Juror Judgments about Liability and Damages: Sources of Variability and Ways to Increase Consistency

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What are the principal influences on the verdict that a jury reaches in a civil case? What affects the size of the jury's damage award? Theories and speculations about the determinants of liability and damage verdicts abound and the strategies and tactics of trial attorneys (with or without the assistance of jury consultants) depend on beliefs about what influences jury decisions. While the published empirical literature provides some limited information on the predictors of liability judgments (e.g., there is evidence that jurors expect corporate defendants to be able to prevent injury better than individuals can and are therefore more likely to hold a corporation liable when all else is held equal), there is little evidence that winning a liability verdict or obtaining a big damage award predictably results from selecting a jury with particular characteristics. Research on decision-making about damages indicates that the strongest predictors of jury damage awards are characteristics of the case rather than attributes of the jurors. The more severe the injury, the higher the award tends to be, a pattern consistent with the legal doctrine governing the award of

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compensatory damages.\textsuperscript{3} Acknowledging the importance of the case, however, does not end all appropriate inquiry. There remains considerable uncertainty about the extent to which error and bias affect juror damage awards. Although most scholars agree that damage awards contain some variation that cannot be explained by legally relevant aspects of the case, there is disagreement about the sources of that variation and about whether acceptable approaches exist that can reduce it.\textsuperscript{4} In this article, we describe the results of a large-scale jury simulation study that provides evidence about the sources of unexplained variation in civil jury verdicts. We then suggest some ways to reduce undesirable disparity across cases—that is, disparity that arises when similar cases result in different verdicts on liability or damages.

Some of the unexplained variation in jury awards is due to limitations in the way researchers have been able to measure legally relevant characteristics like seriousness of injury. While archival studies of jury awards have already revealed that seriousness of injury is an important predictor of jury awards,\textsuperscript{5} it may be even more important than those studies have been able to demonstrate because of the relatively crude measures generally used to reflect seriousness of injury. Some of the “unexplained” variation in awards across cases which vary in manifold ways may arise because juries draw appropriate distinctions not captured in a nine-level unidimensional scale used to measure seriousness of injury.\textsuperscript{6} Jurors may be appropriately responsive, although the measure is not, to differences between deafness and loss of a kidney or between the loss of a dancer’s leg and the loss of a violinist’s leg. Archival studies relying on relatively crude variables can reveal only imperfectly whether jurors are treating similar cases differently, or whether the purportedly similar cases are actually different and as a result evoke different jury responses. Thus, most ex-

\begin{itemize}
\item \textsuperscript{5} See, e.g., Peterson, supra note 3; Sloan & Hsieh, supra note 3; Vidmar et al., supra note 3.
\item \textsuperscript{6} Michael J. Saks et al., Reducing Variability in Civil Jury Awards, 21 Law & Hum. Behav. 243 (1997).
\end{itemize}
isting archival studies are limited in what they can disclose about one form of horizontal inequity—differential treatment of similar cases.

One way to investigate variation in juror response is to hold constant the characteristics of the plaintiff's injury and other aspects of the case in a simulation, to present that trial evidence to a large number of people, and then to carefully scrutinize patterns of variation in juror verdict preferences. That approach also makes it possible to examine the potential sources of any variation in response from different jurors who are confronted with identical evidence relevant to liability and damages. In an experiment designed principally to evaluate the impact of bifurcation on jury behavior, we began by measuring a variety of individual differences among jury-eligible citizens. These study participants then served as mock jurors who watched a videotaped products liability trial. This procedure allowed us to measure the variability in verdict preferences in a large sample of jurors responding to the same trial, and to assess the ability of a variety of individual difference measures to predict liability verdicts and awards for specific or economic damages (e.g., lost wages, medical expenses) and general damages (e.g., for pain, suffering, loss of enjoyment of life) in a products liability case.

The Trial

We combined and edited the evidence and arguments from transcripts of several asbestos products liability trials to produce "Boyd v. American Beryllium Corporation." The case involved Thomas Boyd, a plasterer who complained that he suffered from beryliosis as a result of his exposure to the airborne residue of a fire-proofing material ("Berylico") that was sprayed on the bare beams of buildings at which he worked erecting plaster walls. We called the toxic substance beryllium rather than asbestos so that the jurors would not respond based on what they thought about the highly publicized asbestos cases. The defendant, American Beryllium Corporation ("ABC"), blamed Boyd's lung problems primarily on Boyd's smoking history. We asked several products liability practitioners to review our trial and to tell us whether it presented a relatively typical products liability case of its kind. All agreed that it did. Following pilot testing, we hired professional actors, a director, and a video production company to videotape and edit several different versions of the case. In the weak version of the case, Berylico was allegedly used at only 10% of Boyd's job sites.

8. See id. for a more detailed description.
and Boyd, who smoked two packages of cigarettes a day, continued to smoke at that rate even after he became ill. In a stronger version of the case, Berylico was allegedly used at 30% of the job sites and Boyd, who smoked four or five cigarettes a day, had quit at the first sign of lung problems. Each version of the case was presented in either a unitary or bifurcated format. In the unitary format, the jurors heard testimony concerning liability and the alleged damages suffered by Boyd from ABC’s product along with evidence relevant only to the propriety of awarding punitive damages (i.e., the net worth of ABC and evidence that ABC had possessed and suppressed early knowledge about the potentially injurious attributes of Berylico). In the bifurcated format, the jurors were presented with the trial portion relevant to punitive damages only if they had first found ABC liable for compensatory damages and made a compensatory award.

The Participants

The participants in the study were jury-eligible adults from Cook County, Illinois who were recruited for a mock jury trial. Their participation was obtained through telephone solicitation by a telemarketing firm and through advertisements in a local newspaper. Participants were offered $100 to participate in a day-long session to be held on a Saturday or Sunday. Any potential recruit who had participated in a focus group of any type during the previous twelve months or who had ever participated in a mock jury trial was excluded. Recruitment specifications were designed to obtain a mix of jurors that matched the distribution in the Cook County jury pool. See infra Appendix for breakdowns by gender, age, race, and education. The distribution on these variables is nearly identical to that obtained from the Cook County jury pool, with the exception of education level. Cook County jurors are somewhat less likely to have had some college experience (69%) than the participants in our study (76%). This modest difference arose because not all of those who agreed to participate actually kept their appointments and the loss varied slightly with education level.

