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THE TIMING OF OPINION FORMATION BY JURORS IN CIVIL CASES: AN EMPIRICAL EXAMINATION

PAULA L. HANNAFORD, VALERIE P. HANS, NICOLE L. MOTT, AND G. THOMAS MUNSTERMAN*

> Jurymen . . . have been prone to say that once the opening statements were made there was nothing left to the case.[1]
>
> [A]s many as 80 to 90 percent of all jurors have reached their ultimate verdict during or immediately after opening statements.[2]
>
> Finally, . . . keep an open mind regarding each issue in the case until all of the evidence has been received.[3]

I. INTRODUCTION

The question of when and how jurors form opinions about evidence presented at trial has been the focus of seemingly endless speculation. For lawyers, the question is how to capture the attention and approval of the jury at the earliest possible point in the trial. Their goal is to maximize the persuasiveness of their arguments—or at least to minimize the persuasiveness of those of the opposing side. Judges, in contrast, are more concerned about prejudgment. They regularly admonish jurors to suspend judgment until after all the evidence has been presented and after the jurors have been instructed on the law.[4]

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1. ALFRED S. JULIEN, OPENING STATEMENTS § 1.01, at 2 (Supp. 1996).

2. DONALD E. VINSON, JURY TRIALS: THE PSYCHOLOGY OF WINNING STRATEGY 171 (1986).

3. KEVIN F. O'MALLEY ET AL., 1A FEDERAL JURY PRACTICE AND INSTRUCTIONS 9 (5th ed. 2000).

4. *See id.*

Yet in the vast majority of jury trials, lawyers and judges have little opportunity to discern how jurors are reacting to trial evidence or whether they are abiding by judicial admonitions. In most jurisdictions, jurors are prohibited from discussing their thoughts or reactions with anyone, including each other, until final deliberations have begun.[5] Thus, lawyers and judges must rely on personal experience and anecdotal information to support their beliefs about juror decision making. Many of these perceptions are colored by assumptions about human behavior that have developed within the context of the adversarial system. Social scientists generally prefer an empirically based foundation for analyzing juror behavior; however, only a few studies have been conducted using actual juries in actual trials.[6] Although researchers have thoroughly examined juror decision making in laboratory experiments,[7] the point at which jurors form opinions in actual jury trials remains cloaked in mystery.

Recently, however, that cloak was lifted enough to provide a glimpse at the timing of juror opinion formation. The opportunity to do so came in conjunction with an evaluation of a jury reform procedure implemented in Arizona civil trials in 1995. Data collected for the evaluation included the responses of 1,385 jurors from 172 civil trials concerning when they began to form opinions about the case, whether and when they changed their minds about those opinions, and when they made up their minds about the final outcome.[8] This Article presents three competing models of juror decision making as they pertain to the timing of opinion formation. Using these models as an analytical guide, this Article examines the data from the Arizona

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5. *But see* ARIZ. R. CIV. P. 39(f) (permitting Arizona civil jurors to discuss the evidence among themselves).

6. *See, e.g.*, Paula L. Hannaford et al., *Permitting Jury Discussions During Trial: Impact of the Arizona Reform*, 24 LAW & HUM. BEHAV. 359 (2000); Valerie P. Hans et al., *The Arizona Jury Reform Permitting Civil Jury Trial Discussions: The Views of Trial Participants, Judges, and Jurors*, 32 U. MICH. J.L. REFORM 349 (1999); Larry Heuer & Steven Penrod, *Juror Notetaking and Question Asking During Trials*, 18 LAW & HUM. BEHAV. 121 (1994) [hereinafter Heuer & Penrod, *Juror Notetaking*]; Larry Heuer & Steven D. Penrod, *Instructing Jurors: A Field Experiment with Written and Preliminary Instructions*, 13 LAW & HUM. BEHAV. 409 (1989) [hereinafter Heuer & Penrod, *Instructing Jurors*]; Christy A. Visher, *Juror Decision Making: The Importance of Evidence*, 11 LAW & HUM. BEHAV. 1 (1987).

7. *See, e.g.*, Nancy Pennington & Reid Hastie, *Explaining the Evidence: Tests of the Story Model for Juror Decision Making*, 62 J. PERSONALITY & SOC. PSYCHOL. 189 (1992); Thomas A. Pyszczynski & Lawrence S. Wrightsman, *The Effects of Opening Statements on Mock Jurors' Verdicts in a Simulated Criminal Trial*, 11 J. APPLIED SOC. PSYCHOL. 301 (1981); Saul M. Kassin & Lawrence S. Wrightsman, *On the Requirements of Proof: The Timing of Judicial Instruction and Mock Juror Verdicts*, 37 J. PERSONALITY & SOC. PSYCHOL. 1877 (1979); H. P. Weld & E. R. Danzig, *A Study of the Way in Which a Verdict is Reached by a Jury*, 1940 AM. J. PSYCHOL. 518.

8. The data reported in this Article were collected by the National Center for State Courts (NCSC) and are on file with the NCSC.

study to assess convergence with these models and to identify factors that affect the timing of juror opinion formation in civil trials.

II. CONTEMPORARY MODELS OF JUROR DECISION MAKING

Beliefs about how jurors arrive at their verdicts vary widely, but most can be characterized as one of the following three predominant models of jury decision making: the Legal Model, the Story Model, and a third model asserting the significance of schemas, which we label as the Schema-Tailored Model.

A. The Legal Model

In contrast with the latter two models, the Legal Model is based less on empirically derived views of human behavior and more on the idealized role of the factfinder within the context of an adversarial process.[9] In the adversarial system, opposing attorneys present evidence in the light most favorable to their client in a highly stylized and formal manner, according to specified rules of evidence and procedure.[10] Then, a neutral, passive decision maker (judge or jury) determines the facts based on the most persuasive presentation by the attorneys and applies the governing law to arrive at a legally enforceable decision.[11]

The responsibility to maintain an objective view of the proceedings has long been emphasized for jurors as well as judges. Jurors are expected to "suspend judgment . . . until all the evidence has been presented" and the legal instructions have been given.[12] Only after final deliberations have begun are jurors told to actively and collectively assess the compiled evidence and make critical judgments and conclusions.[13] The passivity of the decision maker is believed to be essential in maintaining the decision maker's neutrality with respect to the parties. Landsman argues that "if the decision maker strays from the passive role, he runs a serious risk of prematurely committing himself to one or another version of the facts and of failing to appreciate the value of all the evidence."[14]

In practice, the American justice system often departs from the ideals of

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9. *See generally* B. Michael Dann, *"Learning Lessons" and "Speaking Rights": Creating Educated and Democratic Juries*, 68 IND. L.J. 1229, 1239-41 (1993).

10. *See generally* STEPHAN LANDSMAN, THE ADVERSARY SYSTEM: A DESCRIPTION AND DEFENSE (1984).

11. LANDSMAN, *supra* note 10, at 2-3.

12. REID HASTIE ET AL., INSIDE THE JURY 18 (1983); *see also* IRWIN A. HOROWITZ & THOMAS E. WILLGING, THE PSYCHOLOGY OF LAW: INTEGRATIONS AND APPLICATIONS 209 (1984).

13. *See* Dann, *supra* note 9, at 1240 (listing the attributes of an ideal juror under the Legal Model).

14. LANDSMAN, *supra* note 10, at 2-3.

adversary procedure, including the notion that jurors are capable of suspending all judgment until all the evidence has been presented.[15] Indeed, much of contemporary social science research rejects the Legal Model as, at best, wishful thinking on the part of judges and lawyers and, at worst, a complete legal fiction.[16]

B. The Story Model

The Story Model is the most accepted model of juror decision making within the social sciences.[17] The Story Model assumes that jurors bring preconceptions and knowledge of the world to their task, that they actively construct narratives or stories from trial evidence, and that they fill in missing details to increase the story's internal consistency and convergence with their world knowledge.[18] The underlying framework is derived from the field of cognitive psychology, particularly the view that individuals engage in schematic processing to interpret their environment efficiently and effectively.[19] These schema act as cognitive filters through which individuals are able to identify people and situations quickly, according to familiar paradigms.[20] Diamond and Casper point out that "jurors and juries play an important and active role in evidence interpretation. Such activities take place during the trial itself, affecting what is perceived and the way evidence is understood, not simply during deliberations."[21]

Some empirical research with mock juries supports the idea that jurors make interim assessments of the evidence and adjust their views as new information is provided.[22] In one of the first such studies, conducted in 1940,

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15. *See* Dann, *supra* note 9, at 1239-41. Discussing the Legal Model, Judge B. Michael Dann of Arizona notes:

> Relying on the evidence produced by scientific studies and having as their goals better-informed jurors and more accurate verdicts, social scientists, law professors, a few judges and others paint a far different picture of jurors and advocate a far different model for the jury than the one now followed in most courtrooms in this country.

