SELLING BLUE ELEPHANTS TO THE JURY: POTENTIAL APPLICATION OF RULE DEVELOPING EXPERIMENTATION IN LITIGATION

James E. Wren* and Timothy C. Williams**

I. Introduction

Rule Developing Experimentation (RDE) is an experimentation research method utilized to discover what appeals to customers without regard to whether the customers are themselves able to articulate what appeals to them.[1] This methodology has been successfully used in the creation of

* James E. Wren is an Assistant Professor at Baylor Law School teaching Practice Court and Advanced Trial Preparation. He wishes to thank Dr. Howard Moskowitz, Dr. Alan Perry, Rex Parris, David Moskowitz, and the other authors of "Experimental Design Applied to Jury Communication" (Appendix 1) for their potentially groundbreaking insights.

products and messages ranging from the food and beverage industry to public policy.[2] Does RDE have the potential to help design the message for a jury?

Although the use of RDE in the legal profession is a new concept, its prospects are intriguing. It provides a supplemental alternative to the use of focus groups, which have long been a staple of jury research. In addition to overcoming some of the problems associated with the use of focus groups, RDE offers the potential to help the legal practitioner evaluate case themes and theories, identify particular elements of a theme that are effective or ineffective, determine what aspects of the case to emphasize or deemphasize, determine in which order or sequence to present anything from witnesses to exhibits, determine what messages are particularly persuasive to segments of the jury, and enable the practitioner to effectively select a jury based upon segmentation.

This Article considers the possible application and benefits of RDE to the legal profession. Part II provides a brief background of focus groups and examines the current problems faced by practitioners when using focus groups, including statistical invalidity and the inability of the practitioner to determine why the focus group members take certain positions. Part III discusses the purpose of RDE and its application outside the legal profession. Part IV provides an analysis of the potential uses of RDE in the legal profession and includes results from a study of victim impact statements.

II. PROBLEMS ASSOCIATED WITH FOCUS GROUPS

To understand the potential usefulness of RDE, it is first helpful to understand some of the problems that plague focus groups. Although focus groups are valuable research tools, they have limitations.

[**] Timothy C. Williams received his JD from Baylor University in 2008. He has a political science degree from McMurry University. He also wishes to thank the authors of "Experimental Design Applied to Jury Communication."

[1] For a definition of RDE, see HOWARD R. MOSKOWITZ & ALEX GOFMAN, SELLING BLUE ELEPHANTS: HOW TO MAKE GREAT PRODUCTS THAT PEOPLE WANT BEFORE THEY EVEN KNOW THEY WANT THEM 3 (Tim Moore ed., Wharton School Publishing 2007) (defining RDE as "a systematized solution-oriented business process of experimentation that designs, tests, and modifies alternative ideas, packages, products, or services in a disciplined way so that the developer and marketer discover what appeals to the customer, *even if the customer can't articulate the need, much less the solution*").

[2] *See generally id.* (discussing RDE and its various applications).

Focus groups are research tools that explore a variety of topics and issues.[3] The use of focus groups as a research tool dates back to World War II, when sociologists used these groups to test the effectiveness of wartime propaganda and the social effects of mass communication.[4] Following the war, the use of focus groups expanded to encompass research of everything from products to movie endings.[5] Eventually, the use of focus groups found its way into the legal profession as a tool to help test themes, biases, and issues in a case.

Although there are numerous variations in the specifics, focus groups are most often controlled by a moderator who introduces small amounts of information to the group, facilitates discussion among the group, and obtains the group's reaction to the information provided.[6] This structure enables the free flow of ideas by allowing the moderator to lead a discussion and focus on important case issues, case themes, viability of claims, and potential strengths and weaknesses of a case.[7] Among other benefits of focus groups, the moderator is able to discover the focus group's perceptions of the case, which enables the legal practitioner to better understand how the case or issues are perceived.[8] However, despite these benefits, focus groups often leave an attorney with as many questions left unanswered as answered.

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[3] RICHARD C. WAITES, COURTROOM PSYCHOLOGY AND TRIAL ADVOCACY 175 (ALM Publishing 2003); s*ee also* Alltel Corp. v. Actel Integrated Commc'ns, Inc., 42 F. Supp. 2d 1265, 1269 (S.D. Ala. 1999) (stating that the "purpose of focus group research is to gain more in-depth understanding of the reasons behind consumer's opinions"); Joni E. Johnston, *Avoiding the Pitfalls of Sloppy Focus Groups*, 47 ORANGE COUNTY LAW 40, 40 (2005) (stating that focus groups allow attorneys to test their theories, themes and arguments with a group similar to the potential jury).

