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THINKING ABOUT ELEPHANTS: ADMONITIONS, EMPIRICAL RESEARCH AND LEGAL POLICY

J. Alexander Tanford*

Abstract

When prejudicial evidence is erroneously introduced at trial, the law traditionally has required judges to admonish jurors to disregard or limit their use of it. This policy is explicitly based on the assumption that jurors follow such instructions. However, jury behavior research demonstrates that the assumption is wrong — admonitions are ineffective. This article examines whether the empirical research has had any effect on legal policy. General theories on the interaction between social science and law predict that the admonitions rule is a good candidate for reform. However, comparative analysis of samples of cases from 1958 and 1988 reveals no significant changes in judicial behavior. Apparently, the research on admonitions has produced no legal change for a reason not generally considered an important variable in the law and society literature — because the research failed to demonstrate that any other procedure would be more effective.

[Judges] rely on the old ‘ritualistic admonition’ to purge the record. The futility of that sort of exorcism is notorious . . . . [I]t is like the Mark Twain story of the little boy who was told to stand in a corner and not think of a white elephant.

— Jerome Frank, dissenting in United States v. Leviton.1

Trials are often infected with prejudicial evidence. Judges traditionally have relied on ritualistic admonitions to “cure” the problem, solemnly instructing jurors to disregard or limit their use of potentially inflammatory information. Most courts have assumed that jurors are capable of following such instructions, at least to some extent.

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1. 193 F.2d 848, 865 (2d Cir. 1951).
Empirical research on jury behavior demonstrates that this premise is false. Jurors are no better at disregarding prejudicial evidence than a child told not to think about elephants. This social science finding was first published over thirty years ago and has been widely disseminated to the legal community. The logical implication of these data is that the law of admonitions should be changed. However, comparative analysis of judicial opinions from 1958 and 1988 reveals that no significant legal change has occurred. Why not?

This article explores one facet of the relationship between social science and law: the conditions under which empirical research leads to change in the law. According to conventional theory, the law of admonitions should have been a prime candidate for science-based law reform. But despite thirty years of psychological research criticizing admonitions, no change has occurred. This suggests there must be another condition necessary for social science to affect law reform that has not previously been considered important. Comparing the failure of the admonition research to the success of the eyewitness research reveals one major difference: the literature on admonitions demonstrates that they are ineffective, but fails to show that any other procedure is any better. Thus, it appears that purely "negative" social science does not lead to law reform, even when all other important conditions seem satisfied.

Part One of this article summarizes existing theory on the conditions under which social science is likely to affect legal change. Part Two synthesizes the law and psychology of admonitions, and shows that this area of law is a good candidate for law reform according to conventional theory. Part Three compares samples of judicial opinions concerning admonitions from 1958 and 1988 using five variables that measure judicial behavior and finds that no statistically significant changes have occurred. Part Four asserts that the failure of this social research to lead to law reform occurred because the literature did not demonstrate that any other procedure would be more effective. Finally, Part Five suggests that an alternative method for handling prejudicial evidence exists that would be more effective than admonishing jurors not to think about elephants.

I. Social Science and Law Reform

One recurring theme in the law and social science literature concerns conditions under which empirical research will play a role in law reform. From even casual observation, it is apparent that social science sometimes affects law and sometimes does not. Social science was cited in the famous footnote eleven in Brown v. Board of Education\(^2\) in support of one of the most sweeping changes of law in this century. Research by

\[\text{2. 347 U.S. 483, 494 n.11 (1954).}\]
Elizabeth Loftus,³ Gary Wells,⁴ and other prominent psychologists on the unreliability of eyewitness identifications is having a significant effect on the way courts handle eyewitness testimony.³ On the other hand, research demonstrating that death qualification in capital cases produces conviction-prone juries has been presented to many courts but produced no change in the law.⁶ When the data were presented to the Supreme Court in Lockhart v. McCree,⁷ the majority disparaged it and reiterated their faith in existing death penalty procedures.

A number of theories have been propounded to explain conditions under which appellate courts will incorporate social science into legal policy. Prevailing theory addresses three issues: the minimal conditions necessary for social science to have any effect on legal policy, the maximum impact social science can have in the law reform process, and the factors that determine the extent to which social science will influence courts within this range.

Four threshold conditions are said to be necessary for empirical research to have any chance of motivating legal change. First, the research must appear to be relevant. Ruback and Innes assert that judges will view research as relevant only if it uses a realistic setting, investigates aspects of law that could actually be changed, and measures results in terms judges can understand, such as conviction rates rather than seven-point attitude scales.⁸ Second, the research must be accessible to lawyers. Most writers assert that accessibility requires publication in law journals rather than social science journals,⁹ although other forms of communication, such as through judicial center conferences, may also suffice. Accessibility also means comprehensibility — avoiding statistical form and scientific jargon.¹⁰ Third, time must pass. Hafemeister and Melton report that nonlegal materials generally are not cited by courts until they

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7. 476 U.S. 162 (1986); see also McCleskey v. Kemp, 481 U.S. 279 (1987) (statistical study demonstrating that death penalty operated in racially discriminatory manner rejected as irrelevant to death penalty law).
10. Michael J. Saks & Charles H. Baron, The Use/Nonuse/Misuse of Applied Social Research in the Courts 15 (1980) (remarks of Paul L. Rosen); id. at 44 (remarks of Adam Yarmolinsky); id. at 120 (remarks of Bernard Grofman and Howard Scarlow); id. at 154 (remarks of Charles H. Baron).
are at least five years old. Fourth, the area of law must not already be dominated by clear ideological divisions. If the law has already become embroiled in a political debate, such as abortion, gun control, and the death penalty, social science is not likely to play a role in setting legal policy.

