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ADVANCE SHEET HEADNOTE
June 23, 2008

No. 07SC614, Washington v. People; and No. 07SC732, Sayles v. People -- Underrepresentation of African-Americans and Hispanics That Was Caused by Systematic Exclusion, Although Statistically Significant, Did Not Amount to a Violation of the Sixth Amendment's Fair Cross-Section Guarantee

Consolidating two cases for opinion, the supreme court holds that no specific statistical measure should be excluded in a court's analysis of a constitutional fair cross-section claim. In these cases, a systematic jury-selection practice resulted in a statistically significant underrepresentation of African-Americans and Hispanics on jury panels in Arapahoe County at the time of the defendants' trials. The supreme court disapproves of this practice and directs that it be stopped immediately. However, upon review of all the statistical evidence, the supreme court concludes that the underrepresentation was not unfair or unreasonable so as to rise to the level of a constitutional violation. Thus, the underrepresentation here, although statistically significant, did not violate the Sixth Amendment's guarantee to a jury selected from a fair cross-section of the community.

<p>SUPREME COURT, STATE OF COLORADO Two East 14th Avenue Denver, Colorado 80203</p> <p>Certiorari to the Colorado Court of Appeals Court of Appeals Case No. 03CA1895</p> <p>Certiorari to the Colorado Court of Appeals Court of Appeals Case No. 04CA0780</p>	<p>Consolidated Cases</p> <p>Case No. 07SC614</p> <p>Case No. 07SC732</p>
<p>Case No. 07SC614</p> <p>Petitioner:</p> <p>TREVON D. WASHINGTON, a/k/a VENDA JOHNSON, JR.,</p> <p>v.</p> <p>Respondent:</p> <p>THE PEOPLE OF THE STATE OF COLORADO.</p>	
<p>* * * * *</p>	
<p>Case No. 07SC732</p> <p>Petitioner:</p> <p>LORENZO SAYLES,</p> <p>v.</p> <p>Respondent:</p> <p>THE PEOPLE OF THE STATE OF COLORADO.</p>	
<p>JUDGMENTS AFFIRMED EN BANC June 23, 2008</p>	

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JUSTICE BENDER delivered the Opinion of the Court.
JUSTICE COATS concurs in the judgment only, and JUSTICE EID
joins in the concurrence.

I. Introduction

We granted certiorari review of two cases, People v. Washington, 179 P.3d 153 (Colo. App. 2007), and People v. Sayles, No. 04CA0780 (Colo. App. July 12, 2007) (not selected for publication), in which the defendants claimed that the jury-selection process in Arapahoe County systematically excluded an unfair and unreasonable number of African-Americans and Hispanics, such that the juries in their cases failed to represent a fair cross-section of the community in violation of their constitutional rights.¹

At issue in both cases is whether the practice of giving double credit to prospective jurors for service in Aurora municipal court, so that the prospective jurors in the part of Aurora located in Arapahoe County received credit toward their service rank in both Aurora's jury wheel and Arapahoe County's jury wheel, systematically excluded an unfair and unreasonable number of African-Americans and Hispanics in violation of the Sixth Amendment's fair cross-section guarantee. Of particular

¹ We granted certiorari review of the following issue in Washington: "Whether the trial court and the court of appeals erred in declining to vacate Petitioner's convictions based upon the State's non-compliance with the 'fair cross-section' requirement of the Sixth Amendment to the United States Constitution."

In Sayles, we granted certiorari review of the following issue: "Whether the court erred in refusing to convene a new jury panel or to grant a new trial because of Arapahoe County's systematic exclusion of African-Americans from the venire."

concern is which statistical measures should be used by a court in its analysis of a constitutional fair cross-section claim.

In the first case, the trial court conducted a post-trial hearing on Petitioner Trevon Washington's motion to dismiss the jury pool. During that hearing, Washington presented statistical evidence that measured the degree of underrepresentation of African-Americans and Hispanics on jury panels in Arapahoe County at the time of his trial in terms of absolute disparity, comparative disparity, absolute impact, and statistical significance, which measures the likelihood that the underrepresentation occurred by chance. After weighing all the statistical measures presented by Washington, the trial court denied Washington's motion, finding that he had failed to demonstrate that the underrepresentation of African-Americans and Hispanics on jury panels in Arapahoe County at the time of his trial was unrepresentative of the community or a result of "statistical systematic exclusion." The court of appeals affirmed the trial court's ruling, concluding that the underrepresentation was not "constitutionally significant."

In the second case, which was presided over by the same Arapahoe County district judge who presided over Washington's trial, Petitioner Lorenzo Sayles relied on the statistical evidence presented by Washington to support his motion for a new jury or a new trial. The trial court denied Sayles's motion for

the same reasons that Washington's motion was denied. Relying on its opinion in Washington, the court of appeals affirmed the trial court's ruling.

Consolidating the two cases for opinion, we hold that no specific statistical measure should be excluded in a court's analysis of a constitutional fair cross-section claim, and that a court should evaluate all the statistical evidence presented to determine whether the alleged underrepresentation is unfair and unreasonable, and thus violated the defendant's constitutional right to a jury selected from a fair cross-section of the community.

Here, Washington's expert testified that the practice of giving double credit to prospective jurors for service in Aurora municipal court resulted in an underrepresentation of African-Americans and Hispanics on jury panels in Arapahoe County at the time of the defendants' trials. The expert further testified that the underrepresentation was statistically significant, meaning that it is statistically unlikely that the underrepresentation of these groups occurred by chance.

Because this systematic practice resulted in a statistically significant underrepresentation of African-American and Hispanics on jury panels in Arapahoe County, we disapprove of it and direct that it be stopped immediately.