Procedures

A total of 1,042 respondents participated in the study in one of twenty-six one-day weekend sessions. Before viewing a videotape of

9. These figures were obtained from jury research conducted in Cook County. See Shari Seidman Diamond & Jonathan D. Casper, Blindfolding the Jury to Verdict Consequences: Damages, Experts, and the Civil Jury, 26 L. & Soc’y Rev. 513, 529 n.15 (1992).
the trial (lasting approximately two and one-half hours), each juror filled out a questionnaire providing the kind of information that jurors might be asked to provide during jury selection in a case of this type. After viewing the tape, each juror indicated how he or she would have decided the case. The jurors were then randomly divided into deliberators and non-deliberators. The 720 deliberators were randomly allocated to 120 six-person juries. Each jury deliberated and then reached a verdict. All jurors filled out an elaborate post-tape questionnaire, the 720 deliberators following their deliberations, and the 322 non-deliberators directly after they completed their verdict forms.\footnote{The research design was slightly more complicated for jurors assigned to the bifurcated format than to the unitary format. They reached individual decisions on compensatory liability and damages and, if they found the defendant liable, then viewed the tape involving the evidence relevant only to punitive damages.}

**The Measures**

We questioned the jurors on the pre-tape questionnaire about a standard set of ten background characteristics: age, gender, ethnic/racial background, family income, education, political leaning, prior experience as a juror, litigant, or witness, and past and current smoking behavior (the plaintiff's smoking history was a potential competing explanation for his injury). We also asked questions about their attitudes on nine issues relevant to litigation in general or to the case they were about to hear in particular. These questions assessed impressions about civil lawsuits (e.g., whether there is too much litigation), opinions about big business and expert witnesses, and attitudes toward smokers with health problems.\footnote{Some of these measures were formed based on a factor analysis of items. Thus, the value for INTERFERE (see Appendix, at 324) is the mean of four items. The value for PUBLIC SAFETY (see Appendix, at 324) is the mean of two items.} Finally, to obtain a measure of any internal guideposts a juror might use to evaluate financial information, we asked how much a person has to earn to be considered wealthy. We also asked jurors to indicate the minimum and maximum amounts they thought would be required to compensate the victim of a car accident for various injuries and we used these estimates to create an index of perceived loss associated with personal injury. See *infra* Appendix for the measures based on the pretape questionnaire.

**Predicting Liability Decisions**

After viewing the trial, 51\% of the jurors favored a verdict for the plaintiff. We designed the study so that liability would be ambiguous, in part to allow us to examine sources of variation in liability verdicts.
Most previously published research, primarily on criminal cases, suggests that background characteristics are relatively poor predictors of juror verdict preferences.\(^\text{12}\) In the present case we found that five of the ten background characteristics were significantly related to the juror’s liability verdict preference.

Although some of the relationships are weak, they emerge as statistically significant because the sample size (1,021) is substantial.\(^\text{13}\) See Table I for correlations between all of the individual difference measures and juror verdict preferences. Minority jurors were more likely to find liability than were non-minority jurors (63% liable versus 46% liable). Less educated and lower income jurors were more likely to find for the plaintiff than college graduates and higher income jurors (59% for high school or less and 56% for some college versus 42% for college graduates). Women were more likely to find the defendant liable than were men (55% versus 47%). Finally, jurors who were current or recent smokers were somewhat more likely to find for the plaintiff than those who had quit years earlier or never smoked (56% versus 49%). Some of these variables are correlated with one another. For example, race is significantly correlated with both education (r=.18, p<.001) and income (r=.16, p<.001). As a result, the simple comparisons using only one juror characteristic do not unambiguously identify the source of the relationship with verdict preference. When we use all of these ten background characteristics in the same equation to predict liability verdicts, however, each of the characteristics that was a significant individual predictor makes an independent contribution in the composite model except smoking history.\(^\text{14}\) The amount of variation explained by the composite model is 5.4%—a significant improvement over what could be predicted by guessing, but an amount that leaves a substantial 94.6% of the variation unexplained.\(^\text{15}\)

Thus, background characteristics show only a modest association with verdict preferences, a pattern that demonstrates the weakness of


\(^{13}\) We dropped 21 jurors from the analysis because they gave uninterpretable verdicts; although they did not find the defendant liable, they awarded damages.

\(^{14}\) Educational level, age, race, and income level are all correlated with the index of smoking history and when they are included as predictors, the modest predictive value of smoking history becomes non-significant. See infra, Table II, Model I.

\(^{15}\) This pseudo-R\(^2\) is the Cox and Snell calculation. Using the less conservative Nagelkerke pseudo-R\(^2\), the variance explained is 7.2%, leaving 92.8% of the variance unexplained. For a description of both measures, see Nico J.D. Nagelkerke, *A Note on a General Definition of the Coefficient of Determination*, 78 BIAOMETRIKA 691 (1991).
### Table I. Correlations Between Individual Differences and Juror Verdicts

<table>
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<tr>
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<th>Pain and Suffering (Trimmed)</th>
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* \( p < .05; \) ** \( p < .01; \) *** \( p < .001 \)

1 Sample sizes vary slightly for correlations due to pair-wise deletion. In each column Income (logged) and the Loss index (a composite based on eight responses) produced the greatest reduction due to missing values:

- Liability: N for Income = 951, for Loss = 909, N for all other variables: 996-1021
- Total Damages: N for Income = 474, for Loss = 454, N for all other variables: 503-517
- Pain and Suffering: N for Income = 432, for Loss = 413, N for all other variables: 459-472
- Economic Damages: N for Income = 433, for Loss = 414, N for all other variables: 460-474

Note: Ns for total damages exceed Ns for components because a sub-sample of forty-four jurors who found the defendant liable was asked only to indicate a total damage award.

relying solely on these indicators in exercising peremptory challenges during jury selection. The failure of these measures as strong predictors emphasizes the fact that focusing on demographic characteristics neglects the substantial variation in response within categories, for example, among college-educated jurors or among women. Moreover, attorneys selecting a jury should be hesitant about using...
Table II. Logistic Regression Coefficients For Liability Judgments

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some of these background characteristics for another reason as well: under Batson v. Kentucky\(^{16}\) and its progeny,\(^{17}\) attorneys are constitutionally prohibited from using race and gender as a basis for exercising a peremptory challenge. An alternative approach to predicting verdict preferences, and one that also turns out to be more informative, directs attention to the attitudes and beliefs that jurors bring to the case rather than to their background characteristics.