Id. at 1241.

16. *See id.* at 1239-41.

17. *See* HASTIE ET AL., *supra* note 12, at 23. *See generally* Pennington & Hastie, *supra* note 7, at 189-203.

18. *See* Nancy Pennington & Reid Hastie, *Evidence Evaluation in Complex Decision Making*, 51 J. PERSONALITY & SOC. PSYCHOL. 242 (1986).

19. *See generally* SUSAN T. FISKE & SHELLEY E. TAYLOR, SOCIAL COGNITION 139-81 (1984).

20. *See generally id.*

21. Shari Seidman Diamond & Jonathan D. Casper, *Blindfolding the Jury to Verdict Consequences: Damages, Experts, and the Civil Jury*, 26 L. & SOC'Y REV. 513, 517 (1992).

22. For a full discussion of the literature on juror opinion formation, see Shari Seidman Diamond et al., *Juror Reactions to Attorneys at Trial*, 87 J. CRIM. L. & CRIMINOLOGY 17, 26-32 (1996).

Weld and Danzig found that mock jurors adjusted their assessments of probable guilt or innocence, and their confidence in those assessments, in a rational manner throughout the presentation of evidence.[23] When presented with evidence tending to incriminate the defendant, mock jurors' assessments of probable guilt increased, but when presented with evidence tending to exonerate the defendant, those assessments decreased.[24]

Although focusing on the impact of procedural variations on juror decision making, other studies have also conducted interim assessments of juror opinion formation. Kassin and Wrightsman, for example, used this technique in studying how the timing of judicial instructions about reasonable doubt affected mock jurors' propensity to convict a criminal defendant.[25] They found that jurors were more likely to convict following direct examination of prosecution witnesses and cross-examination of the defendant, and they were less likely to convict following cross-examination of prosecution witnesses and direct examination of the defendant.[26] In a subsequent study on the effects of the length of opening statements by counsel, Pyszczynski and Wrightsman found similar variations in mock jurors' propensity to convict according to the evidence that immediately preceded their assessment.[27]

However, reliance on mock jury studies to gauge the decision making processes of actual jurors is the subject of considerable debate.[28] Many such studies fail to include a realistic jury deliberation as a segment of the experiment; therefore, the studies cannot examine how interacting with other jurors affects individual decision making.[29] Other criticisms include unrealistic trial scenarios[30] and the use of study participants who are unrepresentative of actual jury panels.[31]

One implication of the Story Model is that jurors who are actively making judgments about the evidence may reject information inconsistent with their

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23. Weld & Danzig, *supra* note 7, at 528-32, 536.

24. *Id.*

25. Kassin & Wrightsman, *supra* note 7.

26. *Id.* at 1881-82.

27. Pyszczynski &Wrightsman, *supra* note 7 at 307-09.

28. *See generally* Brian H. Bornstein, *The Ecological Validity of Jury Simulations: Is the Jury Still Out?*, 23 L. & HUM. BEHAV. 75 (1999).

29. The deliberation segment of the Weld and Danzig study was limited to 30 minutes and was not preceded by jury instructions concerning a decision rule (*e.g.*, unanimity, super-majority, or majority rule) to guide jurors in their deliberations. Weld & Danzig, *supra* note 7, at 519, 528. The Kassin and Wrightsman and the Pyszczynski and Wrightsman studies contained no deliberation segments. Kassin & Wrightsman, *supra* note 7, at 1879-80; Pyszczynski & Wrightsman, *supra* note 7, at 304-05.

30. Some mock studies use live or videotaped re-enactments of trials. However, many studies rely on written fact patterns or trial transcripts, which fail to capture the nuances of an actual trial. Bornstein, *supra* note 28, at 82-84.

31. *Id.* at 76-81.

constructed story.[32] Many subsequent studies using mock jurors have documented the extent to which jurors, either individually or collectively, filter evidence through preexisting schema, sometimes in inappropriate ways.[33] Visher, however, cautions against placing excessive emphasis on the extent of juror bias purported to be generated by juror consideration of extralegal information.[34] She argues that mock jury studies often fail to take adequate account of evidentiary issues and thus may exaggerate the actual degree of bias that occurs in jury trials.[35] In a study based on post-trial interviews with 331 jurors who served in 38 sexual assault trials, Visher found that evidence and case characteristics accounted for 34% of the variance in jurors' judgments about the defendant's guilt or innocence.[36] Victim and defendant characteristics, in contrast, accounted for only 8% of the variance, and juror characteristics accounted for only 2% of the variance.[37] Because the study examined juror decision making in sexual assault trials, in which victim characteristics may play a heightened role, Visher concluded that the "impact of extralegal issues on these jurors' decisions is likely an upper bound for the effects of these factors in other serious criminal trials."[38] Similarly, a study of mock jurors' reactions to trial attorneys found that favorable evaluations of an attorney's skill during trial did not translate into more favorable jury verdicts.[39]

C. The Schema-Tailored Model

As suggested by the introductory comments of Alfred Julien, a litigator, and Donald Vinson, a jury consultant, a commonly expressed view of the timing of juror decision making is that jurors make up their minds right after the opening statements. We consider this view a distinctive model and label it the Schema-Tailored Model. The Schema-Tailored Model is a variant of the Story Model; it agrees with the assertion that jurors begin their task with preexisting biases and assumptions about the world and how it operates.[40]

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32. *See generally* Charles. G. Lord et al., *Biased Assimilation and Polarization: The Effects of Prior Theories on Subsequently Considered Evidence*, 37 J. PERSONALITY & SOC. PSYCHOL. 2098 (1979).

33. *See, e.g.*, Norbert L. Kerr et al., *Bias in Judgment: Comparing Individuals and Groups*, 103 PSYCHOL. REV. 687 (1996).

34. Visher, *supra* note 6, at 6-7, 14.

35. *Id.* at 1.

36. *Id.* at 7, 13.

37. *Id.* at 13.

38. *Id.* at 14.

39. Diamond et al., *supra* note 22, at 43. These positive evaluations were generally related to the attorney's "skill . . . in making substantive choices about what types of witnesses and evidence to present, and her or his skill in implementing these choices" rather than the attorney's "style or personality." *Id.*

40. *See generally* DONALD E. VINSON & DAVID S. DAVIS, JURY PERSUASION:

However, adherents of this model discount the importance of evidence as the primary determinant of juror decisions, maintaining instead that jury outcomes can be influenced by crafting a litigation strategy that presents evidence in a manner consistent with jurors' preexisting schema.[41] Vinson, for example, argues that "the vast majority of jurors arrive at a verdict predisposition during or immediately after opening statements. Further, these initial decisions are remarkably consistent with the final verdicts that jurors render at the conclusion of the trial."[42]

Although this model is often espoused within the legal community, it has not been extensively tested or confirmed by empirical research. On the one hand, the primacy effect of opening statements may establish a thematic framework in which jurors can more easily integrate subsequent evidence into a coherent story.[43] On the other hand, trials present two sides of the same story. The jury researchers Daniel Linz and Steven Penrod observe that it is common for people in two-sided communication situations to resist early persuasion attempts before they have heard both sides.[44] In one interview study with civil jurors, researchers found that the majority of jurors, at least by their own accounts, remained neutral after the opening statements.[45] Jurors identified several reasons they remained neutral, including the absence of evidence, the juror's state of indecision, the desire to resist persuasion attempts, and the importance of following judicial instructions.[46]

III. METHODOLOGY

Each of these models enjoys a large degree of support from its respective core constituency, yet surprisingly little research has been done to investigate the timing of opinion formation by actual jurors in actual jury trials. Fortunately, we were presented with a unique opportunity to investigate actual juror opinion formation in conjunction with an evaluation of Rule 39(f) of the Arizona Rules of Civil Procedure, which permits jurors in civil trials to discuss the evidence during trial rather than wait until final deliberations.[47]

PSYCHOLOGICAL STRATEGIES & TRIAL TECHNIQUES (3d ed. 1996).

41. *See id.*

42. *Id.* at 199.

43. *See* Diamond et al., *supra* note 22, at 26-27.

44. Daniel G. Linz & Steven Penrod, *Increasing Attorney Persuasiveness in the Courtroom*, 8 LAW & PSYCHOL. REV. 1, 13-14 (1984).

