479 n.5 (5th Cir. 2004) ("We leave open the possibility that if the distinctive group at issue makes up less than 10% of the population, comparative disparity may be used.").

[110] *See* State v. Plain, 898 N.W.2d 801, 825, 826 (Iowa 2017) ("In Iowa, we conclude it is no longer appropriate to rely exclusively on the absolute disparity test as an indicator of representativeness.").

[111] Ramseur v. Beyer, 983 F.2d 1215, 1231–32 (3d Cir. 1992) (conducting a multi-modal analysis that considers absolute disparity alongside standard deviation and comparative disparity).

[112] United States v. Hernandez-Estrada, 749 F.3d 1154, 1162 (9th Cir. 2014).

[113] *Orange*, 447 F.3d at 798; *see also* United States v. Royal, 174 F.3d 1, 7 (1st Cir. 1999) ("For fifteen years, this Circuit has rejected comparative disparity analysis and applied absolute disparity analysis").

[114] *See* United States v. Green, 389 F. Supp. 2d 29, 55 n.52 (D. Mass 2005) ("[T]he 10% rule adopted by some courts is a contrivance, and one based on faulty precedent."); *see also* Delgado v. Dennehy, 503 F. Supp. 2d 411, 426 (D. Mass. 2007) ("A myopic focus on absolute disparity is particularly dangerous in a case such as this where, because of the small number of Hispanics in Essex County, even their complete exclusion would have resulted in an absolute disparity of less than 10%.").

[115] Martin H. Redish & Victor Hiltner, *Adversary Democratic Due Process*, 75 FLA. L. REV. 483, 507 (2023) ("The standard for neutrality under adversary democratic due process must therefore err on the side of overprotection.").

[116] Robert J. Conrad, *Strategic Plan for the Federal Judiciary*, 5 (ADMIN. OFF. OF THE

alone does not properly achieve these means. Neither should absolute disparity continue to detain the court's time and attention as the sole focus and starting point for its analysis. Because the cost of under protection is "fundamental and irreparable violations of an individual's right to accurate, fair, and dignified treatment" and the cost of over-protection is merely the "expenditure of fungible resources,"[117] courts should abandon exclusive reliance on this under protective baseline and start from a more defensible and accurate combination of statistical measures.

Instead, all courts should adopt the *State v. Plain* approach, "abandon[ing] the exclusive use of absolute disparity as a test for jury representativeness under the Sixth Amendment and permit[ting] absolute disparity, comparative disparity, and standard deviation analyses to be used."[118] Under this new standard, courts would assess absolute disparity, comparative disparity, and standard deviation together to obtain a fuller picture of how jury pool selection practices affect the group at issue. The comparative disparity test complements absolute disparity by measuring underrepresentation relative to the size of the minority population rather than the total population, correcting structural blind spots inherent in the absolute disparity test. Standing alone, comparative disparity might overstate underrepresentation by magnifying disparities in small populations. Standard deviation analysis addresses this concern by introducing a probabilistic threshold that distinguishes disparities attributable to chance from those suggestive of systemic exclusion. Where comparative disparity appears large due only to a small demographic baseline, standard deviation analysis helps determine whether the disparity is meaningful.

Assessing the absolute disparity mitigates judicial skepticism, as some courts only have experience applying the absolute disparity test and may worry about the lower usage rate of the standard deviation and comparative disparity tests across courts.[119] Though widely held, that concern is misplaced: the absence of a single determinative test reflects judicial entrenchment and status quo bias, not methodological weakness.[120] These tests are not difficult to calculate, requiring incorporation of identical numbers into three basic statistical formulas. Given the potential for significant gains in fairness and accuracy, requiring courts to consider all three measures would impose minimal additional burdens.

Historically, defendants have struggled to substantiate

U.S. CTS., 2025).

[117] Redish & Hiltner, *supra* note 115 at 506.

[118] State v. Plain, 898 N.W.2d 801, 809 (Iowa 2017).

[119] Berghuis v. Smith, 559 U.S. 314, 329 (2010); *see also* State v. Lilly, 930 N.W. 2d 293, 302 (Iowa 2019).

[120] *Lilly*, 930 N.W. 2d at 302.

underrepresentation claims through no fault of their own.[121] Taken together, the tests offer a complementary and mutually reinforcing means of evaluating underrepresentation that no test can provide in isolation, lending much needed validity to meritorious claims.

CONCLUSION

For far too many defendants, particularly those tried in jurisdictions with small minority populations, the Sixth Amendment's fair cross-section guarantee is rendered illusory. Outdated and analytically flawed methods to measure underrepresentation in jury pools exacerbate this failure. To preserve the integrity of the fair cross-section guarantee, courts must adopt measurement tools that are responsive to demographic reality and capable of detecting the subtle yet significant forms of systemic underrepresentation that persist today. The absolute disparity, comparative disparity, and standard deviation tests together provide a more accurate, theoretically grounded, and equitable framework for evaluating jury pool composition than any test in isolation. Only by embracing methodologies that accurately capture the realities of underrepresentation can courts safeguard the legitimacy of the jury system and honor the Constitutional rights of all defendants, regardless of the demographic contours of their communities.

[121] *See* Chernoff, *supra* note 29, at 141 ("[A]t least ten federal circuits and nineteen states have erroneously denied defendants' Sixth Amendment claims.").