We examined nine measures of juror attitudes in the study. Three measures related to attitudes toward lawsuits in general: (1) whether plaintiffs generally receive too much or too little in a lawsuit (a variable we labeled “TOO MUCH”); (2) how legitimate it is to sue (LEGITIMACY); and (3) how easy or difficult it is to win a civil lawsuit (EASY TO WIN). As Table I indicates, all three of these measures were significantly related to liability preferences. Jurors who see plaintiffs in a more favorable light generally, who think it is more legitimate to sue, and who think it is more difficult to win a lawsuit were more likely to hold the defendant liable. In fact, the strongest of all of the predictors of juror liability verdicts was the first question about recovery from lawsuits (TOO MUCH): “When plaintiffs sue in a lawsuit and receive money damages, would you say that in general they receive: (on a scale from 1 to 7) 1=too much through 7=too little?” By itself this question explained 6.9% of the variance in verdicts\(^{18}\)—more than all of the background characteristics together. The relative success of this variable in predicting juror liability verdicts may reflect the success of efforts in persuading some members of the public that a litigation explosion is burdening the civil justice system with suits by undeserving plaintiffs.\(^ {19}\) Without information on how jurors would have responded to this question before the rhetoric on the litigation explosion became commonplace in the public discourse, we cannot be sure: jurors may have always varied in their evaluation of what plaintiffs generally receive, and that perception may have always influenced their evaluation of plaintiffs whose claims they were asked to judge. Nonetheless, it is striking that this single question was the most powerful predictor we identified.

Three of the attitude measures assessed juror responses to business and to the legal regulation of business. Since the case presented to these jurors involved an individual plaintiff suing a corporation for an alleged product defect, we included these measures to canvass juror attitudes about the balance between business and the protection of the public. The three measures assessed: (1) overall attitude toward business (BUSINESS); (2) the extent to which regulation and lawsuits interfere with business (INTERFERE); and (3) the need for regulation to ensure public safety (PUBLIC SAFETY). All three of these measures were significantly related to liability judgments. Jurors more favorable to business, those who perceived regulations and law-

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18. The corresponding Nagelkerke value is 9.2%. See Nagelkerke, supra note 15, at 691.

suits as interfering with business, and those who saw less of a need for regulation to ensure public safety were less likely to find the defendant liable.

We used two additional measures to assess juror responses to experts. The case involved important expert testimony from medical experts for both the plaintiff and the defendant disputing the source of the plaintiff's health problems. We reasoned that greater confidence in expert testimony in general would be related to liability verdicts only if one of the physician experts was viewed by jurors as substantially more credible than the opposing expert. The two measures of attitudes toward experts reflected the two major attributes of credibility: expertise and trustworthiness. The first measure, reflecting perceived expertise (EXPERTISE), was unrelated to liability verdicts, but the second measure, trustworthiness (TRUST), produced a significant correlation: jurors with greater trust in the objectivity of experts were more likely to favor a verdict for the plaintiff. Jurors in general, whether they had high or low trust in experts, viewed the plaintiff's expert physician more favorably in this case than they viewed the defendant's expert. This gap in credibility between the two experts appeared to lead jurors more inclined to rely on the testimony of experts to be more inclined to favor a verdict for the plaintiff in this case.

Finally, since the case involved a plaintiff whose smoking may have contributed to his injury, we asked about the blameworthiness of smokers who developed health problems (BLAME). Jurors who felt smokers had themselves to blame for smoking-related illnesses were significantly more likely to reach verdicts in favor of the defendant. What is perhaps surprising is that the juror's attitude toward smoking and liability captured in this single question was a stronger predictor

20. The plaintiff also presented an expert in economics who testified about lost income based on the inactivity of the plaintiff to work.
22. Jurors rated each expert on how believable, trustworthy, competent, and knowledgeable they were on 7-point scales (e.g., 1=Believable, 7=Not believable). The plaintiff's expert was rated as significantly more believable (2.62 v. 4.27), more trustworthy (2.95 v. 4.37), more competent (2.78 v. 4.00), and more knowledgeable (2.60 v. 3.70). Note that 4 is the mid-point on each scale, so that the average ratings for the plaintiff's expert were positive, while the average ratings for the defendant's expert were relatively neutral. (These means are based on ratings by the 314 non-deliberators whose ratings were not influenced by deliberating. All differences were significant at p<.001.)
of liability judgments (r=.14, p<.001) than was the juror's smoking history (r=.07, p<.05).

Thus, eight of the nine attitudes we measured were significantly related to liability preferences. When we used all of these nine background characteristics to predict liability verdicts, five of them made significant independent contributions in the composite model: one of the three measures of general attitude toward litigation (TOO MUCH), two of the three measures of attitudes toward regulating business (INTERFERE and PUBLIC SAFETY), the measure of expert trustworthiness (TRUST), and the measure of attitude toward smokers (BLAME). The amount of variation explained by the composite model is 11.5%, twice the variance accounted for by the model that included only background characteristics,23 but far from a complete model accounting for variations in juror response (see Model 2 in Table II).