As the evidence presented by the expert showed, the likelihood that the underrepresentation of African-Americans on jury panels in Arapahoe County occurred by chance was 0.008%, or eight out of every 100,000 times, and that the likelihood that the underrepresentation of Hispanics on jury panels in Arapahoe County occurred by chance was 0.120%, or 120 out of every 100,000 times.

However, upon review of the other statistical evidence presented by Washington, we conclude that the underrepresentation of African-Americans and Hispanics as measured by statistical significance was minimal. As measured by absolute impact, the practice of giving double credit to prospective jurors for service in Aurora municipal court resulted in a decrease of less than one African-American and one Hispanic in every three 90- to 100-person jury panels in Arapahoe County. As measured by absolute disparity and comparative disparity, the underrepresentation of African-Americans and Hispanics here was slight when compared with other cases in which the underrepresentation violated a defendant's constitutional right to a jury selected from a fair cross-section of the community.

Therefore, although we disapprove of the practice of giving double credit to prospective jurors for service in Aurora municipal court, our review of all the statistical evidence

presented by Washington leads us to conclude that the underrepresentation of African-Americans and Hispanics on jury panels in Arapahoe County at the time of the defendants' trials was not unfair or unreasonable, and thus did not violate the Sixth Amendment's fair cross-section guarantee. We therefore affirm the judgments of the court of appeals.

Washington and Sayles also argue that the evidence of statistical significance in this case is sufficient to establish a violation of their statutory rights under the Colorado Uniform Jury Selection and Service Act, §§ 13-71-101 to -145, C.R.S. (2007). However, because neither Washington nor Sayles raised this argument at trial, on appeal to the court of appeals, or in their petitions for certiorari review, we reject their statutory claims as untimely.

II. Facts and Proceedings Below

A. The Washington Case

The first case stems from a cocaine transaction that resulted in a triple murder, attempted murder, sexual assault, and robbery in 1998. In July 2003, following a three-week jury trial in Arapahoe County, Washington was convicted of three counts of first-degree murder after deliberation; four counts of aggravated robbery; and one count each of attempted first-degree murder, second-degree kidnapping, aggravated first-degree sexual assault, conspiracy to commit first-degree murder, and accessory

to a crime. The trial court sentenced Washington to consecutive life sentences without the possibility of parole on the three counts of first-degree murder, and consecutive sentences for various terms of years on the remaining convictions.

During jury selection, Washington filed a motion to dismiss the jury pool based on his contention that the jury-selection process in Arapahoe County systematically excluded African-Americans and Hispanics such that the jury in his trial failed to represent a fair cross-section of the community.

The trial court conducted a post-trial hearing on Washington's motion where Washington presented expert testimony on the amount of underrepresentation of African-Americans and Hispanics on jury panels in Arapahoe County and on the likelihood that such underrepresentation occurred by chance.

The evidence presented by Washington showed that in Colorado, the State Court Administrator uses state driver's license and voting records to create master lists of prospective jurors, called jury wheels, for every county in the state. Each week, the counties randomly select a group of prospective jurors from their jury wheel to form the jury panel for that week's trials. To reduce the likelihood that some prospective jurors in the jury wheel will be selected for jury duty more often than others, the State Court Administrator also assigns each prospective juror a service rank based on previous selection for

jury service during the last five years. Pursuant to the Colorado Uniform Jury Selection and Service Act, prospective jurors with the least amount of jury service in recent years are selected for jury service before those who have served more recently. See § 13-71-108(2).

The State Court Administrator also creates a jury wheel for the City of Aurora, which is located mostly, but not entirely, in Arapahoe County. Prior to March 2003, prospective jurors who resided in the part of Aurora located in Arapahoe County were removed entirely from Arapahoe County's jury wheel because they were in Aurora's jury wheel. In March 2003, that practice ceased, and prospective jurors who resided in the part of Aurora located in Arapahoe County were added back into Arapahoe County's jury wheel.² The service rank assigned to prospective

² The management analyst at the Office of the State Court Administrator who testified as to the method of creating the jury wheels for Arapahoe County and Aurora did not know why the practice ceased in March 2003:

[Prosecutor]: You said that in late spring of 2003 there was a problem with removing Aurora jurors and there was a decision made to return Aurora jurors to the Arapahoe and Adams County pool?

[Witness]: Yes.

[Prosecutor]: Do you know why this was done?

[Witness]: The process was reviewed by our counsel and by [the State Court Administrator], and they felt that the Aurora jurors should also be in the wheel --

. . .

[Prosecutor]: Okay. And why was that?

[Witness]: I don't know. Sorry.

jurors in Aurora's jury wheel was reassigned to them as their service rank in Arapahoe County's jury wheel. These prospective jurors remained in both jury wheels.

Hence, in July 2003, the month of Washington's trial, all 398,539 prospective jurors in Arapahoe County, including those who resided in Aurora, were available for selection from the county's jury wheel. However, the service rank of the prospective jurors who resided in the part of Aurora located in Arapahoe County was based on previous selection for jury service during the last five years from Aurora's jury wheel, not from Arapahoe County's jury wheel.

Washington's expert witness, Robert Bardwell, who was qualified as an expert statistician with regard to jury composition and the demographics from which juries are drawn, presented evidence that Arapahoe County's minority population is concentrated in the Aurora part of the county. As a result, Bardwell explained, the practice of removing prospective jurors who resided in the part of Aurora located in Arapahoe County from Arapahoe County's jury wheel prior to March 2003 resulted in an underrepresentation of minorities, African-Americans and Hispanics in particular, on jury panels in Arapahoe County.

Bardwell testified that remedying the underrepresentation required not only adding these prospective jurors back into Arapahoe County's jury wheel, but also assigning them a service

rank of "zero" in Arapahoe County's jury wheel and giving them credit toward their service rank only for service in Arapahoe County district and county courts.³ Bardwell explained that Arapahoe County "is the only place in the state where you get to have county and district court service by service in municipal court." For example, when prospective jurors are selected for jury service from the City of Colorado Springs' jury wheel, they do not receive credit toward their service rank in El Paso County's jury wheel. Bardwell also testified that Arapahoe County continues to give these prospective jurors double credit for their service in Aurora municipal court: "There's no plan that I know of to terminate the assignment of service rank and, likewise, they're -- they're still using service rank in the selection of jury pools."