Even if empirical research meets these minimal criteria, it may not significantly influence law. The extent to which courts are likely to use social science depends on additional factors. Social science will have a relatively greater impact under the following conditions: 1) the social science supports judges’ intuitive assumptions; 2) the citation of empirical research would help legitimate judicial decisions reached on political, practical, or common sense grounds; 3) the research is of high quality; 4) the literature has previously been used as authority in other judicial opinions; and 5) the data have penetrated the culture of the educated elite through the mass media or law school classes, producing a “ripple effect” as it becomes better known.

Other conditions decrease the likelihood that the courts will rely on social science. The heavier the concentration of statistics, the less likely that research will be used. The more social science contradicts religious faith or the sentiments essential to other social institutions, the less likely that it will influence legal policy. If the results of scientific research fail to support the policy predilections of lawmakers or contradict legal precedent, they are unlikely to have much influence. If judges believe

11. Hafemeister & Melton, supra note 9, at 43-44.
13. Gary Melton, Child Witnesses and the First Amendment: A Psycholegal Dilemma, J. SOC. ISSUES, at 109 (pointing out that Chief Justice Burger cited social science only in support of his view of the vulnerability of children that had been expressed in prior opinions); see also Saks & Baron, supra note 10, at 16 (remarks of Stephen L. Wasby).
15. Lempert, supra note 14, at 176.
17. Kalven, supra note 12, at 68-69; Lempert, supra note 14, at 181-84.
20. Lempert, supra note 14, at 184-85; J. Alexander Tanford, Law Reform by Courts,
a change in the legal rule would lead to political disruption, they may be reluctant to use it. 21

Under the best of circumstances, there is a maximum limit to the role social science is likely to play in determining policy. Three primary structural and institutional factors inherent in the nature of the legal system (or in individual subsystems) create this ceiling effect. First, because law is a normative institution, there will always be important issues of value that cannot be answered by social science. For example, empirical research can tell us that death-qualifying a jury will result in more convictions, but cannot answer whether an increase in the conviction rate is good or bad. 22 Second, because legal decisions are made by humans, they will reflect the general population's tendency to trust intuition over science. 23 Third, because legal policy is set by hundreds of individual judges, some policy-level decisions will inevitably be made by judges who are hostile to social science. Individual judges may be conservative and distrust what they perceive as social science's liberal bias. 24 Some judges may conceive of law as an autonomous discipline that needs no outside help to answer legal questions. They may fear loss of power, prestige, and control if they start relying on science. 25 Some judges simply may not understand the process by which scientists reach consensus and erroneously decide that the quality and quantity of research is insufficient to support the conclusion on which it is offered. 26 Within these limits, however, the admonition rule looks like a good candidate for social science-based law reform.

21. Thompson, supra note 6, at 202-04.
22. See Ronald Dworkin, Social Sciences and Constitutional Rights — the Consequences of Uncertainty, 6 J. L. & Educ. 3, 4-6 (1977); Tanford, supra note 18, at 157; see also Craig Haney, Psychology and Legal Change: On the Limits of a Factual Jurisprudence, 4 L. & Hum. Behav. 147, 158-71 (1980) (friction between different perspectives of law and social science is impediment to change).
26. Tanford, supra note 18, at 154-55. A good example is the Supreme Court's decision in Lockhart v. McCree, 476 U.S. 162 (1986). The American Psychological Association filed an amicus brief discussing the research demonstrating that death-qualified juries are conviction-prone, concluding that the research satisfied criteria for scientific reliability. Brief for Amicus Curiae American Psychological Association, Lockhart v. McCree, 476 U.S. 162 (1986) (No. 84-1865). The Court spent five pages criticizing the quantity and quality of the research. 476 U.S. at 168-72. It is impossible to say whether the inability of intelligent and well-educated judges to understand social science is genuine ignorance or contrived disingenuousness.
II. The Law and Psychology of Admonitions

Judges have long recognized that it is impossible to conduct a perfect trial.27 Rules of evidence and procedure will inevitably be broken and jurors exposed to prejudicial evidence. If new trials were granted for every error, few cases would ever be brought to conclusion. Therefore, the rule of law developed which required the trial judge to admonish jurors to disregard or limit their use of prejudicial evidence, but to continue the trial. Courts express the hope that these admonitions (often called "curative instructions") will in fact reduce the prejudicial impact of improper evidence so that the trial will remain fair.28

Some admonitions instruct jurors to completely disregard information and not consider it for any purpose in arriving at a verdict. A judge may admonish jurors to disregard evidence to which they should not have been exposed, such as seeing a defendant in shackles,29 finding out that a civil defendant has insurance,30 or hearing a police officer's opinion that a defendant has been involved in a series of unsolved robberies.31 A judge also may admonish the jury to disregard the judge's own improper conduct32 or an attorney's improper remarks.33

Courts traditionally have assumed that if jurors are instructed to disregard information, they will be able to do so. In Crocklin v. United States,34 the appeals court found that an instruction to disregard a prosecutor's remark that the sale of bootleg liquor increased the number of children killed on highways had been "effective." In State v. Ruyle,35 the court held that an instruction to disregard a witness's testimony that the defendant had been involved in other crimes had "corrected" the error. In People v. Schiers,36 the court presumed that jurors followed an instruction to disregard testimony that the defendant had failed a polygraph test.