45. Valerie P. Hans & Krista Sweigart, *Jurors' Views of Civil Lawyers: Implications for Courtroom Communication*, 68 IND. L.J. 1297, 1310 (1993).

46. *Id.* at 1310-13.

47. This new rule was highly controversial due to concern that jurors who were permitted to discuss the evidence before final deliberations would prejudge the case before hearing all of the evidence. Thus, the timing of opinion formation by jurors was of critical importance to the evaluation of the rule. To assure itself that this new procedure was not prejudicial to the rights of litigants, the Arizona Supreme Court authorized an evaluation of Rule 39(f) by the National

The study examined various aspects of juror decision making in 172 civil trials that took place in Maricopa, Pima, Mohave, and Yavapai Counties between June 15, 1997 and January 31, 1998.[48] Maricopa and Pima Counties account for over 75% of the state population and 80% of the total number of Arizona civil jury trials held each year.[49] At the end of each trial, the judge, lawyers, litigants, and jurors completed questionnaires soliciting objective information about the trial and subjective assessments about the evidence, the relative effectiveness of the trial lawyers, and their opinions about the reform.[50] The jurors also provided information about the substance and dynamics of juror discussions and deliberations.[51]

Three of the questions on the juror questionnaire were drafted specifically to determine when jurors formed opinions about the evidence. The first question asked jurors to indicate at what point in the trial they began leaning in favor of one of the parties. Jurors could select from one of nine choices: plaintiff's opening statement, defendant's opening statement, plaintiff's evidence, defendant's evidence, plaintiff's closing argument, defendant's closing argument, judge's instructions to the jury, juror discussions, or final deliberations. The second question asked jurors to indicate whether they ever changed their minds about how they were leaning, and if so, to indicate at what point they changed their minds. As choices, jurors were given the same nine segments of trial. They could select more than one segment to indicate that they changed their minds more than once. The third question was similar to the first, except that it asked jurors to indicate at what point they made up their minds about who should win the case.

We employed these questions, despite the risk that jurors' own reports could be unreliable measures of when they actually formed opinions in the case. Because judicial instructions to jurors traditionally include the admonition that jurors must wait until the end of the case to reach a decision, one concern is that jurors might be reluctant to admit having made up their

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Center for State Courts (NCSC). *See* Hans et al., *supra* note 6, at 365. The NCSC conducted a field experiment in which 172 civil trials were randomly assigned to either a "trial discussions" condition, in which jurors were permitted to discuss the evidence during trial, or a "no discussions" condition, in which jurors were prohibited from discussing the evidence. *See* Hannaford et al., *supra* note 6, at 365; Hans et al., *supra* note 6, at 365-66. In our analysis of the data, we did not find statistically significant differences overall between the experimental conditions for our three variables of juror opinion formation: (1) When did you begin leaning?, (2) When did you change your mind?, and (3) When did you make up your mind?. Because there was no difference by experimental condition, *see* Hannaford et al., *supra* note 6, at 369, we combined the "trial discussions" and "no discussions" data and, unless otherwise indicated, analyzed them together for the purpose of this Article.

48. Hans et al., *supra* note 6, at 365-66.

49. *Id.*

50. *Id.* Response rates for the judges and jurors were extremely high—87% and 89%, respectively. Hannaford et al., *supra* note 6, at 365.

51. *Id.*

minds earlier in the process. Jurors might adjust their answers to provide socially desirable responses, or to show the greatest consistency with the final outcome of the trial. There was a fair amount of variability in juror responses, which suggests that social desirability did not completely dictate juror responses, but the possibility still should be kept in mind in assessing the results.[52]

Even if jurors responded as truthfully as possible, their accuracy in assessing their own decision making processes is unknown. A number of psychological studies cast some doubt on the ability of people to introspect accurately about the factors affecting their own thought processes.[53] Jurors might also telescope, a phenomenon whereby subjects recall events occurring more recently than they had actually happened.[54] Several measures in the study protocols were included to minimize error. These measures included using individual and anonymous survey instruments, keeping the reference period short (*e.g.*, the duration of the trial), and using trial benchmarks (*e.g.*, opening arguments, plaintiff's and defendant's evidence, closing arguments) as memory anchors.[55]

Thus, for a number of reasons, self-reported data provide insight about jurors' perceptions of their performance, but not necessarily about their actual performance. Despite these problems, which are addressed again at the end of the Article, we believe it is still valuable to explore actual jurors' accounts of the timing of their decision making. Because no empirical research has focused on the timing of juror opinion formation in actual trials, we examined these data more thoroughly in order to explore whether case characteristics and juror factors affect when jurors report making up their minds.

The analysis of the data was conducted using descriptive statistics, inferential statistics, and a more sophisticated technique to control for multi-level data. Past approaches either examined data at the individual level—in this case at the juror level—or summarized the data into group-level data for analysis purposes—in this case at the jury level.[56] One assumption in individual-level analyses is that each individual juror is independent of the

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52. *See infra* notes 53-55 and accompanying text.

53. For a full discussion, see generally RICHARD NISBETT & LEE ROSS, HUMAN INFERENCE: STRATEGIES AND SHORTCOMINGS OF SOCIAL JUDGMENT (1980).

54. *See* Robert W. Pearson et al., *Personal Recall and the Limits of Retrospective Questions in Surveys*, *in* QUESTIONS ABOUT QUESTIONS: INQUIRIES INTO THE COGNITIVE BASES OF SURVEYS 65 (Judith M. Tanur ed., 1992).

55. *Id.* at 87-89.

56. *Compare, e.g.*, Visher, *supra* note 6 (331 jurors), Heuer & Penrod, *Juror Notetaking*, *supra* note 6 (550 jurors), Heuer & Penrod, *Instructing Jurors*, *supra* note 6 (1229 jurors), *with* Hannaford et al., *supra* note 6 (161 juries). The preference among social science researchers in actual jury trials has been to use individual juror responses rather than summary measures for the entire jury. This preference may be due to the research focus on individual decision making (as opposed to collective decision making) as well as the typically small samples of jury verdicts (which often fail to yield statistically significant results).

other. However, because jurors deliberate together in juries, jurors are not strictly independent. On the other hand, the individual variation between jurors is lost when using jury-level data.

A relatively new procedure provides researchers with a third option for handling multiple level data. Hierarchical linear modeling (HLM) permits an analysis of nested data that accounts for both juror and jury level data within the same model.[57] More specifically, each level of analysis is represented by its own sub-model.[58] This procedure has generally been reserved for educational research on students, nested within classrooms, nested within schools, and so on. Although this methodology has recently been adopted for implementation in various other social science fields, this research project is one of the first times that HLM has been applied to jury research.

IV. RESULTS

Adherents of the Schema-Tailored Model assert that the trial is effectively over after the attorneys have given their opening statements because by then, jurors have already made up their minds.[59] However, the juror reports in this study indicating when the jurors began forming opinions or when they decided who should win the case do not support the assertion that jurors decide so quickly. Fewer than 10% of the jurors reported that they began leaning toward one side or the other during opening statements, and even fewer reported making up their minds at that early stage. However, contrary to the idealized Legal Model, the data also show that a substantial number of jurors began to express a preference during, and just after, the evidentiary portion of the trial. Interactions with other jurors also appeared to play a key role in opinion formation.

Figure 1 shows the percentage of jurors who reported the stage of the trial at which they began leaning toward one side or the other. Close to 5% of the jurors said that they began leaning during the plaintiff's opening statement, while a similar number began leaning during the defendant's opening statement. Trial evidence figures importantly in jurors' accounts of when they began to form opinions, with over half reporting that they began leaning by the close of the evidentiary segment of the trial. Interactions with other jurors are also critical; over 25% of the jurors said they began leaning as a result of discussions with other jurors either during the trial or during final deliberations.

Even though many jurors said that they began to form opinions in the evidentiary portion of the trial, they also frequently changed their minds. Over 95% of jurors reported that they changed their minds at least once about

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57. ANTHONY S. BRYK & STEPHEN W. RAUDENBUSH, HIERARCHICAL LINEAR MODELS: APPLICATIONS AND DATA ANALYSIS METHODS (1992).

58. *Id.* at 15-23.