Bardwell testified that in 2003, African-Americans comprised 7.7% of the population of Arapahoe County and 7.4% of the county's jury panels, and that Hispanics comprised 12.9% of

³ Bardwell further explained that the underrepresentation could be remedied over a period of time by ceasing the practice of giving service credit for service in Aurora's municipal court:

[E]ach year the cohort of jurors who had served in Aurora, who had service in Aurora four years previous now have a low enough service rank that they're available again. And no new ones are being added, because we've terminated the service rank, the assignment of service rank; so that gradually, over a period of four years, the exclusion of Aurora jurors is reduced to zero.

Arapahoe County's population and 12.6% of the county's jury panels. He concluded that the 0.3% absolute disparity between the percentage of these two minority groups in the county's population and on its jury panels was statistically significant, meaning that it is statistically unlikely that the disparity would occur by chance in a nondiscriminatory setting.

Bardwell determined that the likelihood that the underrepresentation of African-Americans on Arapahoe County's jury panels occurred by chance was 0.008%, and 0.120% with respect to Hispanics. In other words, according to Bardwell, the underrepresentation of African-Americans on Arapahoe County's jury panels occurred by chance eight out of every 100,000 times, and 120 out of every 100,000 times with respect to Hispanics.

On cross-examination by the prosecutor, Bardwell explained that the small size of the absolute disparity in this case was due to the law of large numbers:

[Prosecutor]: I don't understand why you say it [the disparity] is still significant [in 2003].

[Bardwell]: It's called the law of large numbers. But it just amounts to this. If you throw a coin once, half the time it's heads, half the time it's tails. So if you throw it 50 times, it's going to be -- most of the time it's going to be -- or almost all of the time it's going to be pretty close to 50-50. Some deviation. The longer you throw that coin, in this case, select jurors from a fair pool, you -- you -- the absolute -- how many -- I mean, if you expected 10,000 black jurors, you might be hundreds short. But

the percentage differences get smaller and smaller the larger the numbers.

The trial court denied Washington's motion to dismiss the jury panel. It found that "the wheel represents the community statistically"; that to the extent there was any underrepresentation of African-Americans or Hispanics on jury panels in Arapahoe County at the time of Washington's trial, such underrepresentation was not a result of "statistical systematic exclusion"; and that irrespective of whether the underrepresentation was the result of statistical systematic exclusion, the jury venire in Washington's case represented a fair cross-section of the community. In addition, the trial court found that even assuming the underrepresentation was a result of statistical systematic exclusion, it was justified because "service credit is a significant, indeed a compelling state interest," and the practice of giving double credit to prospective jurors for service in Aurora municipal court "comported with the state interest of equitably distributing the responsibility for jury service among prospective jurors in Arapahoe County's jury wheel."

The court of appeals affirmed the trial court's ruling, explaining that the four statistical measures used by Washington's expert are used by courts throughout the country to assess whether a particular jury-selection process resulted in

the systematic exclusion of a distinctive group in the community, such as African-Americans or Hispanics. See Washington, 179 P.3d at 159-64. Those statistical measures are: (1) absolute disparity, (2) comparative disparity, (3) absolute impact, and (4) statistical significance. Id.

In its analysis, the court of appeals evaluated all the statistical evidence presented by Washington, giving "substantial weight" to absolute disparity because it "is by far the most commonly employed measure in this context, with comparative disparity running a rather distant second." Id. at 163. The court of appeals "decline[d] to give significant weight" to the evidence regarding statistical significance "given the aforementioned evidence of absolute disparity, comparative disparity, and absolute impact, as well as the limitations of statistical decision theory in this context." Id. at 164. The court of appeals disagreed with the expert's assertion that the percentages of African-Americans and Hispanics in Arapahoe County's population "are too small to allow for meaningful evaluation" using measures other than statistical significance. Id. Hence, the court of appeals rejected the expert's opinion that any exclusion of African-Americans or Hispanics from jury panels in Arapahoe County was statistically significant. Id.

Because it determined that the underrepresentation of African-Americans and Hispanics on Arapahoe County's jury panels at the time of Washington's trial was not "constitutionally significant," the court of appeals did not address whether the underrepresentation was caused by systematic exclusion or whether the practice of giving double credit to prospective jurors for service in Aurora municipal court served a significant state interest. Id.

B. The Sayles Case

Sayles was found guilty of second-degree murder, first-degree assault, and two counts of the crime of violence in a December 2003 jury trial for hitting the victim over the head with an empty beer bottle and then either pushing or chasing the victim into the path of an oncoming vehicle, which struck and killed the victim. The trial court sentenced Sayles to thirty years in the Department of Corrections on the second-degree murder conviction and consecutive sentences of various terms of years on the other convictions.

On appeal, Sayles argued that the trial court, which was presided over by the same judge who presided over Washington's trial, erred in refusing to convene a new jury panel or to order a new trial based on the same statistical evidence presented by Washington. Relying on its opinion in Washington, the court of

appeals denied Sayles's fair cross-section claim in an unpublished opinion. Sayles, slip op. at 8-9.

III. Analysis

Washington and Sayles argue that the practice of giving double credit for service in Aurora municipal court, so that prospective jurors in the part of Aurora located in Arapahoe County receive credit toward their service rank in both Aurora's jury wheel and Arapahoe County's jury wheel, systematically excluded an unfair and unreasonable number of African-Americans and Hispanics, such that the juries in their cases were not selected from a fair cross-section of the community. They also argue that the evidence regarding statistical significance is sufficient to establish a violation of their statutory rights under the Colorado Uniform Jury Selection and Service Act. We address each of these arguments in turn.