Other admonitions instruct jurors to limit their use of information that is admissible for one purpose but not another.37 For example,

27. See Illinois v. Allen, 397 U.S. 337, 346 (1970) ("Being manned by humans, the courts are not perfect and are bound to make some errors.").
28. See, e.g., Anthony v. United States, 256 F.2d 50, 52-53 (9th Cir. 1958) (jurors "presumably followed" an instruction to limit their use of prior conviction).
32. Montgomery v. State, 760 S.W.2d 323, 328 (Tex. Ct. App. 1988) (judge informed jury about parole laws, then instructed them to disregard the information); see also Jackson v. State, 756 S.W.2d 82, 85 (Tex. Ct. App. 1988) (judge commented adversely on defendant's evidence and refused to instruct jury to disregard his expression of opinion; appellate court held that the admonition would have cured the error).
33. People v. Walker, 765 P.2d 70, 81 (Cal. 1988) (prosecutor insinuated that life sentence might enable defendant to get out of prison after only a few years; judge instructed jury to disregard it).
34. 252 F.2d 561, 562-63 (5th Cir. 1958).
35. 318 S.W.2d 218, 220 (Mo. 1958).
Federal Rule of Evidence 404(b) provides that evidence of other crimes is not admissible to show that a defendant has a tendency to commit criminal acts, but is admissible to prove his state of mind. Therefore, in United States v. Cuch, the judge admonished the jury that evidence of previous sexual assaults could not be considered as evidence a defendant committed the act of rape, but could be used as evidence of his intent. Limiting instructions also may be used if evidence is admissible against only one defendant among several who are being jointly tried.

Again, the law has traditionally assumed that limiting instructions are effective. In Anthony v. United States, the appeals court found that the jury "presumably followed" an instruction that evidence of prior drug crimes could not be considered on the question of whether the defendant possessed marijuana, but only on the issue of his intent. In People v. Jackson, the court "assumed that the jury heeded [an] instruction" that evidence of a growing drug problem in the community was inadmissible on the question of defendant's guilt, but could be considered as background concerning the police investigation.

In 1959, Dale Broeder published the results of experiments by the University of Chicago Jury Project demonstrating that admonitions to disregard evidence may be ineffective. He reported that their subjects had not followed instructions to disregard evidence that the defendant was insured. Indeed, the instruction only made things worse. Average jury verdicts increased from $33,000 to $37,000 when the jury was told the defendant was insured, but jumped to $46,000 when they were told to disregard the information.

Over the next twenty-five years, at least five other research teams reached similar results. Sue, Smith, and Caldwell demonstrated that instructions to disregard illegally obtained incriminating evidence were not only ineffective, but also tended to increase the prejudicial impact of the evidence. Wolf and Montgomery showed that admonitions to disregard evidence did not work, but only tended to aggravate the effect of the evidence, whether incriminating or exculpatory. Oros and Elman

38. 842 F.2d 1173, 1176-77 (10th Cir. 1988).
40. 256 F.2d 50, 53 (9th Cir. 1958).
42. Dale Broeder, The University of Chicago Jury Project, 38 NEB. L. REV. 744, 753-54 (1959); see also Harry Kalven, Jr., A Report on the Jury Project of the University of Chicago Law School, 24 INS. COUNS. J. 368, 377-78 (1957) (reporting results of same experiment).
43. Broeder, supra note 42, at 754.
44. Id.
found that instructing jurors to disregard a defendant’s negative personal characteristics resulted in the jury judging the defendant more, not less, severely. Thompson, Fong and Rosenhan obtained mixed results, finding that instructions to disregard exculpatory evidence were ineffective, but that instructions to disregard a police officer’s personal opinion of a defendant’s guilt had some effect. In only one study did the subjects follow instructions to disregard evidence. When Cornish and Sealy admonished subjects to disregard evidence of a defendant’s criminal record, the mock jurors appeared able to follow their instructions to a limited extent. However, this experiment used British subjects, so the results are probably not generalizable to this country.

The empirical research on limiting instructions reaches similar results. The original finding that limiting instructions may be ineffective or even make matters worse was made by researchers on the University of Chicago Jury Project. Harry Kalven and Dale Broeder concluded that jurors are either unwilling or unable to follow instructions that criminal record evidence be used only to determine a defendant’s credibility and instead routinely use it for the forbidden purpose of deciding whether the defendant committed the criminal act.

Over the next twenty-five years, other studies reached similar conclusions about the ineffectiveness of limiting instructions. Doob and Kirschenbaum found that evidence of a defendant’s prior record for similar crimes affected subjects’ guilt decisions despite an instruction that they limit their use of the evidence to a determination of the defendant’s credibility. Their experiment was structured so that the defendant did not supply any important evidence of his own innocence, so that a reduction in his credibility should not have affected guilt determinations. Hans and Doob found similar effects using a single prior offense. Wissler and Saks found that when criminal record evidence was admitted under a limiting instruction, subjects did not use it for the proper purpose of assessing credibility, but instead used it for the improper purpose of determining substantive guilt. Severance and


49. Methodological problems cast doubt on the reliability of this finding. Thompson did not measure the effect of the opinion evidence without an instruction, so they have to assume it would have had an impact on the jurors’ assessment of guilt. Id. Without knowing if a police officer’s opinion of defendant’s guilt would affect a jury in the first place, it is difficult to reliably determine whether an instruction to disregard reduces or aggravates the effect of the evidence.


53. Id. at 89-95.


Loftus\textsuperscript{56} demonstrated that jurors who had been given limiting instructions concerning a defendant's prior record showed no more understanding of the concept than those who had not been instructed. Tanford and Cox\textsuperscript{57} found that limiting instructions concerning criminal record evidence were also ineffective in civil cases.