59. VINSON & DAVIS, *supra* note 40, at 199.

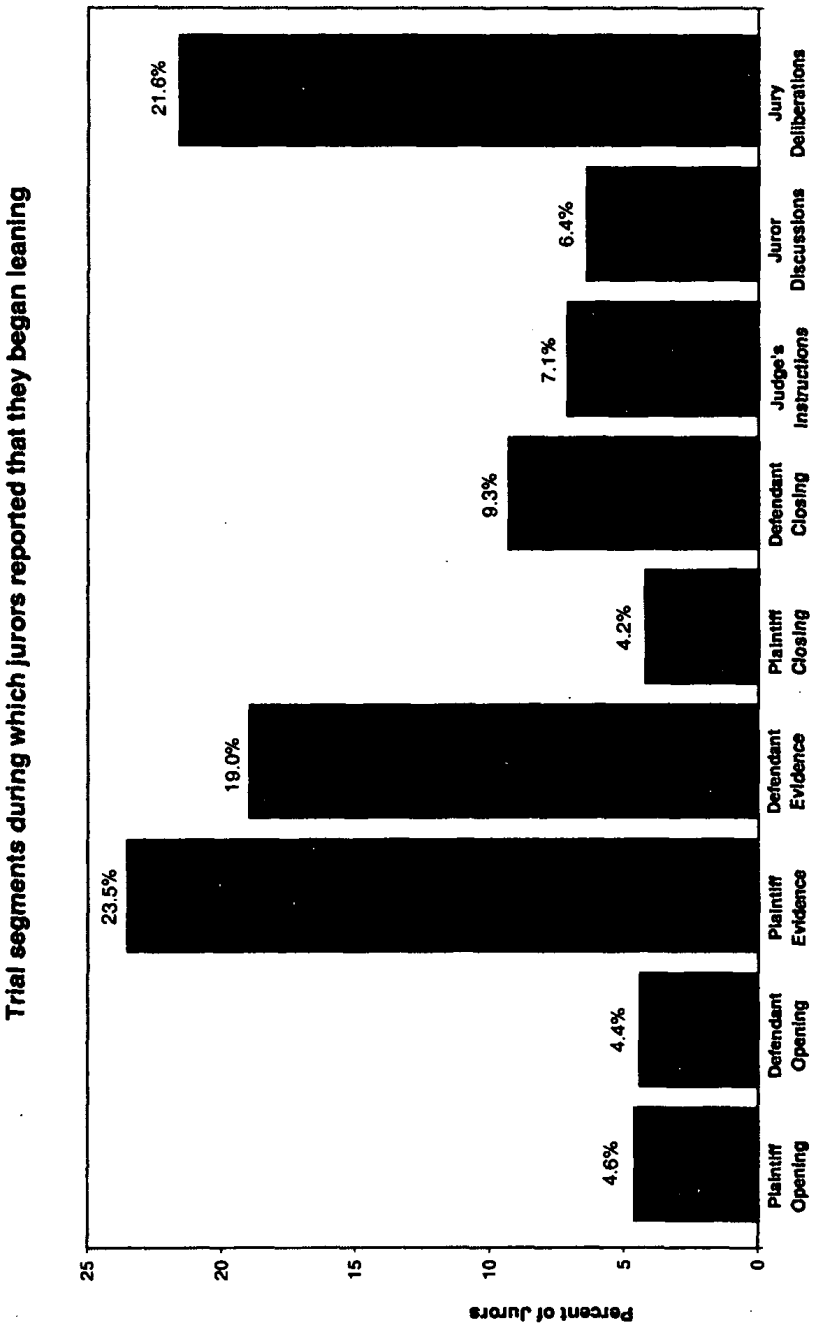

Figure 1

how they were leaning, and nearly 15% changed their minds more than once. Figure 2 shows the percentage of jurors who reported changing their minds at various stages of the trial. Although there is considerable variance in jurors' reports about when they changed their minds, interaction with other jurors appears to play a very significant role. Over 20% reported changing their minds during discussions with other jurors during trial, and nearly 40% reported changing their minds during final deliberations.

The majority of jurors reported that they waited until fairly late in the trial to decide who should win the case. As we noted earlier, the fact that jurors were admonished to delay deciding the case until hearing the evidence, arguments, and law should be taken into account in interpreting these data. Nevertheless, the data are interesting. Almost half of the jurors said that they did not make up their minds until final deliberations, and over 75% reported that they waited at least until after the evidentiary portion of the trial. Figure 3 shows the percentage of jurors who reported making up their minds at each stage in the trial.

Not surprisingly, there is a strong correlation between when the jurors began leaning during the trial and when they made up their minds about who should win.[60] The later they reported that they began leaning, the later they reported making up their minds. There is also a significant correlation between the number of times jurors changed their minds about how they were leaning and when they made up their minds.[61] The more often jurors reported changing their minds, the later they reported making up their minds about who should win the case.

V. JUROR DEMOGRAPHICS AND OPINION FORMATION

Do individual juror characteristics account for some of the variance in when jurors began leaning, or when they changed or made up their minds? Using straightforward correlational statistics, we examined all three opinion formation questions with respect to gender, race, age, and income level; we found no relationship. However, a juror's education level was inversely related to when the juror began leaning[62] and directly related to the frequency with which the juror changed his or her mind.[63] Jurors with higher levels of education tended to begin leaning earlier in the trial than jurors with less education. These jurors also changed their minds about how they were leaning more frequently. However, using correlational statistics, education level was unrelated to when jurors made up their minds.

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60. *Rho* = .443, $p < 0.001$. Rho is a measure of association that ranges from -1 to 1, with 1 indicating perfect correlation and 0 indicating none. THOMAS H. WONNACOTT & RONALD J. WONNACOTT, INTRODUCTORY STATISTICS 479-81 (1990).

61. *Rho* = 0.063, $p < 0.022$.

62. *Rho* = -0.068, $p = 0.031$.

63. *Rho* = 0.075, $p = 0.016$.