A. Sixth Amendment Fair Cross-Section Claim

This court reviews the factual determinations relevant to a defendant's fair cross-section claim for clear error, and reviews the legal determination of whether a prima facie violation has occurred de novo. See People v. Sepeda, 196 Colo. 13, 17-21, 581 P.2d 723, 726-29 (1978); accord United States v. Orange, 447 F.3d 792, 797 (10th Cir. 2006). Here, the defendants do not challenge any of the trial courts' findings of

fact. Hence, the applicable standard of review of this issue is de novo.

The Sixth Amendment guarantees a defendant the right to a jury selected from a representative cross-section of the community. Sepeda, 196 Colo. at 18, 581 P.2d at 727 (citing Taylor v. Louisiana, 419 U.S. 522, 538 (1975)). However, “[d]efendants are not entitled to a jury of any particular composition.” Taylor, 419 U.S. at 538; see Sepeda, 196 Colo. at 18, 581 P.2d at 727 (“There is no requirement, however, that each petit jury reflect the exact ethnic proportion of the population to which the defendant belongs.”). As such, the Sixth Amendment’s fair cross-section guarantee requires only that “the jury wheels, pools of names, panels, or venires from which juries are drawn must not systematically exclude distinctive groups in the community and thereby fail to be reasonably representative thereof.” Taylor, 419 U.S. at 538.

To establish that the composition of a jury pool constitutes a prima facie violation of the Sixth Amendment’s fair cross-section guarantee, the defendant must prove:

- (1) that the group alleged to be excluded is a “distinctive” group in the community;
- (2) that the representation of this group in venires 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 is

due to systematic exclusion of the group in the jury-selection process.⁴

Duren v. Missouri, 439 U.S. 357, 364 (1979); People v. Rubanowitz, 688 P.2d 231, 241 (Colo. 1984) (citing Duren, 439 U.S. at 364); see Sepeda, 196 Colo. at 19, 581 P.2d at 727-28.

If the defendant satisfies the three prongs of the Duren test, then the burden shifts to the state to justify "this infringement by showing attainment of a fair cross-section to be incompatible with a significant state interest." Duren, 439 U.S. at 368.⁵

⁴ Discriminatory intent is not an element of a Sixth Amendment fair cross-section challenge to the composition of a jury pool, as it is of an equal protection challenge brought under the Fifth or Fourteenth Amendment. See United States v. Orange, 447 F.3d 792, 800 (10th Cir. 2006) ("Orange cannot establish a Fifth Amendment violation because the record does not support any purposeful discrimination."); compare Duren v. Missouri, 439 U.S. 357, 368 n.26 (1979) (fair cross-section challenge) with Castaneda v. Partida, 430 U.S. 482, 493-95 (1977) (equal protection challenge). Washington and Sayles challenged the composition of their juries under both the Sixth and Fourteenth Amendments in their appeals below. Here, however, they make only a Sixth Amendment fair cross-section challenge and, therefore, do not need to prove discriminatory intent.

⁵ In a footnote, the Duren court distinguished the state's burden of proof in a fair cross-section challenge from its burden in an equal protection challenge. 439 U.S. at 368 n.26. The Supreme Court noted that the evidence presented in an equal protection challenge "is subject to rebuttal evidence either that discriminatory purpose was not involved or that such purpose did not have a determinative effect." Id. The evidence in a fair cross-section challenge is subject only to the question of "whether there is adequate justification for this infringement." Id.

1. Distinctive Group and Systematic Exclusion

There is no dispute that the first prong of the Duren test is satisfied here. Duren, 439 U.S. 364. The People concede that "African-Americans and Hispanics are 'distinctive groups' for the purposes of a fair cross-section analysis." United States v. Weaver, 267 F.3d 231, 240 (3d Cir. 2001); see Castaneda v. Partida, 430 U.S. 482, 495 (1977) (holding that "Mexican-Americans are a clearly identifiable class" in the context of an equal protection challenge); Fields v. People, 732 P.2d 1145, 1153 (Colo. 1987) (holding that "Spanish-surnamed persons clearly constitute a cognizable group of people" for the purpose of both Sixth Amendment and equal protection claims against the use of peremptory challenges).

The third prong of the Duren test requires a court to determine whether the underrepresentation of the group was caused by systematic exclusion. 439 U.S. at 364. As explained by the Duren court, systematic exclusion is "inherent in the particular jury-selection process utilized" and "occurred not just occasionally but in every weekly venire for a period [of time]." Id. at 366.

At his post-trial hearing, Washington presented evidence that the population of African-Americans and Hispanics in Arapahoe County is concentrated in the Aurora part of the county. Bardwell testified that the practice of giving double

credit to prospective jurors for service in Aurora municipal court was statistically significant, meaning that it is statistically unlikely that the underrepresentation of African-Americans and Hispanics on Arapahoe County's jury panels occurred by chance. As Bardwell testified, giving double credit to prospective jurors for service in Aurora municipal court inflated the service rank of these prospective jurors in Arapahoe County's jury wheel, making it less likely that they would be selected for jury service in Arapahoe County district and county courts.

These facts show a defect in Arapahoe County's jury-selection process that occurred over a period of time and that resulted in statistically significant underrepresentation of African-Americans and Hispanics on Arapahoe County's jury panels. Thus, the practice of giving double credit to prospective jurors for service in Aurora municipal court appears to meet the Duren court's definition of systematic exclusion.

However, as explained below, the underrepresentation of African-Americans and Hispanics on Arapahoe County's jury panels as measured by statistical significance was minimal when compared with the other statistical evidence presented by Washington. Thus, the underrepresentation was not unfair or unreasonable and did not violate Washington's or Sayles's

constitutional right to a jury selected from a fair cross-section of the community.