The remaining individual differences we measured were internal standards that we anticipated might supply a context for juror judgments on award sizes. We did not predict that they would be related to liability judgments (see Model 3 in Table II). The first was how much a person would have to earn to be considered wealthy (WEALTH) and, as expected, it was not related to liability verdict preference. The second was a composite index of damage amounts that the juror thought would be appropriate to compensate a person injured in a car accident who suffered one of four possible injuries (LOSS). Despite our expectations, we found that LOSS was significantly related to the likelihood of a plaintiff's verdict: jurors with higher LOSS values were more likely to find the defendant liable. Although the relationship was not strong, it suggests that some jurors partially fused the decision on liability with the one on damages, allowing a more generous response to injuries in general to increase their receptivity to liability in this case.24

Each of the eight significant predictors described to this point made significant independent contributions. Thus, two of the ten background characteristics, education and income, remained significant predictors. Five of the nine attitudinal measures, TOO MUCH (the fairness of what plaintiffs receive), BUSINESS (how favorably business is viewed), PUBLIC SAFETY (the need for regulation to ensure product safety), TRUST (expert trustworthiness), and BLAME

23. The Nagelkerke value was 15.3%, also twice the corresponding value (7.2%) for the model including only background characteristics. See Nagelkerke, supra note 15, at 691.
(blameworthiness of smokers) also made significant contributions, along with one of personal financial guideposts, LOSS. Yet when all eight of these measures were included in the same analysis, they accounted for a total of only 14% of the variation in response by jurors who were judging similar versions of the same products liability case. The case was in fact identical for all jurors with two important exceptions: jurors in the study had been randomly assigned to one of two different versions of the case and those who saw the version of the case in which the evidence for liability was greater were, as expected, more likely to find the defendant liable (56.5% for the moderate case and 45.6% for the weaker case). In addition, the case they saw was presented either in a unitary format which included the punitive damage evidence during the trial on compensatory liability and damages or in a bifurcated format. Jurors who viewed the trial in the unitary format were more likely to find for the plaintiff (55.3% versus 42.9%) (see Model 4 in Table II).

Because the intentional differences in case strength and format accounted for 2.5% of the variation in juror response, it is appropriate to evaluate the contribution of the other significant predictors in light of the variance not explained by case strength and format. Thus, we might estimate the variance accounted for by the eight background, attitudinal, and internal guidepost measures as $14.2/97.5 = 14.6\%$. (Using the Nagelkerke estimate for the pseudo-$R^2$, the corresponding value would be $18.9/96.6 = 19.6\%$.)

As Models 5 and 6 in Table II indicate, the fitted logistic regression equation including all ten variables would enable us to explain 18% of the variation in damage awards. Another way to describe this pattern is to say that roughly 50% of the verdicts would be accu-

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25. Model 5 includes both significant and non-significant predictors; Model 6 includes only the significant predictors.

26. It is important to note that the ability to obtain predictions of jury verdicts in another case that would be as accurate as these would depend on: (1) the extent to which these individual responses effectively predict jury verdicts following group deliberations; (2) the similarity between the cases (recall that the predictive value of the trust in experts is likely to depend on the differential credibility of opposing experts); and (3) the reliability of the estimates obtained here when applied to new samples. To test the latter, we re-ran the logistic regressions using 20 different randomly generated samples of 510 jurors (half the sample) from the full sample of 1,021 jurors. Only the unitary v. bifurcated format of the case produced a stable effect at least at the $p<.10$ level in all 20 reliability tests. Five of the ten variables that were significant at $p<.05$ in the full sample were significant at $p<.05$ in at least half of the reliability tests (case format, education, business, public safety, and trust). Note that one of these variables is a case characteristic, another variable, education, is a background variable, and the three remaining variables reflect individual differences in attitude. Studies conducted by jury consultants to inform jury selection are generally based on much smaller samples which are likely to show greater instability in estimates.
rately predicted simply by flipping a coin. By knowing the version and format of the case they saw, 57% of the jurors' verdict preferences would be accurately predicted. Finally, knowing and optimally weighting the information obtained from all of the juror characteristics would enable us to accurately predict 67% of the jurors' verdict preferences. Thus, although this research indicates some predictability of juror verdict preferences in what was an intentionally ambiguous case, the variation in response is largely unexplained by the individual differences among jurors that we measured. While this result may be disappointing to attorneys and jury consultants attempting to identify friendly jurors, it may also reflect a valuable asset of the jury: the verdict is produced by the pooling of different estimates that are combined to produce a justifiable answer to a question not susceptible to an unequivocal truth test.

Predicting Damage Awards

Before turning to decisions on damage awards, it is important to distinguish among the various types of awards. Jurors are provided with substantially more guidance when they are asked to give awards for economic rather than for general damages, that is, for lost earnings and medical expenses as opposed to awards to compensate for pain and suffering.27 Past medical expenditures involve no predictions, only an assessment of what has already taken place. An evaluation of the amount in lost wages requires somewhat more in the way of estimation, particularly when the plaintiff is asking for an award that depends on what his future earnings would have been but for the injury. Although information on past earnings and expert testimony can provide some guidance on the path those earnings would have been likely to take, there is still a substantial need for juror assessment and prediction. Similarly, to estimate future medical expenses, the jurors are provided with expert testimony assessing the likely future course that the plaintiff's illness and treatment will take. Despite these challenges, jurors receive substantial and relevant evidence and advice during the trial on which to base economic damage estimates. In contrast, jurors (and judges) determining awards for pain and suffering

27. In our experimental case, the mock jurors were provided with the following information regarding damages. The plaintiff's medical expert stated in the course of his testimony that past medical expenses amounted to $18,500 and that he expected future medical expenditures to run about $4,000 per year. The plaintiff's economic expert calculated that Boyd had lost approximately $300,000 in wages due to his medically-induced early retirement from work and that his future life expectancy based on actuarial tables was approximately 16 years. As is typically the case, there was no expert testimony provided regarding the appropriate sum to be paid for pain and suffering.
are provided with no factual information and precious little guidance from the law on what is relevant. Usually, the jurors' only guide is the vague directive that they should arrive at an amount that "a reasonable person would estimate as fair compensation." As a result, we might anticipate greater volatility in damage awards for pain and suffering than for economic damages, and that is what we find (see Table III). Whether the variation in awards is compared by looking at the standard deviation for raw or trimmed economic damage awards versus pain and suffering damage awards, and whether that variation is expressed in raw numbers or as a percentage of the mean award, jurors are far more consistent in the level of economic damages they favor than in the amounts they identify as appropriate to compensate the plaintiff for pain and suffering. That is, the standard deviation for economic damages is lower than for pain and suffering. The gap is even greater if we adjust for the size of the mean award by expressing the standard deviation as a percentage of the mean award.