[4] AMY J. POSEY & LAWRENCE S. WRIGHTSMAN, TRIAL CONSULTING 84 (Ronald Roesch ed., Oxford University Press 2005).

[5] *Id.*

[6] *Id.* at 80.

[7] *See* WAITES, *supra* note 3, at 176; *see also* POSEY & WRIGHTSMAN, *supra* note 4, at 80 (noting that the discussion is determined or focused by the moderator in order to obtain a variety of information).

[8] *See* WAITES, *supra* note 3, at 176 (listing potential benefits of focus groups as discovering the fact finder's perceptions of the case of issues, discovering the issues most important to the jury, determining how to handle weaknesses, determining how to present strong points, uncovering the most powerful story, discovering how jurors will react to key facts and witnesses, discovering any overlooked issues, receiving feedback on demonstrative exhibits, and determining the likely range of damages a jury would award).

A. Statistical Invalidity

Focus groups are routinely composed of six to twelve people.[9] Although this size approximates the numbers that an attorney will see on a jury, this small sample size is troublesome. Because focus groups are composed of such small numbers, they can never reliably represent a large diverse population.[10] Thus, the results reached by a focus group cannot be generalized and applied to a potential jury pool because those results do not necessarily represent the same results that would be reached if the sample size were larger.[11]

Compounding this problem is the fact that the members of a focus group are often not randomly selected.[12] For example, focus groups are sometimes assembled through newspaper advertisements.[13] As a result, these groups may not be adequately screened for any potential bias or connection to the case for which they would likely be dismissed for cause at the actual trial.[14] Further, those few who respond to the advertisement in the newspaper are not necessarily representative of the larger potential jury pool.[15] Consequently, any results or conclusions gathered from these focus groups are further removed from the actual results likely to be attained from the pool of jurors selected for trial. As such, the information gathered from a focus group is not statistically reliable and therefore must be viewed with a certain level of skepticism.[16]

B. Social Demands of the Group

Another pitfall of focus groups is the potential for skewed results from group think. Basically, the focus group will not yield genuine results because the group members deliver their opinions in the presence of the

[9] POSEY & WRIGHTSMAN, *supra* note 4, at 176; Jack H. Nagel, *Combining Deliberation and Fair Representation in Community Health Decisions*, 140 U. PA. L. REV. 1965, 1981 (1965) (stating that focus groups are typically groups of between eight and twelve people).

[10] Nagel, *supra* note 9, at 1982.

[11] *See id.* at 1982–83.

[12] POSEY & WRIGHTSMAN, *supra* note 4, at 85.

[13] *Id.*

[14] *Id.*

[15] *Id.*

[16] Alltel Corp. v. Actel Integrated Commc'ns, Inc., 42 F. Supp. 2d 1265, 1269 (S.D. Ala. 1999).

group.[17] As such, input is not anonymous. The lack of anonymity in focus groups may lead members of the group to respond in a certain way. These responses may be crafted to appease the questioner, to end the session sooner, to agree with other members, to gain admiration or to achieve group cohesion.[18] Further, group members who are asked their opinion last will often mirror the views of those who expressed their opinions first.[19] Thus, members of the group may not express their true opinions but rather conform their answers to appease other members or the moderator.[20] Although this process also occurs in jury deliberations, the personalities that drive a focus group in one direction are not necessarily reflective of the personalities that will drive the ultimate jury in a different direction. This further exacerbates the statistical invalidity of the group's results, while simultaneously leaving the attorney unable to assess whether the responses of individual group members are genuine or the result of the social influences mentioned above.

C. Subjective Analysis

Another problem with focus groups is that the results reached cannot be calculated using a quantitative method.[21] Instead of using numerical data that is statistically analyzed, focus groups require the researcher to "extract themes and draw conclusions from the group dialogue, a process that can easily be influenced by researcher bias."[22] In other words, there is no hard numerical data to objectively verify. The researcher is left to formulate the results of the focus group based on the researcher's own perceptions of the focus group's input. As such, despite the best efforts of the researcher, personal bias or desire to reach a particular result may influence the subjective analysis. Thus, the results reached in the focus groups could be inaccurate if the researcher misconstrues the opinions and views of the group members.[23]

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[17] POSEY & WRIGHTSMAN, *supra* note 4, at 84.

[18] *Id.*

[19] *Id.*; *see also* SUNWOLF, PRACTICAL JURY DYNAMICS 2, 21 (Matthew Bender & Company, Inc. 2007) (recognizing the "strong relationship between first ballots and final verdicts" because deliberations may influence the outcome).