2. Fair and Reasonable Representation

The second prong of the Duren test requires the defendant to prove that the underrepresentation of the distinctive group resulted in jury panels that failed to reasonably represent the community.⁶ Duren, 439 U.S. at 364.

This raises two questions: (1) how should the underrepresentation be measured; and (2) at what level does a jury panel fail to reasonably represent the community? See Washington, 179 P.3d 159-64; Peter A. Detre, Note, A Proposal for Measuring Underrepresentation in the Composition of the Jury Wheel, 103 Yale L.J. 1913, 1917 (1994).

Measuring underrepresentation in a challenge to the composition of a jury "is, at least in part, a mathematical

⁶ In Castaneda, the Supreme Court noted that "[o]nce the defendant has shown substantial underrepresentation of his group, he has made out a prima facie case of discriminatory purpose." 430 U.S. at 495 (emphasis added). By requiring "substantial underrepresentation" in equal protection challenges, Castaneda implies that the burden of proof for establishing that the underrepresentation is unfair and unreasonable in an equal protection challenge is higher than it is in a fair cross-section challenge. See Duren, 439 U.S. at 368 n.26 ("Those equal protection challenges to jury selection and composition [in Castaneda] are not entirely analogous to [the fair cross-section challenge in] the case at hand."); Alston v. Manson, 791 F.2d 255, 258 (2d Cir. 1986) (distinguishing "equal protection and [S]ixth [A]mendment [fair cross-section] standards").

exercise, and must be supported by statistical evidence.”⁷ Weaver, 267 F.3d at 240 (citing Duren, 439 U.S. at 364). Courts throughout the country have variously applied four statistical measures to determine whether the defendant has satisfied the second prong of the Duren test: (1) absolute disparity, (2) comparative disparity, (3) absolute impact, and (4) statistical significance. Detre, supra, at 1917.

First, absolute disparity measures the difference between the group’s percentage in the community’s population and the group’s percentage on the community’s jury panels. Orange, 447 F.3d at 798; Detre, supra, at 1917. Hence, absolute disparity is determined by subtracting the group’s percentage in the community’s population from the group’s percentage on its jury panels. Id. For example, if the group comprises 10% of the community’s population and 5% of its jury panels, then the absolute disparity is 5% (10% minus 5%).

Second, comparative disparity is determined by dividing the absolute disparity by the group’s percentage in the community’s population, and then multiplying that number by 100 to create a

⁷ Although the equal protection and fair cross-section standards may be different, there is “no rationale for applying different measures of underrepresentation in the fair cross-section and equal protection contexts that can survive close scrutiny.” Peter A. Detre, Note, A Proposal for Measuring Underrepresentation in the Composition of the Jury Wheel, 103 Yale L.J. 1913, 1924 (1994). Hence, we examine the use of the statistical measures in both types of cases, just as the court of appeals did.

figure expressed as a percentage. Orange, 447 F.3d at 798; Detre, supra, at 1917-18. This figure measures "the percentage decrease in the probability that someone in the underrepresented group will be selected" for jury service. Detre, supra, at 1918; see Orange, 447 F.3d at 798. For example, if the group comprises 10% of the community's population and 5% of its jury panels, then the absolute disparity is 5% (10% minus 5%) and the comparative disparity is 50% (5% divided by 10% multiplied by 100). This means that there is a 50% decrease in the probability that a member of the group will be selected for jury service.

Third, absolute impact, also known as substantial impact, measures the decrease in the number of group members on an average jury panel. Detre, supra, at 1917. Absolute impact is determined by multiplying the absolute disparity by the number of prospective jurors on the jury panel in question. Id.; see Duren, 439 U.S. at 366 (weighing statistical evidence as measured by absolute impact and absolute disparity). For example, if the absolute disparity is 5% and the number of prospective jurors on the jury panel in question is 100, then the absolute impact is five (5% multiplied by 100). This means that there will be five fewer members of the group on the average jury panel.

Fourth, statistical significance, also known as statistical decision theory, measures the likelihood that the underrepresentation of the group occurred by chance. Detre, supra, at 1918. Statistical significance depends upon the size of the jury wheel and is determined using a binomial distribution, which describes the number of times that a particular event occurs or does not occur. Id.; see Castaneda, 430 U.S. at 496 n.17 (weighing statistical evidence as measured by statistical significance and absolute disparity). "As a general rule for large samples, if the difference between the expected value and the observed number is greater than two or three standard deviations, then the hypothesis that the jury drawing was random would be suspect to a social scientist." Castaneda, 430 U.S. at 496 n.17.

Only once has this court examined whether the underrepresentation of a distinctive group resulted in jury panels that failed to reasonably represent the community. See Sepeda, 196 Colo. at 17-21, 581 P.2d at 726-29 (failing to explain whether its analysis was based on the defendant's Fifth Amendment equal protection challenge or his Sixth Amendment fair cross-section challenge). In Sepeda, this court looked to absolute disparity and comparative disparity to determine whether the number of Spanish-surnamed persons on Weld County's jury panel was "reasonably representative" of the community.

Id. at 20, 581 P.2d at 728. In that case, Spanish-surnamed persons comprised 15.4% of Weld County's population and 10.4% of the county's jury panels, resulting in "a difference [in absolute disparity] of 5% (15.4% minus 10.4%) or a comparative disparity of 31% (5% divided by 15.4%)." ⁸ Id. Given an absolute disparity of 5% and a comparative disparity of 31%, the court determined that "[w]hile the selection process may not be perfect, we cannot say that the jury pool is not reasonably representative of the community." Id. Accordingly, the court held that the jury-selection process for Weld County resulted in a jury pool that was "reasonably representative of the community." Id.