Similar results have been obtained in experiments on the effect of joinder. Limiting instructions appear to be ineffective in preventing spillover effects from one charge to another, or from one defendant to another. Horowitz, Bordens, and Feldman\textsuperscript{58} demonstrated that if cases are joined for trial, the likelihood of conviction increases compared to trying the cases separately, despite limiting instructions to consider evidence separately. Greene and Loftus\textsuperscript{59} found that if trials are joined, there is a significantly greater likelihood of conviction on each count than if the counts were tried separately, despite limiting instructions. Tanford and Penrod\textsuperscript{60} also found that joinder increases conviction rates when charges are similar, and that a limiting instruction has no effect. Only one experiment found a marginal effect for limiting instructions, but the psychologists who conducted it doubted the efficacy of the finding.\textsuperscript{61}

It is always problematic to generalize results reached in mock-jury studies to real trials. No simulated trial can replicate all the complexities of an actual trial. The external validity of mock-jury studies is further reduced when psychologists overuse college students as subjects, measure individual jurors' decisions instead of jury verdicts after deliberations, use guilt-scales and other kinds of measures other than verdicts, and omit opening statements, closing arguments, and other aspects of the adversary system.\textsuperscript{62} However, the admonition research reaches consistent results in numerous studies using different simulation methods and a variety of subjects so that the risks of over-generalization are minimal. It is safe to say that the research demonstrates that it is far more likely that admonitions are ineffective than that they work as the courts intend.\textsuperscript{63}

\textsuperscript{58} Irwin A. Horowitz et al., \textit{A Comparison of Verdicts Obtained in Severed and Joined Criminal Trials}, 10 J. Applied Soc. Psychol. 444, 448-54 (1980).
\textsuperscript{63} See supra notes 51-61 and accompanying text.
Conventional theory predicts that the admonition rule should be a good candidate for social science based law reform. All four threshold conditions are met. First, the empirical research meets the apparent relevancy test. The research studies a real problem (juror reactions to evidence) and a real procedure that could be changed (requiring admonitions). Most of the studies express the results in terms judges can understand, such as verdict dollar amounts and conviction rates. Second, these data are easily accessible to lawyers and judges. They have been disseminated through law reviews and interdisciplinary journals listed in the Index to Legal Periodicals. The research has been summarized and discussed in non-statistical terms in books readily available to lawyers and law students. Third, more than enough time has passed for the research to have been discovered by lawyers. The literature has been available for over thirty years. Fourth, the propriety of using admonitions is not the subject of public political debate. As trial procedures go, their use does not implicate any obvious ideological division. Civil parties, prosecutors, and criminal defendants may all be helped or hurt by improper evidence, so all have interests in finding ways to minimize the prejudicial effect of that evidence. Even on appeal in criminal cases, where political interests generally favor affirming convictions, neither approving nor disapproving admonitions will necessarily further that goal. Recognizing the ineffectiveness of admonitions would sometimes favor defendants' requests for new trials when admonitions were given and sometimes favor states' assertions of harmless error when admonitions were not given.

In addition, many of the additional factors that increase the extent to which social science should influence legal change are present. The data support the intuitive assumptions of a substantial minority of judges. For example, in one survey, 43% of judges stated that they did

64. See supra notes 8-12 and accompanying text.
65. E.g., Broeder, supra note 42, at 753-54 (instructing jurors to disregard insurance caused their average verdicts to increase from $37,000 to $46,000).
66. E.g., Greene & Loftus, supra note 59, at 201 (guilty verdicts); Hans & Doob, supra note 54, at 242-43 (guilty verdicts after deliberation).
67. See generally Broeder, supra note 42; Cornish & Sealy, supra note 50; Doob & Kirschenbaum, supra note 52; Hans & Doob, supra note 54; Kalven, supra note 12.
68. See generally Greene & Loftus, supra note 59; Tanford & Cox, supra note 57; Tanford et al., supra note 61; Wissler & Saks, supra note 55.
71. See Broeder, supra note 42; Kalven, supra note 12; Thompson et al., supra note 48 (all published between 1958 and 1961).
72. See J. Alexander Tanford, Closing Argument Procedure, 10 AM. J. TRIAL ADV. 47, 137 n.406 (1986) (concluding approximately 85% of criminal convictions are affirmed on appeal).
73. E.g., United States v. Cuch, 842 F.2d 1173, 1176-77 (10th Cir. 1988).
74. E.g., Julius v. Johnson, 840 F.2d 1533 (11th Cir. 1988).
75. See supra notes 13-21 and accompanying text.
not think jurors could really follow limiting instructions. In some opinions, judges have expressed doubts about the efficacy of admonitions and could have used the research to support and legitimate those decisions. Some of the research is of particularly high quality. Many of the articles describing the data have been cited in judicial opinions. The research has been taught for almost ten years to law students, so it has had a chance to percolate into legal knowledge. Have these data had any impact on the development of law?

III. Inertia and Change in Judicial Opinions

Admonitions are largely the product of case law. Therefore, to investigate whether social science research on the ineffectiveness of admonitions has produced any legal change, appellate court opinions from 1958 to the present were examined. A computer-assisted search through the LEXIS database for all cases containing variations of the terms by which admonitions are known produced 41,158 citations. Close examination of several samples showed that only about 55% of these opinions would be relevant. A relevant opinion was one in which an appellate court reviewed a trial judge's decision to give or withhold an admonition or which evaluated the seriousness of an underlying evidentiary error after an admonition had been given. These opinions were reviewed to investigate two related questions: 1) is the empirical research on the inefficacy of admonitions having any direct effect on appellate opinions? and 2) if no direct effect is evident, might the research be having an indirect impact on judicial behavior? Some writers predict that empirical research will more probably affect law indirectly, as new knowledge penetrates the culture of the educated elite.