**Table III. Variation in Juror Damage Awards**

<table>
<thead>
<tr>
<th></th>
<th>Median</th>
<th>Mean</th>
<th>SD</th>
<th>SD as % of Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Damages</td>
<td>$335,250</td>
<td>$400,335</td>
<td>$550,738</td>
<td>138%</td>
</tr>
<tr>
<td>(N=470)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pain &amp; Suffering</td>
<td>$100,000</td>
<td>$278,214</td>
<td>$871,194</td>
<td>313%</td>
</tr>
<tr>
<td>(N=470)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trimmed Economic Damages</td>
<td>$336,000</td>
<td>$355,320</td>
<td>$266,544</td>
<td>75%</td>
</tr>
<tr>
<td>(N=473)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trimmed Pain &amp; Suffering</td>
<td>$100,000</td>
<td>$223,807</td>
<td>$344,566</td>
<td>154%</td>
</tr>
<tr>
<td>(N=473)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Our attempt to trace the sources of this variation to individual differences in the background and attitudes of jurors met with little success. In contrast to the judgments on liability, the variability of juror damage preferences showed no pattern associated with individual differences. Whether the focus is on economic damages or on the more

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29. All of the award distributions are characterized by high variance and skew. To reduce the impact of outliers, we also analyzed the data using trimmed scores, that is, by reducing the most extreme 3% of scores to the level of the score at the 97th percentile.
30. The logged values showed the same pattern, with a standard deviation of 1.15 for economic damages and a standard deviation of 4.06 for pain and suffering.
31. Three cases in which the jurors' total award exceeded more than four times the size of the next larger award were removed from the analysis of the untrimmed awards because of the extreme disproportionate effect they had on the means and standard deviations. Including them simply inflated the means and standard deviations substantially, but did not affect the relationships reflected in the table.
32. Trimmed values were created by treating values above the 97th percentile as if the juror favored the award given by jurors at the 97th percentile.
discretionary awards for pain and suffering, variation across jurors on what the award should be was characterized by two qualities: it was substantial and it could not be explained by the predictors included in the study. As Table I indicates, in contrast to liability, neither background characteristics nor attitudes were systematically related to economic or pain and suffering awards. The single consistent predictor of damage awards from this list of twenty-one individual differences was the juror’s own internal standard for compensating losses (LOSS).

One possible interpretation of these findings is that we have not yet identified the systematic juror characteristics associated with damage preferences—that some set of unmeasured attitudes and background characteristics would improve our ability to explain the variation in response among jurors who agreed that some compensatory award was appropriate. A second possibility is that the unpredictability in awards is largely the result of inherent random variation in making these judgments, especially when jurors receive limited guidance and are left to their own devices to provide the appropriate reference points for their damage estimates.

In either case, the variability in juror responses suggests a substantial potential for variability in jury awards based merely on the make-up of the particular jury that decides a case. But before drawing that conclusion, it is worth considering a more relevant set of data—the data reflecting variation among jury verdicts. Jurors after all do not sit as individual decision makers. At least six members pool their individual preferences to arrive at a group verdict. That arrangement has some impact on the variability in jury awards. We look first at a comparison of award variability for jurors who served on juries that found in favor of the plaintiff and who awarded damages. The standard deviation of total individual predeliberation awards for these jurors was $7,188,976. For the jury verdicts from these same jurors, the standard deviation was $950,524—a fraction of the size.

33. Table I shows the correlations with the trimmed damage awards. We also conducted the same analyses substituting the logged values, again to adjust for the skewed distribution. The same pattern of results was obtained for trimmed and logged damage awards.

34. These estimates may even be conservative if, for example, jurors who initially think that the defendant should not be held liable tend to favor particularly low damage awards. We did not ask jurors who favored a verdict for the defendant to speculate on what they would have awarded if they had decided that the defendant should be held liable. But see infra note 35 for an analysis that treats those awards as if they were $0.

35. If we include all deliberating jurors and juries, treating a verdict or verdict preference in favor of the defendant as a zero award, the pattern remains the same: $38,159,881 for the standard deviation of the 700 individual jurors, $557,504 for the standard deviation of the 120 jury verdicts.
Table IV compares raw and trimmed juror awards with jury awards for economic damages and for pain and suffering. The raw juror awards, like the total individual predeliberation awards, show extreme variability ($5,196,578 for economic damages and $4,255,056 for pain and suffering awards). Expressed as a percentage of the mean award, the variability for both economic damages and pain and suffering awards is large (271% and 185%). Compared to the variability of the raw juror awards, the variability of the jury awards was dramatically reduced—jury awards for both economic damages and for pain and suffering, although variable, were substantially more concentrated around the mean jury awards (78% and 147%). The raw figures, of course—both the means and the measures of variability—are strongly inflated by a few extreme outliers. As a result, we examined the pattern for the trimmed awards.

Before looking at measures of variability, it is important to note that jury awards in this case were higher than the average mean and median juror awards, a pattern found in several other studies of damage awards. Thus, the mean trimmed award for economic damages increased from $374,431 to $412,491 and the mean trimmed award for pain and suffering nearly doubled from $291,660 to $486,097. The higher mean awards for juries than for jurors permitted greater variability in jury awards. Thus, the variability did not drop in absolute dollars for jury awards for both economic damages and damages for

<table>
<thead>
<tr>
<th>Economic Damages</th>
<th>Raw Juror Awards (97)</th>
<th>Trimmed Juror Awards (97)</th>
<th>Jury Awards (24)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>$1,919,637</td>
<td>$374,431</td>
<td>$412,491</td>
</tr>
<tr>
<td>Median</td>
<td>$340,000</td>
<td>$343,000</td>
<td>$382,500</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>$5,196,578</td>
<td>$312,802</td>
<td>$320,077</td>
</tr>
<tr>
<td>SD as % of Mean</td>
<td>271%</td>
<td>84%</td>
<td>78%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pain and Suffering</th>
<th>Raw Juror Awards (97)</th>
<th>Trimmed Juror Awards (97)</th>
<th>Jury Awards (24)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>$2,301,969</td>
<td>$291,660</td>
<td>$486,097</td>
</tr>
<tr>
<td>Median</td>
<td>$100,000</td>
<td>$100,000</td>
<td>$162,500</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>$4,255,056</td>
<td>$521,359</td>
<td>$714,556</td>
</tr>
<tr>
<td>SD as % of Mean</td>
<td>185%</td>
<td>179%</td>
<td>147%</td>
</tr>
</tbody>
</table>

36. The juror figures do not include the jurors who initially favored a verdict for the defendant at the beginning of deliberations. The jury figures do reflect input from all of these jurors. Thus, the variability of the juror awards may be higher than the numbers in the table suggest if jurors inclined to vote against liability would favor extremely low (or high) awards.