Like this court in Sepeda, the Tenth Circuit Court of Appeals has consistently relied upon absolute disparity and comparative disparity in this context. See, e.g., Orange, 447 F.3d at 798 ("[W]e have consistently relied upon two measurements: absolute and comparative disparity."); United States v. Chanthadara, 230 F.3d 1237, 1256-57 (10th Cir. 2000); United States v. Shinault, 147 F.3d 1266, 1272 (10th Cir. 1998);

⁸ The comparative disparity in Sepeda was incorrectly computed. As previously explained, comparative disparity is determined by dividing the absolute disparity by the group's percentage in the community's population, and then multiplying that number by 100 to create a figure expressed as a percentage. Performing that operation to the figures presented in Sepeda (5% divided by 15.4% multiplied by 100) results in a comparative disparity of 32.5%. See 196 Colo. at 20, 581 P.2d at 728.

United States v. Gault, 141 F.3d 1399, 1402 (10th Cir. 1998);
United States v. Yazzie, 660 F.2d 422, 426 (10th Cir. 1981);
United States v. Test, 550 F.2d 557, 586-90 (10th Cir. 1976).

Moreover, the Orange court held that "when a court is presented with evidence of comparative and absolute disparities, and those disparities fall within our accepted range, a court need not look further into other statistical methods." 447 F.3d at 799.

Critics argue that absolute disparity and comparative disparity distort the underrepresentation of a group because neither absolute disparity nor comparative disparity takes into account the size of the group in question. Id.; Detre, supra, at 1921. As one commentator illustrates, if one group comprises 50% of the community's population and 45% of its jury panels, then the absolute disparity is 5% (50% minus 45%). Detre, supra, at 1921. If another group comprises 5% of the community's population and 0% of its jury panels, then the absolute disparity is likewise 5% (5% minus 0%). Id. In this way, absolute disparity understates the underrepresentation of the latter group. Id.; see Orange, 447 F.3d at 799. When a group is small in relation to a large community, comparative disparity has the opposite effect of overstating the underrepresentation. Detre, supra, at 1921; see Shinault, 147 F.3d at 1273 (assessing the comparative disparity of groups

that comprised 1.27%, 2.92%, and 5.11% of the community's population).

Although absolute disparity and comparative disparity are the statistical measures most often used by courts to analyze a challenge to the composition of a jury, the United States Supreme Court has never expressly prohibited the use of other statistical measures. In fact, support can be found for the use of absolute impact in Duren, 439 U.S. at 366, and for the use of statistical significance in Castaneda, 430 U.S. at 496 n.17, in which the Supreme Court used these measures along with absolute disparity.

Few courts have used absolute impact or statistical significance to the exclusion of absolute disparity or comparative disparity when measuring underrepresentation. However, in State v. Gibbs, 758 A.2d 327, 337 (Conn. 2000), the Connecticut Supreme Court affirmed a trial court's exclusive use of absolute impact in its analysis of the second prong of the Duren test. The court reasoned that absolute impact was the proper statistical measure to use in that particular case because the distinctive group comprised a small percentage of the community's population:

Both the absolute disparity and comparative disparity models, although more widely used than the substantial [absolute] impact test, are considered inaccurate when the distinctive group at issue represents a very small portion of the community; . . . and the statistical

decision theory's focus on randomness is, by its very nature, inapplicable to a concededly nonrandom process. In contrast, the substantial [absolute] impact test measures underrepresentation in terms of its impact on juries, not simply percentages in the abstract. This analysis allows the courts to reject challenges when the challenged practices did not significantly alter the composition of the typical grand or petit jury.

Id. (internal citation, quotation, and emphasis omitted). In Gibbs, the percentage of the group in question, Hispanics, comprised approximately 6.7% of the community's population and 4.21% of its jury panels. Id. The number of prospective jurors on the jury panel was 100 and the absolute impact was 2.36, meaning that "approximately three (2.36) Hispanics would have to be added to every jury array of 100 persons in order to eliminate any underrepresentation." Id. Ultimately, the Gibbs court concluded that the defendant failed to satisfy the second prong of the Duren test. Id.

No court has used statistical significance alone to evaluate a fair cross-section challenge, but some courts have interpreted Castaneda to require the use of statistical significance in the context of an equal protection challenge. See, e.g., Alston, 791 F.2d at 257 ("The Statistical Decision Theory [statistical significance] is ideally suited for shedding light on this issue [of discriminatory intent] because it reveals the possible role of chance and works well where a small sample is involved, as here."); Moultrie v. Martin, 690 F.2d

1078, 1082 (4th Cir. 1982) (“[I]n all cases involving racial discrimination, the courts of this circuit must apply a standard deviation analysis . . . before drawing conclusions from statistical comparisons.”).

In this case, Bardwell testified that African-Americans comprised 7.7% of Arapahoe County’s population and 7.4% of the county’s jury panels, and that Hispanics comprised 12.9% of Arapahoe County’s population and 12.6% of the county’s jury panels. The trial court took judicial notice of the fact that the jury panel in Washington’s case was between 90 and 100. Therefore, for African-Americans, the absolute disparity was 0.3% (7.7%, the group’s percentage in Arapahoe County’s population, minus 7.4%, the group’s percentage on the county’s jury panels), and the comparative disparity was 3.9% (0.3%, the absolute disparity, divided by 7.7%, the group’s percentage in the population of Arapahoe County, multiplied by 100, to create a percentage figure). The absolute impact was between 0.27 and 0.3 (0.3%, the absolute disparity, multiplied by 90 and 100, the size of the jury panel), meaning that the underrepresentation resulted in a decrease of less than one African-American in every three 90- to 100- person jury panels in Arapahoe County. Bardwell determined that the likelihood that the underrepresentation of African-Americans on Arapahoe County’s

jury panels occurred by chance was 0.008%, or eight out of every 100,000 times.