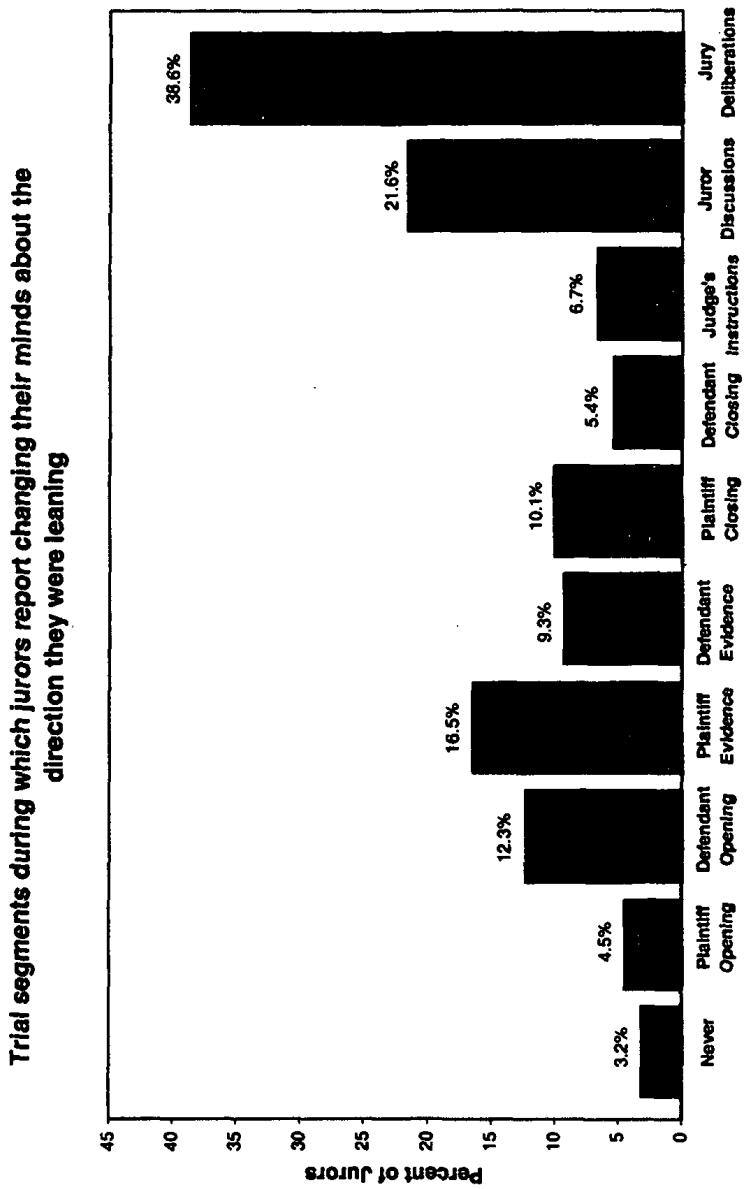

Figure 2

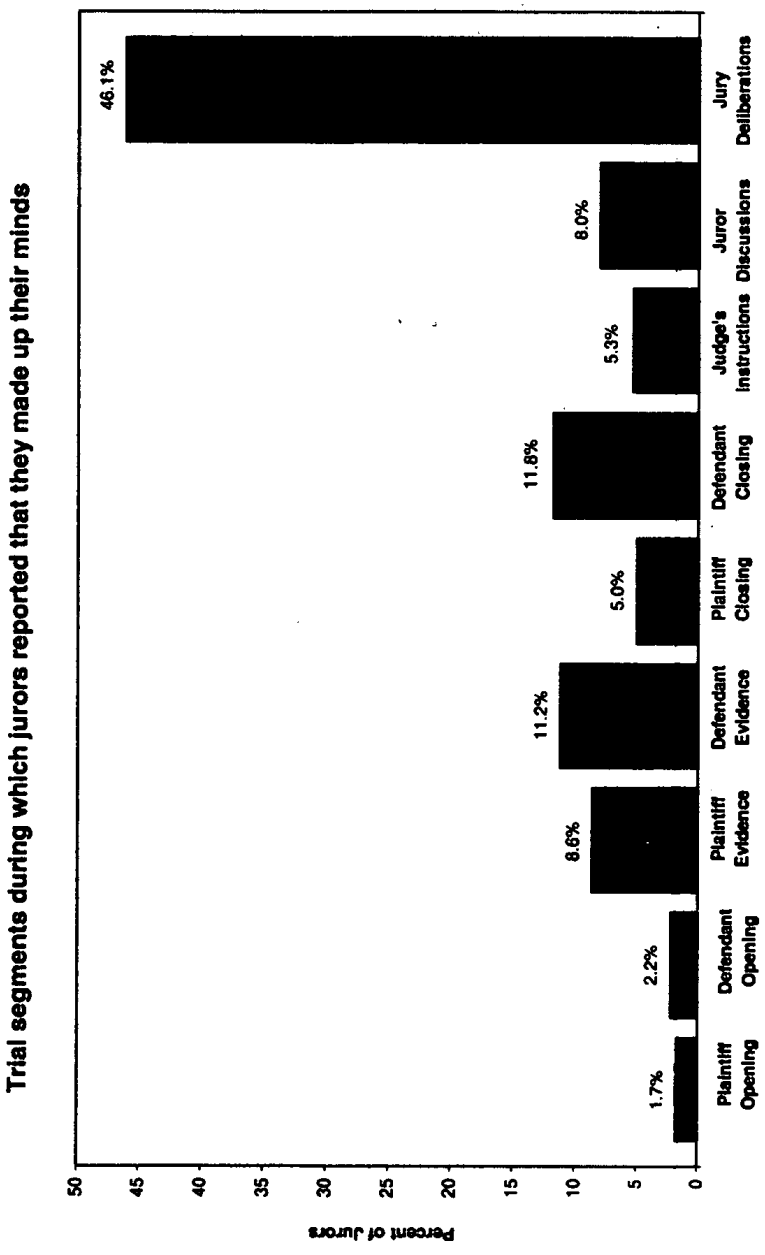

Figure 3

It is possible that more educated jurors are better equipped to make critical assessments about the evidence, thus accounting for their tendency to begin leaning earlier. However, it is also possible that jurors with higher education levels may be more confident in their preliminary assessments about the evidence, and thus more likely to reveal early opinion formation. One recent study of juror non-response to jury summonses found a positive relationship between education level and a prospective juror's belief that he or she had sufficient knowledge about the legal system to be a fair and impartial juror.[64] Perhaps this confidence in one's ability to serve as a juror also manifests itself inside the jury box.

VI. CASE CHARACTERISTICS AND OPINION FORMATION

We also examined the case characteristics of the trials in our sample as possible explanations for the timing of opinion formation by jurors. The trials in our sample spanned the full range of civil cases in Arizona in terms of case type, trial length, and complexity. Of the 172 cases in the sample, there were 73 automobile tort cases, 20 premises liability cases, 8 medical malpractice cases, 10 products liability cases, 26 miscellaneous tort cases (*e.g.*, toxic substance, professional malpractice, intentional tort, defamation, and other torts), 22 contract cases, and 13 "other" or "unknown" cases. The average trial lasted three days, and the longest was fifteen days.

Comparing just the tort and contract jurors, we found that jurors in tort cases reported that they began leaning toward one side or the other earlier during the trial than jurors in contract cases.[65] However, there were no differences in these jurors' reports regarding changing their minds or deciding who should win the case. The contract cases were significantly more complex than the tort cases,[66] perhaps because they involved evidence concerning business or financial matters with which jurors are less familiar. Therefore, it is possible that jurors in more complex cases need comparatively more time to process the information and begin making critical judgments about it.

Pursuing this possibility, we found that case complexity[67] was significantly correlated with all three of the opinion formation variables.[68] The less complex the case, the sooner jurors began leaning and making up

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64. Robert G. Boatright, *Why Citizens Don't Respond to Jury Summonses and What Courts Can Do About It*, 82 JUDICATURE 156, 158-59 (1999).

65. $\chi^2(8) = 22.520$, $p = 0.004$. Chi-square is a test of association that permits inferences concerning the existence of an association between two variables. WONNACOTT & WONNACOTT, *supra* note 60, at 555-59.

66. Contract $M = 10.48$, Tort $M = 8.84$, $t(1291) = -5.919$, $p < 0.001$.

67. A Case Complexity Scale was created during the evaluation of Arizona Rule 39(f) and is derived from the judge's and jurors' assessments of case complexity and the natural log of the length of the trial in hours (*alpha* = 0.78). Hannaford et al., *supra* note 6, at 367.

68. LEANING *rho* = 0.084, $p = 0.002$; CHGDMIND *rho* = 0.113, $p < 0.001$; MADEMIND *rho* = 0.128, $p < 0.001$.

their minds, and the less frequently they changed their minds about how they were leaning. Figure 4 illustrates the relationship between case complexity and when jurors make up their minds.

The interaction between juror education and case complexity is a complicating factor in this analysis, however. We found a significant and direct correlation between juror education level and case complexity.[69] More complex cases tended to have jurors with higher levels of education. This either occurred by chance, or the jury selection process may have eliminated the less educated jurors.

The strength of the evidence presented at trial was also a significant factor in juror opinion formation. One of the questions on the judge's survey asked for an assessment of the weight of the evidence along a 7-point Likert scale[70] (1 = evidence strongly favors the plaintiff; 7 = evidence strongly favors the defendant). There was no relationship between the direction of the evidence and juror opinion formation. However, by recoding this variable to a 4-point strength of the evidence scale (1 = evidence evenly balanced; 4 = evidence strongly favors either party), we found an inverse relationship with opinion formation. When the evidence strongly favored either party, jurors began leaning[71] and made up their minds[72] earlier than jurors in cases in which the evidence was evenly balanced.

Finally, it appears that jurors tended to rely on each other to a greater extent when the weight of the evidence was fairly close, at least with respect to making up their minds. The proportion of jurors who reported making up their minds during discussions with other jurors during trial or final deliberations was significantly correlated with the closeness of the evidence.[73] Figure 5 shows the percentage of jurors who reported making up their minds during interactions with other jurors (discussions during trial and final deliberations) according to the relative strength of the evidence. The jury's deliberation time was also significantly longer in cases where the evidence was fairly close or evenly balanced.[74]

What effect did these factors have on the juries' ultimate verdicts? Comparing the average time that jurors reported that they began leaning and making up their minds, we found that jurors who voted for the defendant were significantly more likely to begin leaning and to make up their minds earlier

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69. *Rho* = 0.083, $p = 0.010$.

70. A Likert scale is a measure of intensity from one extreme to another. EARL BABBIE, THE PRACTICE OF SOCIAL RESEARCH 140, 405-06 (5th ed. 1989). It is commonly employed in social science research as a means of standardizing categorical responses (*e.g.*, strongly agree, agree, disagree, strongly disagree) to survey questions. *Id.* at 405.

71. *Rho* = -0.061, $p = 0.032$.

72. *Rho* = -0.097, $p = 0.001$.

73. *Rho* = -0.092, $p = 0.001$.

74. *Rho* = -0.148, $p < 0.001$.