37. See, e.g., Diamond & Casper, supra note 9, at 553.
pain and suffering. As a percentage of mean award, however, jury variability was lower than juror variability for both types of damage awards, dropping from 84% to 78% for economic damages and from 179% to 147% for pain and suffering awards.

These results suggest some potential for deliberations and the pooling of damage estimates on a six-member jury to reduce variability in damage awards. Nonetheless, substantial unexplained variability remained across juries, and that variability among juries was roughly twice as high for pain and suffering damages as for economic damages.

Approaches to Reducing Undesirable Variability

The pattern of verdicts described here reveals considerable variation in both juror and jury awards. A substantial portion of that variation is not predictable from measures of either background or attitudinal individual differences across jurors. To the extent that the variation reflects genuine differences in perspectives on ambiguous case attributes, the variation reflects a rational response to ambiguity, but it leaves one troubling feature in its wake. The combined perspective of the particular set of jurors who happen to be selected for a case will determine the outcome and that outcome might have been different if a different sample of six had been selected. The most direct way to reduce this source of variation, that is, variation due to the idiosyncratic composition of a particular jury, is to reduce the unrepresentativeness of a particular sample by the simple un-reform reform of increasing the sample size and restoring the jury to its traditional complement of twelve.

The six-member jury is a relatively modern invention. The common law jury consisted of twelve members. Ironically, at the same time that Congress moved to increase jury heterogeneity, the U.S. Supreme Court held that neither criminal nor civil juries consisting of

38. A similar result was obtained by Shari Diamond and Jonathan Casper in their study of antitrust damage awards by 411 jurors assigned to one of 70 juries. The mean individual pre-deliberation verdict preference for jurors was $213,270 and the mean jury award was $269,945. The standard deviation dropped from $175,988 for jurors to $122,749 for juries. Expressed as a percentage of the mean, the drop was from 82% to 45%. See Shari S. Diamond & Jonathan D. Casper, Understanding Juries (forthcoming) (manuscript on file with authors).

39. It is of course interesting to consider what level of variation across similar cases is produced by variations in the verdict preferences of individual judges who, sitting alone, do not pool their preferences at all.

as few as six members violated constitutional requirements. Thus, juries became both more heterogeneous and smaller, increasing the likelihood that an atypical group of six would be entrusted with deciding on a verdict. By pooling contributions from twelve rather than six sources, the larger jury would be likely to arrive at a more reliable estimate of an appropriate damage award. Whether the jury is assessing economic or general damages, the effect of pooling should be to reduce the influence of idiosyncratic estimates.

Nonetheless, although Table IV provides direct evidence that variability in damage awards dropped as we moved from juror to jury, variability in pain and suffering awards remained high at the jury level, at least in our relatively small sample of cases in which the juries awarded damages. One explanation for the continued high variability of the jury pain and suffering award is that the absence of any guideposts comparable to the expert testimony offered for economic damages may discourage jurors from effectively pooling their estimates. Efforts to reduce variability across juries for pain and suffering awards may require an additional and more radical approach: providing the jury with a set of reference points against which to assess potential damage awards. There is strong evidence that jurors would be eager to use such information.

Under current practice, the only reference point jurors receive regarding pain and suffering is an ad damnum, the amount requested by the plaintiff. A majority of states permit attorneys to present the jury with this suggested figure for pain and suffering, although several states prohibit a specific request. The ad damnum may or may not reasonably reflect the amount of pain and suffering experienced by the plaintiff, since the plaintiff's attorney need not offer any specific evidence or justification to support the amount requested. Yet there is evidence that damage awards are influenced by the amount requested. In the study described in this article we had one additional experimental manipulation on the ad damnum amount the plaintiff mentioned for pain and suffering. One-fourth of the jurors heard the plaintiff request $250,000 for pain and suffering, while the remaining jurors were not given a specific damage request for pain and suffering. Mentioning a specific figure had a substantial effect on awards:

were willing to serve as jurors had to go to the courthouse to formally register in order to be eligible to serve. 41. Colgrove v. Battin, 413 U.S. 149 (1973); Williams v. Florida, 399 U.S. 78 (1970).
although the median award was $100,000 for both jurors who did and
jurors who did not hear an ad damnum from the plaintiff, the average
award was significantly lower for jurors who heard the ad damnum
than for jurors left to arrive at an amount totally on their own. More-
over, although 5% of the jurors who heard no ad damnum gave
awards over $1,000,000, that figure was the maximum award for pain
and suffering by jurors who heard the $250,000 ad damnum. Even
when we trimmed the pain and suffering awards—treating those over
one million as if they were a million—the average award without the
ad damnum ($225,674) was significantly greater than with the ad
damnum ($149,345) (t_{471}=3.24, p<.001). The suggested amount thus
acted as an anchor on juror awards for pain and suffering, even
though it was not supported by any specific evidence or justification.
A similar result was obtained by James Zuehl in a study in which
thirty-nine simulated juries reacting to the same personal injury case
were given an ad damnum of $10,000, $75,000, or $150,000, or asked
to give “substantial compensation.”44 The average jury awards in the
three exact-request conditions were $18,000, $62,800, and $101,400.
Other researchers studying the effect of ad damnuns on individual
judgments have obtained similar effects.45 The fact that these arbitrary
amounts influence decisions on awards reflects a more general phe-
omenon of anchoring and adjustment that occurs when individuals
are called upon to make numerical estimates in a judgment task.
Whether that task involves answering a factual question46 or expres-
sing a personal preference47 or evaluating an appropriate price for a
house, individuals are influenced in their estimates by suggested
figures. The influence occurs even when those figures are obviously
arbitrary, obvious even to the individual doing the judging. Moreover,
experts as well as novices are influenced by anchors.48