[20] POSEY & WRIGHTSMAN, *supra* note 4, at 84.

[21] *Id.* at 86.

[22] *Id.*

[23] *Id.*

D. Determining "Why"

Perhaps one of the largest problems with the use of focus groups in the legal profession is the inability to accurately determine why the group members reached a certain result or expressed a particular view. As mentioned earlier, focus groups are given small pieces of information and asked for a result.[24] This is beneficial as it allows the researcher to gather the results given by the members. However, when the focus group is asked why, the members may not have a reason why they reached the answer, or, if there is a reason, they may not be able to precisely articulate it. Further, even if the members give a reason, the member may have developed a rationale after the fact to fit the answer given. That after-the-fact rationale, although probably genuine (in the sense that the individual honestly believes the rationale to be true), may only encompass a small portion of the actual reasons and subconscious triggers underlying the decision. Although a focus group can potentially supply a response to a specific question based on the information provided, it cannot provide the attorney with the rationale behind the result that would allow for prediction of results with a change of information.

E. Conclusion of Focus Group Problems

Although focus groups can, among other things, provide attorneys with insight into ideas that were previously overlooked and allow for feedback on themes and ideas,[25] the results reached can often inaccurately depict the results later reached by a jury. The inability to get a statistically reliable number, the subjective analysis of the results, and reliance on the members' articulation of the underlying reasons are recognized limitations.

III. RDE APPLIED IN BUSINESS

A. The Purpose of RDE

RDE, as applied in a business context, is a systematic testing process that allows messages, products, and services to be designed in a way that appeals to customers, even if customers are unable to articulate what appeals to them.[26] Often consumers can tell a researcher what they want the

[24] *Id.* at 80.

[25] WAITES, *supra* note 3, at 176.

[26] MOSKOWITZ & GOFMAN, *supra* note 1, at 3.

end result to be, whether it be a "strong" coffee flavor or a certain feature on a credit card.[27] However, the consumer may be unable to articulate what a "strong" coffee flavor is or what particular features, in combination with one another, will create the most appealing credit card offer.[28] Essentially, even after conducting focus group research, the researcher is left with the need for "strong" coffee flavor—which remains undefined—or a consumer that wants a lower interest rate on a credit card.[29] Although these methods may have identified the problem faced, the researcher is a long way from its resolution. At this point, RDE can help solve the problem.[30] RDE accomplishes this by allowing the business owner to identify what particular features have the greatest appeal to a customer through systematic testing of a consumer group. This systematic approach allows the marketer or developer to determine what draws a positive consumer response, whether it is a soft drink flavor, a credit card feature, or a color theme in an advertisement, regardless of whether the consumer can actually articulate what is appealing about the feature.[31]

RDE has seven basic steps, which can be summarized as follows.[32] The first step is to identify the problem and potential features of the target product.[33] Step two is to "[m]ix and match the elements according to [an] experimental design . . . to create a set of prototypes."[34] Step three is to show the prototypes to the consumers and obtain the results.[35] The next three steps involve analyzing the results through an automated identification of any naturally occurring patterns using the quantitative data.[36] Finally, the resulting predictive rules that come from the analysis are applied to create new products, offerings, or messages.[37]

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[27] *Id.*

[28] *Id.*

[29] *Id.*

[30] *See id.*

[31] *See id.*

[32] *Id.* at 4.

[33] *Id.*

[34] *Id.* (noting that this step is done automatically by a tool that creates a unique design plan).

[35] *Id.*

[36] *Id.* at 4–5.

[37] *Id.* at 5.

B. Maxwell House's Application of RDE

In order to understand its potential application in the legal profession, it is beneficial to first understand the successful uses of RDE in the business world. One of the oldest and best known examples of RDE in the business world comes from the food and beverage industry.[38] Historically, food and beverage industry products evolved slowly from the trial and error efforts of experimentation.[39] Most of these experiments were small random tests, mixing ingredients, cooking over fire, and tasting.[40] Eventually, the trial-and-error experimentation gave way to a more active, structured and thoughtful nature of experimentation.[41] A success story of this shift from traditional experimentation to RDE comes from General Food Incorporated, which developed a more profitable blend of coffee for its brand, Maxwell House.[42]

First, Maxwell House discovered its products needed remedial action when head-to-head tests against other competitors revealed its products were not performing as well as they should have.[43] Although Maxwell House discovered the decline in performance of its products, head-to-head tests and audits did not provide a solution.[44] As a result, Maxwell House needed to develop a solution before its products began to lose market share.