For Hispanics, the absolute disparity was 0.3% (12.9%, the group's percentage Arapahoe County's population, minus 12.6%, the group's percentage on the county's jury panels), and the comparative disparity was 2.3% (0.3%, the absolute disparity, divided by 12.9%, the group's percentage in the population of Arapahoe County, multiplied by 100, to create a percentage figure). The absolute impact was between 0.27 and 0.3 (0.3%, the absolute disparity, multiplied by 90 and 100, the size of the jury panel), meaning that the underrepresentation resulted in a decrease of less than one Hispanic in every three 90- to 100-person jury panels in Arapahoe County. Bardwell determined that the likelihood that the underrepresentation of Hispanics on Arapahoe County's jury panels occurred by chance was 0.120%, or 120 out of every 100,000 times.

In Sepeda, this court upheld a jury-selection process that resulted in an absolute disparity of 5% and a comparative disparity of 31% in the percentage of Hispanics in Weld County's population and on its jury panels. 196 Colo. at 20, 581 P.2d at 728. In Duren, the Supreme Court found that a jury-selection process resulted in unfair and unreasonable representation where the absolute disparity was 39% and the absolute impact was "less than one of every six prospective jurors." 439 U.S. at 365-66.

In Castaneda, the Supreme Court found that the absolute disparity was 40% and the statistical significance was "approximately 29 standard deviations . . . reveal[ing] that the likelihood that such a substantial departure from the expected value would occur by chance is less than one in 10,140." 430 U.S. at 495-96, 496 n.17. These disparities, including the degree of statistical significance in Castaneda, are much greater than the underrepresentation as measured by the statistical evidence presented by Washington.

In addition, the Tenth Circuit Court of Appeals has found that greater underrepresentation than that shown here does not rise to the level of being unfair and unreasonable, even when the group's percentage of the community's population was similar to the groups' percentages here. Orange, 447 F.3d at 796 n.4 (where four groups comprised 1.47%, 3.02%, 4.21%, and 7.40% of the community's population, the absolute disparities were 0.80%, 1.66%, 1.55%, and 2.62%, respectively, and the comparative disparities were 54.41%, 54.97%, 36.82%, and 35.41%, respectively); Chanthadara, 230 F.3d at 1256-57 (where a group comprised 7.90% of the community's population, the absolute disparity was 3.23% and the comparative disparity was 40.89%); Shinault, 147 F.3d at 1273 (where three groups comprised 1.27%, 2.92%, and 5.11% of the community's population; the absolute disparities were 0.76%, 1.42%, and 2.56%, respectively, and the

comparative disparities were 59.84%, 50.09%, and 48.63% respectively); Gault, 141 F.3d at 1402-03 (where the underrepresentation occurred over two years and involved three groups, the absolute disparities ranged between 0.28% to 7.00%, and the comparative disparities ranged between 15.14% and 35.68%); Yazzie, 660 F.2d at 427 n.4 (where a group's disparity was measured in three different forums, the absolute disparity ranged between 2.94% and 4.29%, and the comparative disparity ranged between 45.2% and 46.3%).

We hold that no specific statistical measure should be excluded in a court's analysis of a constitutional fair cross-section claim, and that a court should evaluate all the statistical evidence presented to determine whether the underrepresentation is unfair and unreasonable in violation of the defendant's Sixth Amendment right to a jury selected from a fair cross-section of the community.

Here, Bardwell testified that the underrepresentation of African-Americans and Hispanics on jury panels in Arapahoe County at the time of the defendants' trials was statistically significant. For this reason, we disapprove of the practice of giving double credit to prospective jurors for service in Aurora municipal court, and we direct that this practice be stopped immediately.

However, our review of all the statistical evidence presented by Washington leads us to conclude that the underrepresentation of African-Americans and Hispanics on jury panels in Arapahoe County was not unfair or unreasonable. As measured by absolute impact, the practice of giving double credit to prospective jurors for service in Aurora municipal court resulted in a decrease of less than one African-American and one Hispanic in every three 90- to 100-person jury panels in Arapahoe County. As measured by absolute disparity and comparative disparity, the underrepresentation of African-Americans and Hispanics here was slight when compared with other cases in which the underrepresentation violated a defendant's right to a jury selected from a fair cross-section of the community. Thus, the underrepresentation in this case, although statistically significant, did not violate the Sixth Amendment's fair cross-section guarantee.⁹

⁹ Based on our determination that Washington and Sayles have not satisfied the three prongs of the Duren test, we decline to address the trial court's finding that the practice of giving double credit to prospective jurors for service in Aurora municipal court serves a "compelling state interest."

The Duren court used the term "significant" to describe the required state interest; it did not use the term "compelling." 439 U.S. at 368. This is an important distinction because Duren seems to indicate that a "significant state interest" is something less than a "compelling state interest" but something more than a "rational reason." See id. at 367-68, 368 n.26.

B. Statutory Claim Brought Under the Colorado Uniform Jury Selection and Service Act

Washington and Sayles also argue that the evidence of statistical significance in this case is sufficient to establish a violation of their statutory rights under the Colorado Uniform Jury Selection and Service Act, §§ 13-71-101 to -145, C.R.S. (2007). However, neither Washington nor Sayles raised this argument at trial, on appeal to the court of appeals, or in the petition for certiorari review. C.A.R. 53(a)(3) provides that only those questions which are set forth in the petition for certiorari, or fairly comprised therein, will be considered on review. Vigoda v. Denver Urban Renewal Auth., 646 P.2d 900, 907 (Colo. 1982). Because the statutory issues now raised by Washington and Sayles cannot be said to be fairly comprised within the issues raised by the petition for certiorari, we reject them as untimely.

IV. Conclusion

For the reasons set forth above, we affirm the judgments of the court of appeals.

JUSTICE COATS, concurring in the judgment only.