44. Greene, supra note 24, at 232 (discussing James Zuehl, The Ad Damnum, Jury Instruc-
tions, and Personal Injury Damage Awards (Aug. 1, 1982) (unpublished manuscript)).
Anchoring in Personal Injury Verdicts, 10 APPLIED COGNITIVE PSYCHOL. 519 (1996); Verlin B.
Hinsz & Kristin E. Indahl, Assimilation to Anchors for Damage Awards in a Mock Civil Trial, 25
J. APPLIED SOC. PSYCHOL. 991 (1995); John Malouff & Nicola S. Schutte, Shaping Juror Atti-
tudes: Effects of Requesting Different Damage Amounts in Personal Injury Trials, 129 J. SOC.
PSYCHOL. 491 (1989).
46. DANIEL KAHNEMAN & AMOS TVERSKY, JUDGMENT UNDER UNCERTAINTY (1974).
47. Gretchen B. Chapman & Eric J. Johnson, The Limits of Anchoring, 7 J. BEHAV. DECISION
MAKING 223 (1994).
48. See, e.g., Gregory B. Northcraft & Margaret A. Neale, Experts, Amateurs, and Real Estate:
An Anchoring-and-Adjustment Perspective on Property Pricing Decisions, 39 ORG. BEHAV. &
HUM. DECISION PROCESSES 84 (1987).
But, of course, the figures that jurors are given need not be arbitrary to be influential. Michael Saks and his colleagues have shown some evidence that variability in pain and suffering awards can be substantially reduced when mock jurors are provided with the distribution of awards in comparable cases. The proposal to provide such guidance requires the selection of an appropriate set of comparable cases in order to create a relevant distribution. This task is similar to the one faced by the early drafters of federal sentencing guidelines.

Responding to evidence of what was perceived to be unwarranted disparity in criminal sentencing—similar offenses and offenders receiving differing sentences—the drafters began by summarizing past practice and attempting to identify regularities in past practice. Ultimately, judges were provided with a range of appropriate sentences, based in part on average actual past sentences for similar cases. An important characteristic of sentencing that made the selection of typical past practice an acceptable approach was the acknowledged absence of a clear consensus or other indicator that could identify how severe a sentence ought to be, even among judges or scholars who could agree on the sentencing goal (i.e., who agreed that the goal was deterrence or who agreed that the goal was "just deserts"). Even without agreement on a particular sentencing goal, use of mean past performance as a standard could theoretically reduce disparity.

Awards for pain and suffering display evidence of a similar unwarranted disparity, suggesting that presumptive guidelines based on typical or past awards in response to comparable injuries would be one way to reduce that disparity. Even if we are willing to assume, however, that mean (or median) past practice in a set of comparable cases is an appropriate standard—or at least a piece of information that a jury might find useful—it is not at all clear how to identify that set of comparable cases. For example, should it include all awards in cases in which the injury involved a broken right arm? All awards in cases in which the injury involved a broken right arm and the victim was over sixty-five? All awards in cases in which the injury involved a broken right arm and the victim was right handed? Should the pain

51. Id. at 4, 7, 17.
52. Id. at 17.
and suffering award in a malpractice case that created the need for an additional operation and an additional two week hospitalization include among comparable cases any case that involved the pain and suffering associated with an additional operation or only cases in which the hospital stay following the surgery lasted at least a week? At least two weeks? No more than two weeks? The possibilities swiftly multiply.

Guidance on pain and suffering awards need not go so far. A reform less intrusive to the adversary system would permit attorneys to present to the jury a set of pain and suffering awards that juries had made in cases that the attorneys (or their experts) put forward as comparable cases. This use of "comparables" is a standard part of property tax appeals. In these appeals, attorneys present tax information on a set of properties deemed to be comparable to the property whose tax is at issue in order to provide a reference set for the trier of fact in determining what tax level is appropriate. A similar approach is used in condemnation proceedings. In both cases there is extensive reliance on expert testimony to defend or challenge comparability.

The availability of public tax records and records of property sales transactions makes it possible to identify comparable properties without incurring substantial search costs. Jury verdict reporters have created an analogous data bank of potentially comparable injuries, case descriptions, and the jury awards that resulted from those cases. Although some additional costs would be imposed in testing the adequacy of the nominated comparables, the search costs would be relatively low for identifying candidates.

Selection of appropriate comparables need not be left entirely up to the adversaries. The judge might, for example, retain discretionary power to exclude an idiosyncratic prior verdict upon a showing that the award was substantially inconsistent with the majority of awards in

54. Called the sales comparison approach, an estimate of the property's fair market value is based on a comparison of the property in question to similar properties that have recently been sold or are currently for sale. See Alex E. Sadler, The Inherent Ambiguity of Commercial Real Estate Values, 13 VA. TAX REV. 787, 802 (1994).


56. In both cases, critics have pointed out that, although widely used, the method offers only an imperfect reflection of actual fair market value unless there is an active, relatively homogeneous market from which trustworthy data can be derived. See Leslie Kent Beckhart, No Intrinsic Value: The Failure of Traditional Real Estate Appraisal Methods to Value Income-Producing Property, 66 S. CAL. L. REV. 2251, 2268 (1993).

57. Jury verdict reporters vary in quality and coverage, so that they may only imperfectly reflect the complete distribution of jury verdicts. Nonetheless, they provide a rich source of the range of jury verdicts from which to select examples.
similar cases. This exercise of drawing comparisons is not entirely foreign to appellate courts that regularly consider whether a jury verdict "shocks the conscience," but it is a proposal that calls for a somewhat less extreme standard and closer surveillance. Here too some precedent exists. In 1986 New York created a statutory standard allowing trial courts to find a jury damage award "excessive or inadequate if it deviates materially from what would be reasonable compensation."\(^{58}\) Last year, in *Geressy v. Digital Equipment Corp.*,\(^{59}\) Judge Weinstein accepted this invitation to compare in his assessment of a jury verdict for pain and suffering: he evaluated the awards given by the jury by comparing them to a list of comparable injuries in cases presented by the parties.\(^{60}\) This exercise by the judge informed his decision. Such comparisons regularly inform attorneys engaged in settlement discussions. The question is, why not give the parties (and the jurors) the opportunity for an informed jury?