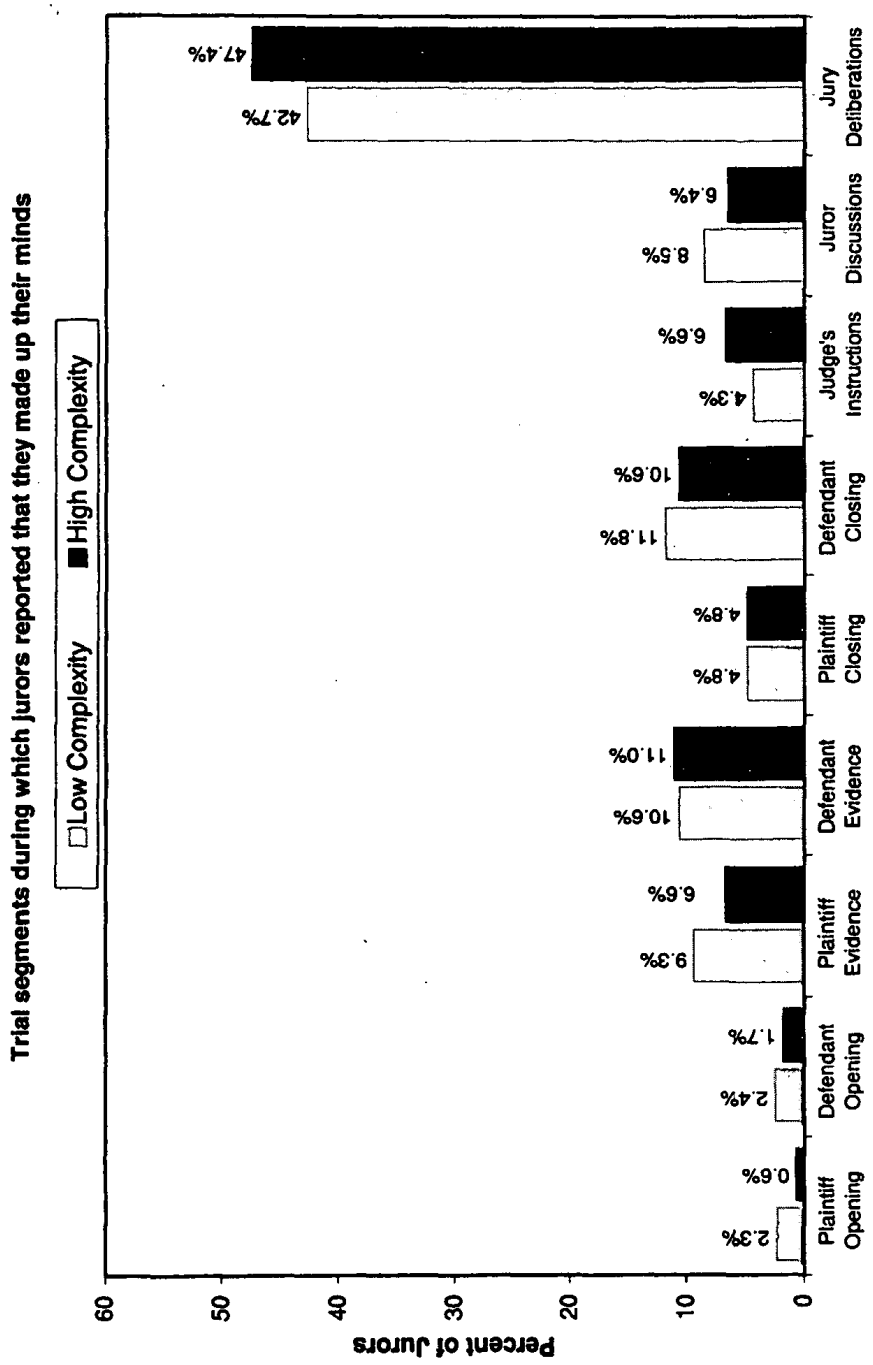
Trial segments during which jurors reported that they made up their minds
Low Complexity
High Complexity
Percent of Jurors
0
10
20
30
40
50
60
Plaintiff Opening
Defendant Opening
Plaintiff Evidence
Defendant Evidence
Plaintiff Closing
Defendant Closing
Judge's Instructions
Juror Discussions
Jury Deliberations
2.3%
0.6%
2.4%
1.7%
9.3%
6.6%
10.6%
11.0%
4.8%
4.8%
11.8%
10.6%
4.3%
6.6%
8.5%
6.4%
42.7%
47.4%

Figure 4

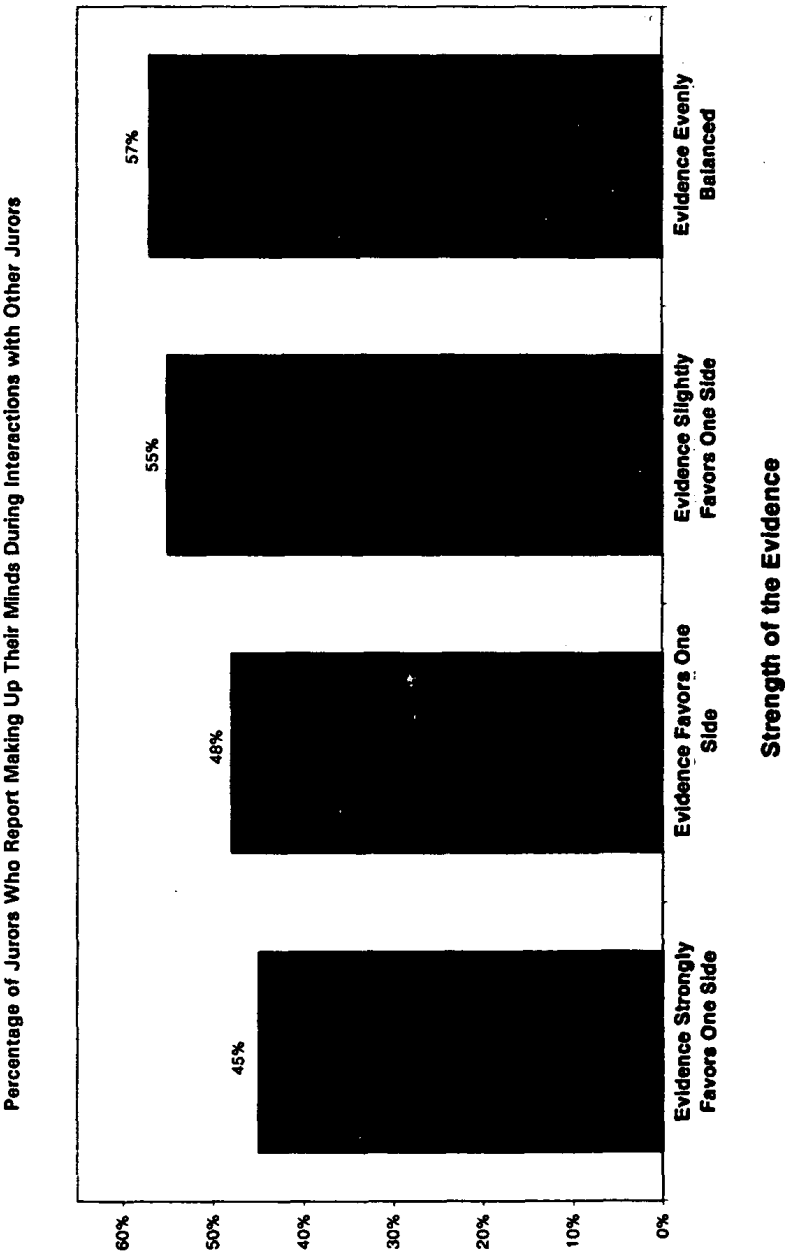

Figure 5

than jurors who voted for the plaintiff.[75] This may, however, reflect the order of evidence presentation rather than any inherent prejudgment on the part of the jurors who voted for the defendant. In civil cases, the plaintiff has the burden of proving his or her case by a preponderance of the evidence and presents his or her case first. So if the plaintiff fails to present a persuasive case, it seems logical that jurors would begin leaning and making up their minds without the need to hear a vigorous rebuttal from the defense. Conversely, if the plaintiff meets the burden of persuasion, jurors will wait for the defendant's evidence before making final judgments on the merits.