While I agree that the jury selection process in these cases did not violate the Sixth Amendment's fair cross-section requirement, I consider the majority's lengthy disquisition on techniques for describing disparity neither necessary nor helpful. In light of the majority's decision not to address the question of a statutory violation and its conclusion that this selection process did not produce any unconstitutional underrepresentation, I am also at a loss to understand its justification for disapproving the practice for future cases. Of perhaps greatest significance, however, I consider the majority's treatment of the concept of statistical significance, in particular, not only unhelpful but in fact quite problematic. Because I believe it is clear enough by inspection that the jury selection process used in these cases did not result in unfair or unreasonable underrepresentation of any distinctive group, I consider the bulk of the majority opinion little more than dicta.

Apart from questions about methodology and reliability,¹ the

¹ The prosecution did not stipulate to the validity of the defense expert's methodology or the accuracy of his data, nor did the district court make any such finding, instead merely ruling that the numbers provided by the expert did not demonstrate a violation of the Sixth Amendment. Among other things, the expert did not explain precisely how he arrived at figures for minority representation in the Arapahoe jury wheel, and his testimony actually seemed to concede that no such data

defendant's data suggest underrepresentation of African-Americans and Hispanics, at best, by fewer than one in every three hundred prospective jurors. By contrast, the only findings of a Sixth Amendment fair cross-section violation with any precedential value for this court have involved selection processes that either excluded an entire distinctive group, comprising more than half of the general adult population, see Taylor v. Louisiana, 419 U.S. 522, 525-26 (1975), or resulted in a reduction in representation from one of every two, to one of every six, prospective women jurors - an underrepresentation of more than 100 women in every group of 300 prospective jurors, see Duren v. Missouri, 439 U.S. 357, 366 (1979). While the majority approves only certain techniques for describing or comparing data (as distinguished from actually inferring properties of general populations from particular samples), the Supreme Court has clearly shied away from even this degree of technicality, instead finding underrepresentation to be unreasonable only in cases of complete exclusion of a numerous and distinctive class, see Taylor, 419 U.S. at 537, or a "gross

was given him by the jury commissioner. This methodological omission appears to be more than academic because, as the majority notes, the Arapahoe procedure was radically altered in March 2003, only months before the defendants' trials, reintegrating prospective jurors from the Aurora jury wheel, who had previously been completely excluded from the Arapahoe jury wheel, and instead merely giving service credit to those who actually served as jurors in Aurora.

deviation" between the percentage of class members in jury venires and the percentage of class members in the community from which petit juries are drawn, see Duren, 439 U.S. at 366.

Apart from needlessly going where even angels should fear to tread, however, the majority's discussion of the notion of statistical significance I find to be particularly problematic, both for suggesting that it functions as a measurement of underrepresentation at all, and for blurring the distinction between invidious discrimination and a fair cross-section violation. I understand the concept of statistical significance to describe the likelihood that an observed difference between two samples, or groups, occurred by chance. Although the Supreme Court has obliquely suggested that the statistical significance of a disparity between jury representation and representation in the population at large may be relevant to the question of intentional discrimination, see Castenada v. Partida, 430 U.S. 482, 496 n.17 (1977), nowhere has it suggested that the .01 or .05 levels of significance typically used by social scientists in any way establishes invidious discrimination, much less unfair or unreasonable underrepresentation. In fact, if not completely irrelevant, statistical significance, as a measurement of randomness, can have only the most indirect and minimal relevance to the evaluation of underrepresentation.

By addressing statistical significance as it does, however, the majority conflates the elements of the Sixth Amendment fair cross-section requirement and the Fourteenth Amendment's prohibition against invidious discrimination. In Taylor, the Supreme Court did not strip from the equal protection analysis the requirement to show intentional discrimination, as I believe the majority suggests. Rather, it found in the Sixth Amendment a separate entitlement to a jury selected from a fair cross-section of the community. 419 U.S. at 697-98. While underrepresentation that is at least not de minimus must result from intentional discrimination in the selection process for it to violate equal protection, the Supreme Court has never attempted to describe, in numerical terms, the degree of underrepresentation that would be constitutionally unfair or unreasonable; and despite the majority's statistical exploration, neither does it. I believe it is clear, however, that the "substantial underrepresentation" constituting a constitutional violation when it results from purposeful discrimination, see Castenada, 430 U.S. at 493, is not also the measure of a discrepancy sufficient to satisfy the second prong of the fair cross-section requirement, see Duren, 439 U.S. at 364-66.

Finally, although there may be many good reasons for discontinuing Arapahoe County's practice of giving credit for

Aurora municipal jury service, I am concerned about the majority's choice to do so in this case. Because it declines to consider whether this practice violates the statutory requirements for jury selection, and it expressly finds that Arapahoe's practice does not result in unconstitutional underrepresentation, the basis of its mandate remains unclear to me. I would strongly disagree with a suggestion that any procedure resulting in the underrepresentation of a distinctive group, regardless of the extent of that underrepresentation or its justification by other significant state interests, amounts to constitutional error, even if harmless. Similarly, although courts have great discretion in the jury selection process and must ensure the fairness of individual trials, I do not believe the supervisory powers of this court extend as far as regulating the jury commissioner or disregarding statutorily prescribed procedures not yet shown to be unconstitutional.

In the absence of prescribing some numerical benchmarks, which I concede would be a mistake, I fail to see how the majority's endorsement of various statistical techniques advances the inquiry or assists trial courts in this jurisdiction. Without attempting to explain their individual relevance, the majority appears to hold merely that no measurement technique may be discarded, whatever it may actually measure. For my part, it seems clear that the minimal

underrepresentation resulting from this selection process is facially reasonable, just as the deviations found to be impermissible in Taylor and Duren were facially unfair and unreasonable.

I therefore agree only that the jury selection process in these two cases did not violate the fair cross-section requirement of the Sixth Amendment.

I am authorized to state that JUSTICE EID joins in this opinion concurring in the judgment only.