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58. N.Y. C.P.L.R. 5501(c) (McKinney 1986).
60. Id. at 657-60.
# Potential Predictors of Juror Verdicts

## Juror Background Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (in years)</td>
<td>41.2</td>
<td>13.0</td>
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</tbody>
</table>

### Gender
- 1 = Male (48.1%), 0 = Female (51.9%)

### Race
- 1 = White (68.4%), 0 = Minority (24.6% black, 4.5% hispanic, 2.0% Asian-American and Native American) (.5% other)

### Politics
- 1 = very liberal, 7 = very conservative Mean=3.84, SD=1.32

### Education
- 1 = High school or less (23.8%), 2 = Some college (36.8%), 3 = College grad (39.4%)

### Income (total annual family income logged)
- Median income=$40,000

### Prior service as a juror?
- 1 = Yes (19.9%), 0 = No (80.1%)

### Prior experience as a witness?
- 1 = Yes (9.9%), 0 = No (90.1%)

### Prior experience as a party in a lawsuit?
- 1 = Yes (19.8%), 0 = No (80.2%)

### Last smoked
- 1 = Less than six months ago (28.8%), 2 = 6 months to 3 years ago (5.3%), 3 = Between 3 and 5 years ago (2.0%), 4 = More than 5 years ago (18.1%), 5 = Never (45.8%)

## Attitudinal Items and Scales

### Toward Lawsuits:

**TOO MUCH:** When plaintiffs sue in a lawsuit and receive money damages, (on a scale from 1 to 7) would you say that in general they receive:
- 1 = Too much, 7 = Too little. Mean=3.67, SD=1.36

**LEGITIMACY:** 2 item scale reflecting legitimacy of lawsuits:
- 1 = Legitimate, 7 = Lacking legitimacy. Mean=4.84, SD=1.10

### Toward Business/Regulation:

**BUSINESS:** 3 item scale reflecting valence toward business:
- 1 = Positive toward business, 7 = Negative toward business (Cronbach's alpha=.60). Mean=4.71, SD=1.14
Consists of 3 items:
(1) Businesses care about the best interests of the public. 1=Agree strongly, 7=Disagree strongly
(2) Big business in this country is concerned with the safety of its workers. 1=Agree strongly, 7=Disagree strongly
(3) American business and industry have lost sight of human values in the pursuit of profits. 1=Agree strongly, 7=Disagree strongly (this item is reverse scored)

INTERFERE: scale reflecting interference with business by government:
1=Government interferes, 7=Government does not interfere (Cronbach’s alpha=.71). Mean=3.77, SD=1.15

Consists of 4 items:
(1) The courts have meddled so much in the workplace that many businesses are not able to remain competitive. 1=Agree strongly, 7=Disagree strongly
(2) The threat of being sued makes businesses less likely to develop new products. 1=Agree strongly, 7=Disagree strongly
(3) The threat of lawsuits is so common today that it interferes with the development of new and useful products. 1=Agree strongly, 7=Disagree strongly
(4) The government has gone too far in regulating business and interfering with the free enterprise system. 1=Agree strongly, 7=Disagree strongly

PUBLIC SAFETY: need to regulate product safety?
1=Need to reg, 7=No need. Mean=2.30, SD=1.24

Consists of 2 items:
(1) Ensuring the safety of products sold to the public is so important that regulations and standards must require that products cause no risk of injury. 1=Agree strongly, 7=Disagree strongly
(2) A company should be required to tell the public about any possibility, however small, that its products might be unsafe. 1=Agree strongly, 7=Disagree strongly

Toward Experts:
EXPERTISE: Most experts witnesses in court cases are highly competent:
1=Agree strongly, 7=Disagree strongly, Mean=3.53, SD=1.38

TRUSTWORTHINESS: scale reflecting trustworthiness of expert testimony:
1=Cannot trust, 7=Can trust (Cronbach’s alpha=.66). Mean=2.56, SD=1.13

Consists of 3 items:
(1) Most expert witnesses in court cases will give testimony that favors the side that paid them to come to court. 1=Agree strongly, 7=Disagree strongly
(2) Lawyers can always find an expert who will back up their client’s point of view, no matter what it is. 1=Agree strongly, 7=Disagree strongly
(3) There is a lot of disagreement among experts in most professions. 1=Agree strongly, 7=Disagree strongly

Toward Smokers:
BLAME: People who smoke have no one to blame but themselves for any health problems they develop due to cigarette smoking:
1=Agree strongly, 7=Disagree strongly. Mean=2.61, SD=1.65

Personal Financial Guideposts
WEALTH (TRIMMED TO THE 97TH PERCENTILE)—how much a person would have to earn in a year to be considered “wealthy”
Mean=$327,668, Median=$200,000
LOSS (TRIMMED TO THE 97TH PERCENTILE)—mean of minimum and maximum award the juror would require to compensate for 4 different injuries suffered in a car accident: loss of sight, loss of arm the person uses to write, loss of bowel control, and facial scarring. Mean=$2,022,276, Median=$765,625

Case Characteristics

STRENGTH: case weak or moderate on liability evidence
   0=Weak: defendant a heavy smoker who never quit, testimony suggested weak exposure to the defendant's product
   1=Moderate: defendant a light smoker who quit at the time of his first health problem, testimony suggested moderate exposure to the defendant's product

FORMAT: Unitary or Bifurcated Trial
   0=Unitary: punitive damages evidence presented in the same trial with compensatory liability and damage evidence
   1=Bifurcated: punitive damages evidence presented in a separate consecutive trial before the same jury, but only if the jury found the defendant liable for compensatory damages

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61. Jurors were also asked about the minimum and maximum amounts necessary to compensate an injured plaintiff for the loss of two front teeth, but those figures were not included in the measure because juror responses to that injury did not correlate with responses to the other types of injuries.