Maxwell House created a large experimental base of prototypes to test systematically.[45] It did this by testing a variety of beans in different combinations to determine which combination best pleased consumers.[46] At this point, consumers tested a different randomized set of eight coffee samples from the full set of seventeen test products and ranked which product they liked and disliked.[47] As the RDE process continued, the combinations that appealed to the consumer were eventually revealed to the

[38] *Id.* at 27.

[39] *Id.*

[40] *Id.*

[41] *Id.* at 28.

[42] *Id.* Although this Article does not provide the same in-depth analysis as the book *Selling Blue Elephants*, it does provide an overview of the problems faced by Maxwell House and how RDE helped resolve them.

[43] *Id.*

[44] *Id.* at 36.

[45] *Id.* at 37.

[46] *Id.*

[47] *Id.* at 38–39.

researcher through an automated process.[48] The results indicated that consumers liked some of the test combinations better than the blend Maxwell House had on the market.[49]

When analyzing the data, the researchers discovered through RDE that there were clearly three different segments of consumers with different, distinct palates.[50] Although each segment of consumers stated they wanted "strong" flavored coffee, RDE revealed that each segment had a different definition of what "strong" meant.[51] Based on the results, Maxwell House was able to examine the different flavor profiles contained in the test combinations for each segment and determine what appealed to that particular consumer segment.[52] These results allowed the company to take the general description of "strong" and actually predict and provide a specific flavor profile for each consumer group.[53] Thus, Maxwell House was able to discover what combinations were most appealing to the distinct consumer groups despite the consumers' inability to articulate the precise flavors that appealed to them. The end result was that Maxwell House—rather than losing market share—instead increased coffee sales by more than fifteen percent.[54]

IV. RDE APPLIED TO THE LEGAL PROFESSION

Although the idea of using RDE in the legal profession to shape a jury message is new, research and experience suggest that it may have the potential to be an effective tool. As applied in the legal profession, RDE is a systematic process of experimentation to design, test, and modify alternative ideas, themes, theories, and legal arguments in a disciplined way, so that the attorney can discover an effective strategy even if mock jury members are unable to articulate why they reached certain results. The use of RDE in the legal profession can aid a practitioner in several aspects where focus groups fall short.[55] Although focus groups may allow an

[48] *Id.* at 38.

[49] *Id.* at 39.

[50] *Id.* at 40.

[51] *Id.*

[52] *Id.* at 40–44.

[53] *See id.* at 40–46 (describing the results reached by Maxwell House).

[54] *Id.* at 45.

[55] *See supra* Part II for a discussion of focus groups and the potential problems which they create, including statistical unreliability, social concerns, and subjective analysis.

attorney to develop new ideas or to discover an important point, RDE can supplement the traditional focus group process, by systematically analyzing what information to present and how to present it to the jury.

A. Potential Benefits of Using RDE in the Legal Profession

1. Resolving the Problems Plaguing Focus Groups

RDE addresses some of the limitations associated with focus groups because the research pool is much larger and the results can be quantitatively analyzed.[56]

First, as discussed, one of the main problems with the use of focus groups is their statistical unreliability because their sample size is too small to represent the larger general population.[57] RDE, in contrast, draws from a much larger pool. A typical test may involve hundreds of participants. As discussed below in Part IV B, 288 mock jurors participated in a recent application of RDE examining victim impact statements.[58] The larger the number of participants, the more likely the results are to reflect the attitudes of a larger diverse population. As such, RDE provides a level of statistical reliability that cannot be achieved through the use of focus groups.

Next, the social demands that are associated with focus groups are not present when using RDE.[59] Since the survey is usually administered by means of an automated web survey, concerns that members of the group will respond in a certain way—idiosyncratic to this particular group—to appease other group members or the examiner are eliminated.[60] Instead, the participant is free to give a candid response without worrying about its effect on others. In essence, it allows the researcher to gather more accurate information and assessments from all members of the group.

In addition, the subjective analysis required in focus groups is absent in RDE.[61] Since focus group results cannot be calculated quantitatively,[62] the

[56] *See supra* Part I.

[57] Nagel, *supra* note 9, at 1983–84 (1992); *see supra* Part II.A.

[58] *See infra* Appendix 1. The number of participants in the victim impact statement study is a good representation of the increased amount of participants creating statistical validity when using RDE.

[59] For a discussion on social demands on a focus group, see POSEY & WRIGHTSMAN, *supra* note 4; *see supra* Part II.B.