Putting all these juror and case factors together paints an interesting and complex picture of juror opinion formation, particularly with respect to differences in the timing of when jurors began leaning as compared to when they made up their minds. Using multiple regression analysis to control for several factors simultaneously, only juror education and the juror's final vote in deliberations were significant predictors of when they began leaning. Jurors with lower educational levels began leaning later than jurors with higher educational levels, and jurors who voted for the plaintiff on the final ballot began leaning later than jurors who voted for the defendant. The relative strength of the evidence was a marginal predictor, with jurors beginning to lean later for cases in which the trial evidence was evenly balanced. Case complexity was not significant at all.[76]

When the same factors are examined in relation to when jurors make up their minds, however, case complexity, strength of the evidence, and the juror's final vote during deliberations were all significant, but juror education ceased to be.[77] In that model, jurors made up their minds later in more complex cases, in cases in which the evidence was evenly balanced, and in cases in which the juror voted for the plaintiff. Putting these results together, it seems possible that jurors may initially be influenced by the persuasiveness of the evidence and their own ability to comprehend that evidence quickly and accurately. Their final decision on the merits of the case, however, is far more deliberate with case complexity and the strength of the evidence playing a much greater role.

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75. Leaning $F(1, 1196) = 13.549, p < 0.001$; Made Up Mind $F(1, 1187) = 8.712, p = 0.003$. Arizona permits non-unanimous jury verdicts in civil cases. *See* ARIZ. R. CIV. P. 49(a). Therefore, these analyses are based on jurors' reports of their final votes at the end of deliberations rather than the jury's collective verdict.

76. $F(4, 831) = 4.551, p = 0.001$; *Beta* (Juror Education) = -0.074, $p = 0.032$; *Beta* (Vote on Final Ballot) = -0.104, $p = 0.003$; *Beta* (Strength of the Evidence) = -0.060, $p = 0.090$; *Beta* (Case Complexity) = 0.021, *ns*.

77. $F(4,824) = 5.994, p < 0.001$; *Beta* (Case Complexity) = 0.072, $p = 0.044$; *Beta* (Strength of the Evidence) = -0.094, $p = 0.008$; *Beta* (Vote on Final Ballot) = -0.076, $p = 0.029$; *Beta* (Juror Education) = 0.054, *ns*.

VII. HIERARCHICAL LINEAR MODEL (HLM)

The previous sections provide descriptive and correlation statistics that were calculated using the responses of all of the jurors who participated in the study. As discussed above, however, these jurors were not truly independent because they interacted with one another during the trial and deliberations. To control for this interdependence among jurors and to provide some additional insight into juror opinion formation, an additional statistical technique called hierarchical linear modeling (HLM) was employed.[78] This technique is particularly well-suited for testing theory. However, the number of variables that can be incorporated into a theory-driven HLM model is somewhat limited.[79] The limitation of the number of variables is also a function of jury size, as there are a limited number of jurors per group (from six to twelve depending on the jurisdiction). HLM as a technique allows for another function, to test whether a particular variable (*e.g.*, education) exhibits different effects across different juries.

HLM analyses were conducted with the opinion formation variables: when jurors reported they made up their minds, when jurors reported they began leaning to one side, and the number of times each juror reported they changed their minds. The value of this technique is that a researcher may take into account jurors' interdependence while examining the factors that lead to opinion formation.[80] The HLM models were developed based on existing theory and substantive issues associated with the timing of opinion formation by jurors. The variables chosen produced the best model considering these data. However, our model is preliminary as it does not incorporate all possible juror variables that may contribute to a complete explanatory model.

The first step in this type of analysis is to examine whether the mean levels of our three variables of interest—when jurors reported leaning, how often they changed their minds, and when they made up their minds—varied across different juries. Results from this analysis will indicate how much of the total variability is attributable to between-jury (or between-case) differences, and how much is due to the fact that individual jurors will differ. The only variable with significant between-jury differences was when jurors reportedly made up their minds.[81] In other words, the timing of when jurors, on average, made up their minds varied from jury to jury to a significant degree. This model demonstrates that approximately 10%[82] of the difference in jurors' reports about when they made up their minds was due to case characteristics (see Table 1). Most of the variation between when jurors finally made up their minds cannot be accounted for by case factors; it is

78. *See* BRYK & RAUDENBUSH, *supra* note 57.
79. *Id.* at 198-99.
80. *Id.* at 4-6.
81. $\chi^2 (168) = 307.56,\ p < 0.05$.
82. $\rho_{1c} = 0.094$.

therefore, more likely due to individual juror differences.

Table 1. Results from the Initial One-Way ANOVA Model

Fixed Effects	Coefficient	SE		
Average MUM* score, γ_{00}	6.90	0.08		
Random Effect	**Variance Component**	**Df**	**χ^2**	**p-value**
Case level, u_{0j}	0.518	168	307.60	0.000
Juror level, r_{ij}	5.02			

* MUM indicates the part of the trial in which jurors reportedly made up their minds.

The goal of our model-building was to reduce the variance components presented in Table 1. The effects of both juror level (*i.e.*, variables specific to jurors, such as age) and case level (*i.e.*, variables specific to juries, such as case complexity) were modeled to reduce the unexplained variability found in the initial one-way model. The model can be described using multiple equations. The first level (juror level) equation contains the variables of age, education, and whether jurors discussed the case before deliberations when instructed not to do so ("informal discussions").[83] The other set of equations incorporates the jury or case level variable of case complexity.[84]

In the analysis, the multiple level equations were combined into one model, the final model. The results from this final model indicate that with the specified variables, this model adequately accounts for a good proportion of the variance (see Table 2).

The intercepts and slopes-as-outcomes model allows us to estimate the variability in the regression coefficients of both intercepts (means) and slopes across the case-level variable. The model also produced slopes and intercepts for each component represented by a different coefficient. Each coefficient can be described by a direction (positive or negative) and a magnitude (between zero and one). Controlling for other variables, the intercept or average score for when jurors make up their minds was $\gamma_{00} = 6.96$. A score of six indicates the juror made up his or her mind during the defendant's closing argument and a score of seven indicates he or she decided who should win the

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83. Made up $\text{Mind}_{ij} = \beta_{0j} + \beta_{j1}(\textit{Age})_j + \beta_{2j}(\textit{Education})_j + \beta_{3j}(\text{Informal Discussions})_j + r_{ij}$. As indicated by italics type, Age and Education were ***grand mean centered*** (*i.e.*, the mean was adjusted to zero) in order to facilitate the interpretation of the intercept.

84. $\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{Case Complexity Scale})_j + u_{0j}$
$\beta_{1j} = \gamma_{10} + \gamma_{11}(\text{Case Complexity Scale})_j + u_{1j}$
$\beta_{2j} = \gamma_{20} + \gamma_{21}(\text{Case Complexity Scale})_j + u_{2j}$
$\beta_{3j} = \gamma_{30} + \gamma_{31}(\text{Case Complexity Scale})_j + u_{3j}$

Table 2. Results from Final Intercept and Slopes as Outcomes Model[a]

Fixed Effects	*Coefficient*	*SE*	*t ratio*	
Model for case means				
Intercept (Effect for complexity), γ_{00}	6.96	0.08	86.67*	
Effect of:				
Age on mean MUM, γ_{10}	0.03	0.05	-0.52	
Education on mean MUM, γ_{20}	0.07	0.07	0.95	
Informal discussions on mean MUM, γ_{30}	-0.53	1.30	-1.79	
Model for MUM[b] – Complexity Slopes				
Intercept (Effect for complexity), γ_{01}	0.09	0.03	3.35*	
Effect of:				
Age on MUM-complexity slope, γ_{11}	-0.01	0.02	-0.55	
Education on MUM-complexity slope, γ_{21}	-0.05	0.02	-2.35*	
Informal discussions on MUM-complexity slope, γ_{31}	-0.07	0.10	-0.69	
Random Effect	*Variance Component*	*Df*	χ^2	*p*
Case level, u_{0j}	0.63	34	38.45	0.27
Juror level, r_{ij}	2.18			

[a] Recall equations: Made up $Mind_{ij} = \beta_{0j} + \beta_{1j}$ (*Age*) $+ \beta_{2j}$ (*Education*)$_j + \beta_{3j}$ (Informal Discussions)$_j + r_{1j}$

$\beta_{0j} = \gamma_{00} + \gamma_{01}$ (Case Complexity Scale)$_j + u_{0j}$

$\beta_{1j} = \gamma_{10} + \gamma_{11}$ (Case Complexity Scale)$j + u_{1j}$

$\beta_{2j} = \gamma_{20} + \gamma_{21}$ (Case Complexity Scale)$j + u_{2j}$

$\beta_{3j} = \gamma_{30} + \gamma_{31}$ (Case Complexity Scale)$_j + u_{3j}$.

As indicated by italics type, Age and Education were *grand mean centered* (*i.e.*, the mean was adjusted to zero) in order to facilitate the interpretation of the intercept.

[b] MUM indicates the part of the trial in which jurors reportedly made up their minds.