76. Note, To Take the Stand or Not To Take the Stand: The Dilemma of the Defendant With a Criminal Record, 4 COLUM. J. L. & SOC. PROBS. 215, 218 (1968); see also Krulewitch v. United States, 336 U.S. 440, 453 (1949) (Jackson, J., concurring) ("[t]he naive assumption that prejudicial effects can be overcome by instructions to the jury . . . all practicing attorneys know to be unmitigated fiction").

77. E.g., State v. Curry, 436 N.W.2d 371 (Iowa Ct. App. 1988) (judge admonished jury to limit use of incriminating hearsay, appellate court reached intuitive conclusion that the instruction was "inadequate to cure prejudice"); Durkin v. Equine Clinics, Inc., 546 A.2d 665 (Pa. Super. Ct. 1988) (joint malpractice trial against veterinarian and clinic in which some evidence admissible only against doctor; appellate court reached conclusion that an effective limiting instruction was not possible).

78. See Christy A. Visher, Juror Decision Making: The Importance of Evidence, 11 L. & Hum. Behav. 1, 6 (1987) (singling out the study by Tanford & Penrod, supra note 60, as being of particularly high quality).

79. See, e.g. United States v. Lewis, 787 F.2d 1318 (9th Cir. 1986); People v. Allen, 420 N.W.2d 499 (Mich. 1988) (citing Doob & Kirschenbaum, supra note 52; Hans & Doob, supra note 54; Wissler & Saks, supra note 55; Note, supra 51); State v. Biegenwald, 524 A.2d 13 (N.J. 1987) (citing Sue et al., supra note 45; Wolf & Montgomery, supra note 46); State v. Burton, 676 P.2d 975 (Wash. 1984) (citing Doob & Kirschenbaum, supra note 52; Hans & Doob, supra note 54; Thompson, supra note 48).

80. See, e.g., Tanford, supra note 70, at 311.

81. Carol Weiss, The Diffusion of Social Science Research to Policymakers: An Overview, in Reforming the Law: Impact of Child Development Research 71 (G. Melton ed., 1987) (calling the process "enlightenment through knowledge creep"); see also Kalven, supra note 12, at 68-69 (social science influences law only after it becomes part of general knowledge of judges).
A. Direct Effects

To investigate whether the psychology literature was playing a direct role in judicial decision-making, a computer-assisted LEXIS search of all relevant opinions was conducted for citations to the juror behavior studies or use of the terms ‘‘empirical data,’’ ‘‘empirical research,’’ ‘‘social science,’’ or ‘‘psychology.’’ That search yielded only twenty-four cases (0.1%) containing citations to the jury behavior literature.\(^8\) Even among these twenty-four appellate opinions, many judges did not understand, did not accept, or reached decisions inconsistent with the very empirical research they cited. For example, in *Thompson v. United States*, an appellate court cited *Other Crimes Evidence at Trial: Of Balancing and Other Matters* for its conclusion that jurors cannot follow limiting instructions, yet held that such instructions generally are effective. In *Clarke v. Vandermeer*, *State v. Honomichl*, and *State v. Burton*, jury behavior research was discussed and relied on by only a minority of dissenting judges in decisions that approved the use of admonitions.

A close reading of a sample of relevant opinions from 1988 revealed no other references to social science research, and no evidence that the judges had ever heard of the psycholegal literature. Appellate judges are still insisting that admonitions are effective in reducing harm caused by inadmissible evidence, improper argument, and other prejudicial events. Several cases are typical. In *Montgomery v. State*, the trial judge had given jurors information that a defendant could get out on parole and then instructed them to disregard it. Although it would be unconstitutional for the jurors to consider the parole laws in arriving at a verdict, the appellate court affirmed the conviction, ‘‘presum[ing] not only that the jurors followed the Court’s instructions, but that they followed them to the letter.’’ In *State v. Foster*, a witness had testified that the

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\(^84\) *Note*, *supra* note 51.

\(^85\) *740 P.2d 921, 931-32* (Wyo. 1987).

\(^86\) *410 N.W.2d 544, 553* (S.D. 1987).

\(^87\) *676 P.2d 975, 986-87* (Wash. 1984).


\(^89\) *760 S.W.2d 323* (Tex. Ct. App. 1988).


\(^91\) *760 S.W.2d at 327."

defendant was involved in other crimes, and the judge admonished the jurors not to consider that evidence. Although it would be a serious violation of the rules of evidence for the jurors to consider the defendant's criminal record, the appeals court upheld the conviction, stating that "the law . . . directs (and properly so) that a jury is presumed to have followed the instructions of the court." In *Julius v. Johnson*, the prosecution had introduced evidence of the defendant's criminal record. The defense attorney had requested that no limiting instruction be given for fear it would produce the kind of boomerang effect the studies found. The appellate judges, however, believed so strongly in the efficacy of limiting instructions that they held that failure to ask for one amounted to ineffective assistance of counsel.