[60] MOSKOWITZ & GOFMAN, *supra* note 1, at 4.

[61] *See id.* at 5; *see also* POSEY & WRIGHTSMAN, *supra* note 4, at 86; *supra* Part II.C.

researcher is forced to subjectively draw conclusions which may or may not accurately reflect the sentiments of the group.[63] RDE, on the other hand, quantitatively examines the results using an automated regression analysis.[64] Results of the numerical data are unaffected by any bias of the researcher.[65]

Finally, RDE helps to determine why. With RDE (as opposed to focus groups), why the participants answered in a certain way is determined through an objective analysis of patterns which appear in their answers. Thus, the fact that the participant is unable to articulate the reason for the decision—or developed a reason after the fact—is immaterial. The results will still accurately reveal what elements influenced their decisions. So, instead of merely identifying a problem, RDE goes further and allows the researcher to determine which elements, presented in which order, triggered which responses, and thereby help demonstrate why the participants reached their decision (and thus predict what changes are most likely to reinforce or change the decision).

2. Other Benefits of RDE

RDE offers other possibilities. These potentialities focus on the use of segmentation, selected repetition and emphasis, and sequencing.

First, RDE allows for segmentation.[66] The process will identify naturally occurring segments of the population that show similar patterns.[67] For example, in the coffee example above, there were three distinct segments or palates of coffee drinkers.[68] Some liked their coffee bitter, other liked it less bitter, and still some liked it with moderate bitterness.[69] These segments were revealed automatically by dividing the panel into groups based on their preferences.[70] Rather than seeking to design one coffee flavor with modest appeal across all segments, RDE allowed

[62] POSEY & WRIGHTSMAN, *supra* note 4, at 86.
[63] *Id.*
[64] MOSKOWITZ & GOFMAN, *supra* note 1, at 4–5.
[65] *Id.* at 5.
[66] *Id.*
[67] *Id.*
[68] *Id.* at 40.
[69] *Id.*
[70] *Id.*

Maxwell House to optimize coffees directed to each of the three identified segments of coffee drinkers.

This same concept may have application in the legal profession by allowing the practitioner to divide the potential jury or jury pool into segments. For example, pretrial RDE may reveal that jurors generally can be segmented into a group that is more receptive and a group that is more antagonistic to a particular set of facts, and that this segmentation can be revealed by particular answers to voir dire questions. Attorneys sometimes attempt to do this at present by ascribing positive or negative generalizations to a particular demographic group, and yet, demographics alone are routinely acknowledged as a poor way to predict behavior.[71] Uncovering jury segmentation by using RDE may allow more accurate identification, and, as mentioned above, the process is automated so that a particular segment of the population and their inclination to particular elements of a case will automatically be revealed when processing the information.[72] This use of RDE may allow the attorney to shape the jury panel with a favorable segment of the population that has shown positive responses to the message the attorney is going to deliver. Additionally, this information would give the attorney insight for shaping delivery of the message at trial in a way likely to appeal to the dominant segment of the actual seated jury. The attorney could essentially customize his message in order to maximize the jury's receptivity.

Next, RDE may help the legal practitioner determine whether repetition would be successful. For example, in a wrongful death case, the jury may be exposed to numerous statements about how much the widow misses her spouse. Although this may be effective, overuse of this may cause the jury to become numb to those facts. RDE can reveal this tendency through repeated exposure of particular elements to the mock jury participants. As the survey progresses, the mock jurors may be more or less inclined to vote in favor of the widow when the element is present. Thus, RDE allows the practitioner to determine whether and at what point a particular element becomes more or less effective with repetition. Similarly, RDE allows the

[71] *See generally* Richard L. Wiener & Dennis P. Stolle, *Trial Consulting: Jurors' and Attorneys' Perceptions of Murder*, 34 CAL. W.L. REV. 225 (1997) (noting that demographic characteristics are often qualified because attitudes that predict juror behavior vary extensively across cases).

[72] MOSKOWITZ & GOFMAN, *supra* note 1, at 5.

practitioner to decide whether to emphasize or deemphasize certain aspects of the case based on the segments of the population present in the jury box.

Finally, RDE may also allow the attorney insight into the optimal sequencing of information presented to the jury. The regression analysis determines different combinations or orders of elements that appeal to the jury. For example, the jury may be more inclined to award large amounts of damages when first exposed to the injury sustained by the plaintiff and then to the debt incurred as a result. Or, although particular elements may make the jury inclined to vote one way or the other when presented alone, those elements may lose their effectiveness when presented together. These natural patterns, which are revealed during RDE, will enable an attorney to decide what order to present the fact elements contained in the RDE survey.