* Indicates is significant with $p < 0.05$.

case during the judge's final instructions. Therefore, the average score indicates that jurors made up their minds about the case at the judicial instructions phase of the trial, after all of the evidence had been presented and the lawyers had given their closing arguments. The slope between when jurors made up their minds and the complexity of the case was positive, $\gamma_{01} = 0.09$. Similar to the correlational analyses, in more complex cases jurors made up their minds later than in less complex cases.[85]

In the second equation describing the final model, the results were not significantly different.[86] Similarly, the slope or relationship between when jurors made up their minds and their age was not affected significantly by complexity.[87] Although this effect is not significant, the slope, $\gamma_{11} = -0.01$, indicates a slight difference. Thus, the slope between age and when jurors made up their minds is less pronounced in more complex cases.

The sign of the coefficient for education suggests that, on average, more educated jurors made up their minds slightly later than the less educated jurors;[88] however, this result was not significant.[89] This variable was grand mean centered, so the jurors are divided into above-average juror education level and below-average juror education level. Furthermore, the more complex cases had a weaker education-made up mind (MUM) slope than less complex cases.[90] In other words, when the cases are more complex in nature, the educational differences are less pronounced or the gaps due to educational differences are smaller than when the cases are less complex. Jurors with education levels above average are more similar to those with below-average education levels in terms of when they made up their minds when cases are more complex.

The last equation in the final model also did not exhibit significant results.[91] Although those who reported that they discussed the case informally before final deliberations made up their minds slightly earlier than those who did not engage in such discussions,[92] the slope was not significant either.[93] However, the gap between when jurors made up their minds for those who engaged in informal discussions is larger, or the slope (MUM-Informal Discussions) is steeper, for the more complex cases.

Overall, the complexity of the cases mediates some of the differences in juror level variation, most specifically juror education levels. The final model improves the ability to explain the differences found in opinion formation

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85. This difference was significant at $t = 3.43, p < 0.05$.
86. $t = -0.52, p = 0.60$ for $\gamma_{10} = -0.03$.
87. $t = -0.55, p = 0.58$.
88. $\gamma_{20} = 0.07$.
89. $t = 0.95, p = 0.34$.
90. $\gamma_{21} = -0.05$. This difference was significant at $t = 2.35, p < 0.05$.
91. $t = -1.79, p = 0.07$.
92. $\gamma_{30} = 0.93$.
93. $t = -0.69, p = 0.50$.

over the initial one-way model. By comparing the two models, the final model reduced the juror-level variance found in the initial model by 57%. However, the overall results and the results from the initial one-way model stress the need for exploring other theory-driven variables affecting individual jurors in future research.

VIII. DISCUSSION

From these analyses, the data appear far more consistent with the Story Model of juror opinion formation than with either the Legal Model or the Schema-Tailored Model. By jurors' own admissions, the majority began leaning well before the conclusion of the trial, and a substantial portion reported making up their minds before final deliberations, despite judicial admonitions to the contrary. By the same token, however, only a very small proportion of jurors reported leaning or making up their minds during opening statements by the parties, and most reported changing their minds about their verdict preferences at least once during the course of the trial. Thus, the Schema-Tailored Model is not well supported by the data.

The questions posed to jurors regarding the timing of opinion formation in this study were not as sensitive as those employed by Weld and Danzig[94] in their 1940 mock jury study because we did not attempt to measure subtle contemporaneous changes in jurors' confidence about their verdict preferences. In addition, there are a number of problems with relying on jurors' retrospective accounts of when they made up their minds. These problems include the fact that the jurors were instructed to wait until the end of the trial to reach a decision and the demonstrated difficulty that people have in assessing the factors influencing their own decision making.

Nevertheless, the data are fairly consistent with psychological research on two-sided communications which finds that people often wait until they have heard some arguments from both sides before making up their minds.[95] The data also converge with the findings of mock jury studies on this topic,[96] particularly with respect to the frequency with which jurors changed their minds about their verdict preferences based on newly presented evidence or arguments. For example, the only major difference between our findings and those of Weld and Danzig was the degree to which jurors' interactions with each other affected their verdict preferences. Weld and Danzig concluded that jury deliberations had very little effect on jurors' verdict preferences,[97] whereas a substantial proportion of jurors in this study reported changing their

94. Weld & Danzig, *supra* note 7.

95. Linz & Penrod, *supra* note 44; Hans & Sweigart, *supra* note 45.

96. *See* Kassin & Wrightsman, *supra* note 7 (discussing the effect of a judge's instruction upon juror verdicts); Pyszczynski & Wrightsman, *supra* note 7 (describing the effects of opening statements on a juror's decision).

97. Weld & Danzig, *supra* note 7, at 532.

minds based on discussions with other jurors during the course of the trial or final deliberations. That difference may be the result of unrealistic deliberation procedures employed in the earlier study, or possibly the homogeneous and unrepresentative demographic characteristics of the participants in that study, both of which reduced the generalizability of their findings. The data from this study, in contrast, were collected from jurors selected from a far more diverse jury pool and who served on actual civil trials subject to established procedural rules concerning jury deliberations.

The analyses present a picture, albeit an incomplete one, about some of the factors that affect the timing of opinion formation by jurors. Several case level variables, including the strength of the evidence and case complexity, proved to be significant factors. These descriptive statistics and correlations among variables suggest that opinion formation by jurors is rational and related to the evidence presented at trial. We found a significant correlation between the timing of opinion formation as indicated by all three of our dependent variables and the strength of the evidence presented at trial—a result that is consistent with Visher's research.[98] Case complexity was also a significant factor, with jurors delaying their judgments about verdict preferences until later in the trial in more complex cases.

In general, the contract cases were more complex than the tort cases in this sample. It is possible that differences in juror opinion formation in the tort versus the contract cases are purely a function of case complexity, and the composition of cases in our sample was simply the result of chance. An alternative possibility is that jurors are less familiar with, or have less experience with, contractual or business-related matters compared with negligence-related matters, and thus are less likely to begin forming opinions early in contracts cases. Familiarity and perceived complexity may be intertwined, in that unfamiliarity with contractual concepts may have contributed to judges' and jurors' higher assessments about the relative complexity of those cases. The HLM analyses confirm that case complexity is a significant factor in the timing of juror opinion formation, both in delaying the point at which jurors made up their minds about ultimate verdict preferences and by equalizing to some extent the educational differences among jurors.

Yet, individual differences among jurors, particularly education levels, are likely to have some effect on the timing of juror opinion formation. Although education level was directly correlated with when jurors made up their minds and how often they changed their minds, it was inversely correlated with when jurors began leaning. The fact that education level appears to affect jurors leaning and making up their minds in opposite directions is a curiosity. Perhaps more highly educated jurors are more attuned to socially desirable responses. Or perhaps more highly educated jurors are more open-minded about the evidence (thus changing their minds more frequently) and have more

98. *See* Visher, *supra* note 6.

knowledge about and exposure to the issues (thus beginning to lean earlier in the trial). But they are also better able or more willing to comply (or more apt to say they comply) with judicial instructions to wait until all the evidence has been presented before making up their minds about their verdict preferences. It is noteworthy, though, that the education level of jurors was the only individual juror factor that emerged as significant in any analysis of the timing of opinion formation.

IX. CONCLUSION

This was the first empirical study of the timing of opinion formation by jurors in actual trials. The potential limitations of these retrospective accounts, including inaccuracies in self-reporting and pressures of social desirability, must be reiterated. Nonetheless, the data are intriguing for the picture they paint about the fluidity of civil juror opinion formation and the significance of group influence. From the data, we see that most jurors reported being willing to change their minds about their verdict preferences based on new evidence, argument by counsel, or interactions with other jurors. Moreover, most jurors said that they waited until fairly late in the trial to decide their ultimate verdict preferences. In short, neither the Legal Model nor the Schema-Tailored model provides a plausible description of juror opinion formation based on these data. The Story Model continues to be the most credible model.

The analyses also shed some light on the types of factors—both juror level and case level—that contribute to the timing of juror opinion formation. But other factors, as yet unknown, of both types exist. There is the added possibility that subtle interactions between juror level variables and case characteristics which were too detailed to be picked up in our data (*e.g.*, the salience of specific legal or factual issues presented at trial) account for much of the variance in the timing of juror opinion formation. Moreover, jurors' interactions during trial and final deliberations appear to have some effect on individual patterns of opinion formation, particularly in those cases in which the weight of the evidence is fairly close for both parties. Renewed interest in discovering these factors is long overdue, and we hope that other researchers will join us in reexamining the timing of juror opinion formation.