B. Indirect Effects

To investigate the possibility of indirect effects, a random sample of 151 relevant opinions from 1958 was compared to a sample of 154 such cases from 1988. Using a LEXIS search, the total population of relevant opinions in 1958 was estimated to be 225 cases; for 1988, it was 1350 cases. The ratio of state to federal cases in each population was just over 3:1. A two-thirds random sample of 1958 cases produced 151 appellate opinions from nine federal circuits and twenty states. A one-eighth random sample of the 1988 cases produced 154 appellate opinions from ten federal circuits and thirty-six states.

All 305 opinions were reviewed to determine the presence or absence of five variables designed to measure whether judicial behavior was consistent with the psycholegal literature on admonition ineffectiveness:

1) Does the court invoke the formal cured-error doctrine? The cured-error doctrine provides that a reviewing court does not have to reverse a judgment for errors that occurred during trial if the right admonitions were given. For example, in *Gowin v. State*, a sheriff testified that a drunk-driving defendant had prior arrests for the same offense. This evidence was legally inadmissible and would usually require that the conviction be reversed because of the strong likelihood that the jury would be affected by it. In *Gowin*, however, the trial judge had instructed the jury to disregard the evidence, so the appellate court invoked the cured error doctrine and affirmed the conviction.

2) Does the appellate court reach a result consistent with the jury behavior research, regardless of whether the result is justified by referring

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93. *Id.* at 849.
94. 840 F.2d 1533 (11th Cir. 1988).
95. *Id.* at 1539.
96. *Id.* at 1540-41.
97. I estimated population of relevant opinions by multiplying total citations by 0.55.
98. 760 S.W.2d 672 (Tex. Ct. App. 1988).
99. See Hans & Doob, *supra* note 54, at 242-43 (prior record for similar offense made significant difference in number of guilty verdicts); Wissler & Saks, *supra* note 55, at 41-42 (prior offense increased conviction rate).
100. 760 S.W.2d at 676.
to psychology? For example, in *Camillo v. State*, the prosecutor had violated the rules of evidence when she tried to prove that an arson defendant had a prior criminal record. The defendant complained on appeal that his lawyer had been ineffective because the lawyer had not requested an admonition. The court denied the appeal based on its intuition that the instruction would not have been helpful to the defendant.

3) Does the appellate court concede anywhere in the opinion that admonitions are problematic? For example, in *State v. Foster*, the jury had been improperly told that the defendant had a prior criminal record, whereupon the trial judge had instructed them to disregard the evidence. The defendant appealed, arguing that the instruction was not effective. The appellate court "concedes that such a charge often presupposes a mentality of contortionistic proportions on the part of the fact finder," but affirmed the conviction anyway because the instruction was better than doing nothing.

4) Does the appellate court allude in any way to social science, psychology or empirical research, or show any awareness that research has been conducted, regardless of whether any specific source is cited? For example, appellate judges might state their impressions that psychologists had shown admonitions to be ineffective, but be unable to recall the source.

5) Does the court criticize the practice of giving admonitions on any basis? There have always been some skeptical judges who believed these instructions did not work. For example, Justice Jackson, concurring in *Krulewitch v. United States*, wrote that "[t]he naive assumption that prejudicial effects can be overcome by instructions to the jury . . . all practicing attorneys know to be an unmitigated fiction." In *Dunn v. United States*, the court wrote that "one cannot unring a bell; after the thrust of the saber it is difficult to say forget the wound; [and] . . . if you throw a skunk into the jury box, you can't instruct the jury not to smell it."

Comparing 1958 to 1988 opinions, no statistically significant variation was found for any of these five dependent measures (see Table). Despite thirty years of consistent data showing the inefficacy of admo-

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102. Id. at 237.
103. Id. at 239-41.
105. Id. at 847.
106. Id. at 849; see also Bruton v. United States, 391 U.S. 123, 135 (1968) (limiting the admissibility of separate confessions in joint trials because "there are some contexts in which the risk that the jury will not, or cannot, follow [limiting] instructions is so great, . . . that the practical and human limitations of the jury system cannot be ignored.").
108. Id. at 453.
109. 307 F.2d 883 (5th Cir. 1962).
110. Id. at 886.
nitions, courts continue to approve them and treat them as if they actually prevented prejudice.

<table>
<thead>
<tr>
<th>Table</th>
<th>Change in Judicial Use of Admonitions, 1958-1988</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Percentage of Opinions in which variable appears</td>
</tr>
<tr>
<td></td>
<td>1958 (n = 151)</td>
</tr>
<tr>
<td>Dependents variables</td>
<td></td>
</tr>
<tr>
<td>1. Cured error doctrine not invoked</td>
<td>.762</td>
</tr>
<tr>
<td>2. Result consistent with psychology</td>
<td>.166</td>
</tr>
<tr>
<td>3. Recognition that instructions problematic</td>
<td>.093</td>
</tr>
<tr>
<td>4. Allusion to social science in any way</td>
<td>.000</td>
</tr>
<tr>
<td>5. Criticism of use of instructions</td>
<td>.020</td>
</tr>
</tbody>
</table>

* For all variables, change was expected in a positive (+) direction.

If the social science literature on the ineffectiveness of admonitions were percolating into the knowledge of judges, the frequency with which courts invoke the cured error doctrine should decline. No such change has occurred. The frequency with which the doctrine was invoked has remained constant. In the sample of 1958 cases, 23.8% of appellate courts invoked the cured error doctrine. In the sample of 1988 opinions, 23.4% invoked the doctrine.

If the jury behavior research were having an indirect effect, the number of judges who feel uneasy about admonitions should increase. That should result in an increase in the number of cases in which appellate judges reach results consistent with the empirical research, regardless of the reasons they articulate. No such change occurred. In fact, the frequency of consistent results declined by one-third. In the sample of 1958 opinions, 16.6% of appellate courts reached results consistent with the subsequent experimental discoveries. In the sample of 1988 cases, only 11.0% reached results consistent with the literature.