B. RDE Experiment on Victim Impact Statements

1. Overview of Study

A victim impact statement during the sentencing portion of a criminal trial typically informs the judge or jury of the financial, physical and psychological impact the crime had on the victim or the victim's family members.[73] The jury considers the testimony contained in the victim impact statement in determining whether to sentence the defendant to life in prison or to death.[74] In studies, significantly more people were willing to vote for the death penalty when victim impact statements were given versus when they were absent.[75] Thus, the victim impact statement may play an enormous role in determining what sentence the defendant will receive.[76]

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[73] BLACK'S LAW DICTIONARY 1598 (8th ed. 2004) (defining victim impact statements as "a statement read into the record during sentencing to inform the judge or jury of the financial, physical, and psychological impact of the crime on the victim and the victim's family"); *see also* Payne v. Tennessee, 501 U.S. 808, 825 (1991) (stating that a victim impact statement is a "form or method of informing the sentencing authority about the specific harm caused by the crime in question").

[74] Niru Shanker, *Getting a Grip on Payne and Restricting the Influence of Victim Impact Statements in Capital Sentencing: The Timothy McVeigh Case and Various State Approaches Compared*, 26 HASTINGS CONST. L.Q. 711, 711 (1999).

[75] James Luginbuhl & Michael Burkhead, *Victim Impact Evidence in a Capital Trial: Encouraging Votes for Death*, 20 AM. J. CRIM. JUST. 1, 1 (1995); *see also* Bryan Myers & Jack Arbuthnot, *The Effects of Victim Impact Evidence on the Verdicts and Sentencing Judgments of Mock Jurors*, 29 J. OFFENDER REHAB. 95, 108 (1999) (stating that mock jurors are significantly more likely to vote for the death penalty when exposed to the mother's victim impact statements

In a recent study, RDE was used to systematically determine how different items of information in combination with each other would have the greatest relevance in the mock jurors' sentencing decisions.[77] Although practitioners generally knew what information to present in a victim impact statement, this study enabled them to determine how to present that information. The information was grouped into five large categories comprised of the sex and race of the person making the victim impact statement, what the person said about the emotional, financial, or social impact of the crime, and the viciousness of the crime.[78] Each of these categories was then broken down into four smaller elements.[79] For example, the first category was broken down into four possible pictures to display to the mock jury—black female, black male, white female, and white male—and the second category contained four different statements describing the financial difficulty the victim has experienced.[80] Although all the phrases talk about the same facts, certain phrases—especially in combination with other phrases—may be more or less impactful than other statements in different combinations. Thus, RDE more naturally simulates the complexity of the victim's testimony, which consists of several parts. Through experimentation, RDE shows what specific facts, in combination with each other, have the most relevance to the jury.

The mock jury was selected using a panel who agreed to participate in internet-based studies. The study was comprised of 288 mock jurors.[81] Before being asked any questions regarding the victim impact statement,

in contrast to other victim impact statements); Bryan Myers et al., *Psychology Weighs in on the Debate Surrounding Victim Impact Statements and Capital Sentencing: Are Emotional Jurors Really Irrational?*, 19 FED. SENT'G REP. 13, 15 (2006) (stating that when victim impact statements are present, mock jurors demonstrate greater anger by voting for harsher sentences for female versus male defendants).

[76] Jacqueline E. Ross, *The Entrenched Position of Plea Bargaining in United States Legal Practice*, 54 AM. J. COMP. L. 717, 717–18 n.2 (2006).

[77] *See* Howard Moskowitz et al., Experimental Design Applied to Jury Communication (on file with author).

[78] *See id.* The five categories were (1) picture of the surviving spouse, (2) financial impact, (3) emotional impact, (4) viciousness of the crime, and (5) social impact. *Id.*

[79] *See id.*

[80] *See id.* The four elements in the financial category were (1) I am having trouble paying the mortgage since the murder; (2) since the murder I have had to go on public assistance; (3) I am unable to keep up with the children's tuition payments since the murder; and (4) I am having difficulty paying for the family's health insurance premiums since the murder. *Id.*

[81] *See id.*

each mock juror was asked self-profiling questions ranging from belief in the death penalty to gender.[82] After completing the self-assessment, each mock juror was then asked to evaluate a unique set of combinations containing elements from the five various categories.[83] The mock jurors were each asked twenty-five questions where they would read a combination of elements and rank on a scale of one to nine whether they were more likely to vote for life without parole or death.[84] Some of the questions contained an element from each of the categories while others questions left categories out altogether. For example, question one may have contained information regarding the viciousness of the crime, the financial impact, and a picture of the victim, whereas question two may have contained information regarding the viciousness of the crime, the social impact, the financial impact, and a picture of the victim.

2. The Results

The data gathered was calculated through regression analysis in order to determine the consistency of an individual's response and to segment mock jurors into groups.[85]

The results indicate that the viciousness or heinousness of a crime, combined with the emotional burden the surviving spouse faces in the wake of a murder, inclined potential jurors to move toward voting for the death penalty. The other categories, such as a picture of the surviving spouse and social and financial impact, had little initial effect on the mock jury. The brutality of the murder inclined jurors to vote for the death penalty independent of their belief in the death penalty. In other words, mock jurors were more inclined to vote for the death penalty when exposed to the brutality of the crime regardless of whether they personally believed in the death penalty.[86]

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[82] *See id.*

[83] For an example of a set of combinations, see *id.*

[84] *See id.*

[85] Regression analysis is a technique for the analysis of numerical data consisting of values of a dependent variable and one or more independent variables in order to isolate the effect of the independent variables. *See generally* Lorraine Lewandrowski, *Toxic Blackacre: Appraisal Techniques & Current Trends in Valuation*, 5 ALB. L.J. SCI. & TECH. 55 (1994). For an introduction into regression analysis, *see* Alan O. Sykes, *An Introduction to Regression Analysis* (Univ. of Chicago Law Sch., Law & Econ. Working Paper No. 20, 1993).

[86] Moskowitz et al., *supra* note 77.

In addition, RDE allowed the researchers to determine the effect of repetitiveness of certain elements to the mock jury. Although exposure to the viciousness of the crime caused the mock jury to be more likely to vote for the death penalty, repeated exposure to the viciousness of the crime caused the mock jury to become more lenient. By contrast, repeated exposure to the financial hardships resulting from the crime caused the mock jury to lean toward the death penalty.

RDE also revealed inclinations among specific groups. The results show that certain groups were more responsive to particular categories of information than others. For example, females were more inclined to vote for the death penalty than males after exposure to statements of brutality. To the contrary, males were more inclined to vote for the death penalty than females after statements regarding the financial impact of the crime. Surprisingly, those who had previously been a victim of a crime were not as persuaded by the viciousness of the crime as those who had not been previous victims of a crime.[87] This research may help the practitioner to segment the jury for purposes of selection, and to determine the most effective message for the jury actually selected.

Another advantage of RDE is that, unlike the typical focus group, the mock jury in the study consisted of 288 jurors as opposed to six or twelve. As a result, the sample size is much larger and can therefore more accurately represent a larger diverse population. Furthermore, the results reached during the experiment were statistically reliable. In addition to having the larger jury pool, results were verified by conducting the same study again with a different mock jury pool. This study, run two months later, was comprised of 194 mock jurors. The results reached indicated reliability of ninety-eight percent for females and ninety-six percent for males.[88]

V. CONCLUSION

RDE offers intriguing potential in litigation. Although its application to litigation is a new concept, it could provide valuable assistance to the legal practitioner in selecting the most advantageous jury and customizing the message to that selection. Its statistical reliability results from the involvement of a significant sample size of participants—much larger than

[87] *Id.*
[88] *Id.*

can be involved with focus groups—whose responses are analyzed via automated regression analysis, rather than being unconsciously skewed by the subjective views of the focus group researcher. More research is needed to explore the potential impact of RDE in this arena.

APPENDIX 1

Editor's Note: Below is a reproduction of Experimental Design Applied to Jury Communication, *in its original form, for the reader's reference. This analysis was conducted by David Moskowitz, B.A., Howard R. Moskowitz, Ph.D., Thomas O'Rourke, Ph.D., Rex Parris, J.D., Alan M. Perry, Ph.D., and Richard Waxman, Ph.D.*

Abstract

Internet survey respondents (N=288) served as surrogate jurors in a murder case. They were exposed to victim impact statements (VIS) from the surviving spouse. The impact statements were systematically varied according to a fractional factorial design. The respondent's individual inclinations, to vote for the death penalty or for life without parole, were measured by rating scales related to the statements by subsequent modeling using ordinary least squares regression. All four VIS, describing the viciousness of a crime, and two statements about the emotional burden on a surviving spouse in wake of the crime, inclined these potential jurors to move toward voting for the death penalty. Four VIS statements, each about the financial or social impact on the spouse's life, had little effect on moving a potential juror's vote either towards or away from the death penalty.