If judges were absorbing anything from the jury behavior research, the 1988 opinions should contain more concessions that admonitions are problematic, regardless of the eventual decision. No such increase was found. In fact, the number of appellate opinions expressing doubts about the efficacy of admonitions decreased. In the sample of 1958 cases, 9.3% expressed the belief that admonitions were problematic. In the
1988 sample, only 4.6% contained any such expressions of doubt.

Obviously, none of the 1958 opinions contained any indirect reference to empirical research because it had not yet been conducted. A significant number of cases were expected to be found in the 1988 sample in which appellate judges summarized their impressions, perhaps left over from law school, that psychologists had demonstrated that admonitions did not always work. However, only one such case (0.7%) turned up.

If the knowledge gained from research on admonitions were being transmitted to judges, one would expect to see an increase in the number of appellate opinions containing critical or skeptical statements. No such increase was found. Among the sample of 1958 cases, 2.007% contained critical comments. In the 1988 sample, only 0.7% contained any criticism of, or expressed skepticism about, the efficacy of admonitions.

In sum, comparing 1988 appellate opinions to 1958 opinions, across five dependent measures, suggests that the empirical research on admonitions has had absolutely no effect on judicial behavior. Not a single variable showed a statistically significant change in a direction consistent with the psycholegal literature. Although thirty years of empirical research demonstrates the inefficacy of admonitions, judges in 1988 still rely on them as often, and use them as uncritically, as they did in 1958.

IV. Why No Change? The Problem of Negative Research

According to conventional theory on the interaction between social science and law, some change in the law of admonitions should have occurred. It did not. Courts have not relied on the psychology literature as authority, cited it, or used it to legitimate their decisions. Nor has the research had any kind of measurable indirect effect on legal policy. Courts in 1988 seem to be using admonitions exactly as they were thirty years ago, completely uninfluenced by empirical data.

To understand why the empirical research on admonitions has had no effect on the law of admonitions, it may be helpful to compare the nature of the admonition research with the empirical research on eyewitnesses. The body of psycholegal literature on eyewitness unreliability is similar to the admonition literature in many ways. The eyewitness research comes from the same field — social psychology — and even from some of the same psychologists who studied admonitions. The bulk of the eyewitness literature was published over the same time period

111. For example, Harry Kalven predicts that one way social science will have an impact on the law is by becoming part of the information lawyers learn in law school. Kalven, supra note 12, at 68-69.

112. See generally LOFTUS, supra note 3 (the classic book on the subject).

113. E.g., Greene & Loftus, supra note 59, at 201-04 (limiting instructions in joint trials); Elizabeth F. Loftus & Edith Greene, Warning: Even Memory for Faces May Be Contagious, 4 L. & HUM. BEHAV. 323 (1980) (eyewitness unreliability).
— the last thirty years. The eyewitness research also meets the threshold conditions of apparent relevancy, accessibility, longevity, and relative political neutrality. Citations to it appear in appellate opinions. Concerns about possible misidentifications implicate the same basic trial norms as concerns over possible misuse of prejudicial information.

Despite these similarities, the eyewitness research has had a significant impact on legal change. Some courts have changed their rules of evidence to permit expert testimony on the dangers of eyewitness unreliability. Others have modified their practice to require giving cautionary instructions. No such changes in the law have occurred in response to the admonition literature. What accounts for the difference?

Of the factors currently thought to affect the interaction between social science and law, only one could have any significant role in explaining the difference between the impact of the eyewitness research and the non-impact of the admonition research: the extent to which it has penetrated the legal culture. In sheer quantity, the eyewitness research outweighs the admonition research by a wide margin. The literature on eyewitnesses comprises over 100 social science articles and a dozen law review articles. There are barely two dozen social science articles on admonitions and only a handful of law review pieces. More articles


115. See supra notes 8-12 and accompanying text.

116. The eyewitness research studies a real problem (mistaken identity) and uses variables that could be changed, such as whether to give a cautionary instruction. E.g., Edith Greene, Judge’s Instruction on Eyewitness Testimony: Evaluation and Revision, 18 J. APPLIED SOC. PSYCH. 252, 262-66 (1988) (comparing different versions of cautionary instructions). Many studies express results in terms judges can understand. David Egan et al., Eyewitness Identification: Photographs vs. Live Models, 1 L. & HUM. BEHAV. 199 (1977) (number of misidentifications). E.g., Glenn Sanders & Dell Warnick, Some Conditions Maximizing Eyewitness Accuracy: A Learning-Memory Analogy, 8 CRIM. JUST. 395 (1980). See generally Ruback & Innes, supra note 8, at 683-84 (criteria for apparent relevancy).


118. E.g., JAMES MARSHALL, LAW AND PSYCHOLOGY IN CONFLICT 41-81 (1966); Woocher, supra note 117.

119. E.g., Loftus, supra note 3, is cited in United States v. Langford, 802 F.2d 1176, 1182 (9th Cir. 1986) (Ferguson, J., dissenting) and Harker v. Maryland, 800 F.2d 437, 440 (4th Cir. 1986).

120. See Tanford, supra note 18, at 157-66.


124. See supra notes 42-61.

125. E.g., Broeder, supra note 42; Robert R. Calo, Joint Trials, Spillover Prejudice, and the
on eyewitness unreliability than admonition ineffectiveness have appeared in practitioner journals.\textsuperscript{126}

However, the difference in the \textit{quantity} of research and publication is likely to affect the extent to which social science influences law, not whether it has \textit{any} impact. A critical mass of literature is probably needed for research to be adequately accessible to lawyers and judges. However, the admonition literature meets that criterion: It has been disseminated through law reviews, the A.B.A. Journal, and appellate (often dissenting) opinions.\textsuperscript{127} The fact that it has produced no legal change at all, instead of producing a little change, suggests that the research failed to satisfy a threshold condition. Because all four generally accepted conditions are satisfied, there must be an additional threshold condition that is necessary for social science to affect law.

Comparing eyewitness and admonition research, one difference stands out that does not fit into any of the previously articulated conditions. The admonition research is negative. It demonstrates that the law does not work properly but fails to offer a feasible alternative that is compatible with trial procedures. On the other hand, the research on eyewitnesses is both negative and positive. It demonstrates that traditional trial procedures are ineffective and also that two alternatives — either using expert testimony or giving proper cautionary instructions — would produce better trials.\textsuperscript{128}

This suggests that purely negative empirical research is unlikely to lead to law reform. Thus, the presence of constructive alternatives in the research should be added as a fifth threshold condition. It is not enough for social scientists to tell us that the legal system works imperfectly. They must be able to demonstrate that some realistic option works better if they expect to have any impact on law reform.

\section*{V. Finding an Alternative}

If social science expects to contribute to the reform of the admonition rule, psychologists must find an alternative. Does another method for handling prejudicial evidence exist that would be more effective than admonishing jurors not to think about elephants? Psychological theory suggests one that would be compatible with ordinary trial procedure:
forewarn jurors and obtain public commitments from them that they will not misuse improper evidence.

The judge could initially forewarn jurors by instructing them that lawyers or witnesses may try to persuade them with improper evidence which they will be able to recognize by the judge’s sustaining of an objection. In some contexts, this kind of procedural forewarning has been shown to be effective to immunize listeners against persuasion, even when they do not know what the content of the improper information will be. A warning that attorneys may try to persuade them through improper evidence may make jurors feel they are being manipulated and may cause them to react against this loss of freedom — what psychologists call reactance theory. Jurors forewarned will be motivated to actively counterargue against improper information.

Jurors’ motivations to counterargue against improper information will be reinforced if the jurors make public commitments to resist being influenced by improper evidence. The judge can ask each juror to promise not to consider improper evidence to which objections are sustained. Studies show that people will be more motivated to behave in certain ways if they have some ego-involvement; i.e., if there are personal consequences associated with deviant behavior. Public commitments provide that personal interest and therefore confer resistance to persuasion. The desired behavior is even more likely to occur if people have to actively defend their commitments, as jurors might during deliberations.

The judge should explain that the judge and other jurors expect this behavior, and that it would be a violation of the principles of a fair trial to consider evidence to which an objection has been sustained. The judge should then elicit individual, public commitments from each juror. Public commitments are more effective than private promises, individual commitments are better than group affirmations, and commitments linked to personal values and people who are admired are made stronger.

Then, during the trial, objections to improper evidence could be sustained but no contemporaneous admonition given. Sustaining the objection should provide the cue that triggers reactance against the information and motivates jurors to muster arguments against it. In the final charge, the judge should remind jurors of the general rule and


131. McGuire, supra note 129, at 263-64 (forewarning more effective if accompanied by initial commitment).


133. See McGuire, supra note 129, at 293.

134. Id. at 293-94.
their commitment to follow it. Wolf and Montgomery's research suggests this might be a more effective procedure than the current practice of contemporaneous admonitions. Whether this promising procedure will in fact reduce the prejudicial impact of evidence is uncertain. Only future experimentation and empirical testing will answer that question.

VI. Conclusion

Thirty years of empirical research demonstrates that admonishing jurors to disregard or limit their use of prejudicial evidence is ineffective. In some cases, admonitions only make things worse. This research has been brought to the attention of the legal community but has produced no measurable change in judicial behavior. Judges still give admonitions and appellate courts still approve their use.

The failure of this body of social science to contribute in any way to legal change cannot be explained by conventional theories on the interaction between social science and law. The admonition research meets the minimal criteria of apparent relevancy, accessibility, longevity, and relative political neutrality. It satisfies many of the conditions thought to increase the extent to which social research will affect law because it coincides with many judges' intuitions, could help legitimate politically difficult decisions reversing convictions, has been cited in a number of appellate opinions, has been taught in law schools, is not heavily statistical, and does not obviously conflict with faith or common sense. A change in the rule, if applied prospectively, would not lead to major political disruption. The law of admonitions appears to be a good candidate for social science-based law reform.

The admonition rule should have changed, but it did not. This suggests that some other threshold condition is necessary before social science will contribute to changes in law. Comparing the admonition research to more successful psycholegal collaborations, such as eyewitness testimony, reveals one significant difference that is not accounted for under conventional theory: the empirical research on admonitions is purely negative. Nowhere in the social science literature is any better alternative offered. Without that alternative, even if judges wanted to change their practices, they would not know what new procedure to adopt. Until psychologists demonstrate the superiority of a different procedure, such as forewarning and obtaining commitments, the law is unlikely to change.

135. The reminder serves as a second immunization against misuse of evidence during deliberations. Petty and Cacioppo doubt that warnings of persuasive intent act as rejection cues leading people to discount a message without considering it, so that a warning after the fact would have little effect on information already received. PETTY & CACIOPPO, supra note 130, at 126-27.
136. Wolf & Montgomery, supra note 46, at 216.