Interactions between the nature of the potential juror and the type of messages emerged for different groups of individuals, who were classified by gender and race. Statements geared toward the viciousness of the crime inclined jurors to vote for the death penalty independent of their separately self-stated bias to vote for death or the alternative option, life without parole. Based upon their patterns of responding, subjects were grouped and classified as swayable and less swayable. The effect of statements about the brutality of the crime resulted in a three fold increase for the swayable group to vote for death. As respondents were exposed to more stimuli over the course of the experimental trials, the potency of the individual elements to drive to the death penalty was assessed. Repeated exposure to impact stimuli moved to leniency, especially among male respondents who became less affected by statements related to brutality. Repeated exposure to statements about hardship moved respondents towards voting death. Practical implications for juror categorization are discussed.

Introduction

In most capital cases, victim impact statements (VIS) are presented to jurors who will be called upon to make decisions regarding guilt or innocence and sentencing recommendations, e.g. death vs. life imprisonment without the possibility of parole. In a study that varied severity of the crime and the presence of VIS, Luginbuhl and Burkhead (1995) reported that significantly more subjects (undergraduate students) were willing to vote for the death penalty when VIS were given versus when they were absent. Myers and Arbuthnot (1999) used a paradigm in which two statements were conjoined. A murder victim's mother stated that her daughter's death caused her emotional, physical, and financial problems, but also caused the crime victim's son severe emotional problems. Mock jurors (undergraduates) were significantly more likely to vote for the death penalty when exposed to the mother's VIS in contrast to those who were not. In another study, Myers, Lynn, and Arbuthnot (2002) pointed out that when mock jurors (undergraduates) are exposed to VIS that varied the severity of the harm experienced by the victim's family and the affectivity of the witness, the harm experienced by the victim's family, not the emotional display of the witness, made a significant difference in respondents' decisions to vote for the death penalty. In 1999, Greene conducted a study in an effort to evaluate the impact of different kinds of VIS on jury eligible adults in a capital case. Groups of subjects heard a VIS about the character of the crime victim (victim qualities); the physical, psychological, and financial impact of the murder on the survivors (impact); and survivor's opinion about sentencing (opinion). VIS focusing on the qualities of the crime victim elicited a more positive juror response toward the crime victim than did VIS focusing on survivor impact and/or survivor opinion about punishment. In a related theme, Granados (2003) demonstrated that mock jurors who heard inflammatory VIS were significantly more likely to vote for death than did mock jurors who did not.

As noted in a review article by Myers, Weidermann, and Pearce (2006) the authors made note of a study (ForsterLee, Fox, ForsterLee, Ho, 2004) that examined VIS and the gender of the victim and the defendant. It was found that mock jurors (jury eligible community members) tended generally to endorse more lenient sentences for female defendants, but this difference was reduced by the presence of VIS. Specifically, it was noted that when no VIS were present, subjects showed less anger toward female defendants. When VIS were present, however, they demonstrated greater anger by voting for harsher sentences for female versus male defendants.

Myers and Greene (2004), in another review article, note that research points to the idea that when VIS are presented, jurors may empathize with the emotional pain felt by the witness and this empathy may result in harsher sentences.

Thus VIS may play a powerful role in affecting jurors' decisions in the punishment phase of a capital murder case (Arrigo & Williams, 2003). The present study is unique in that an attempt was made to determine how various stimuli in combination with each other affected the degree to which mock jurors decide death vs. life imprisonment without the possibility of parole. The stimuli included: the qualities of the person making VIS (sex and race) and what is said about the emotional, financial, or social impact of the crime and/or the viciousness of the crime.

Applying the Conjoint Analysis Approach to Trial Language

An experimental design was employed to investigate how various stimuli affected individuals who are surrogates of jurors. Each respondent evaluated a specific set of combinations, unique for that respondent, with the combinations comprising various stimuli-short, easy to understand vignettes. Each respondent did not need to evaluate complete concepts, comprising one element from each of the 'categories' or 'silos', but rather needed to evaluate these smaller combinations, i.e., incomplete combinations with some silos absent. That strategy of incomplete combinations allowed for subsequent regression analysis that generated estimates of the absolute magnitude of contributions of the different stimuli.

For this particular murder case study, five categories were selected, each comprising four elements, as Table 1 shows The first category was a picture of the surviving spouse. The remaining categories were about the surviving spouse's testimony. These included three consequences – financial, emotional, social, and one description of the crime (viciousness).

Table 1—The Five Categories and Four Elements in Each

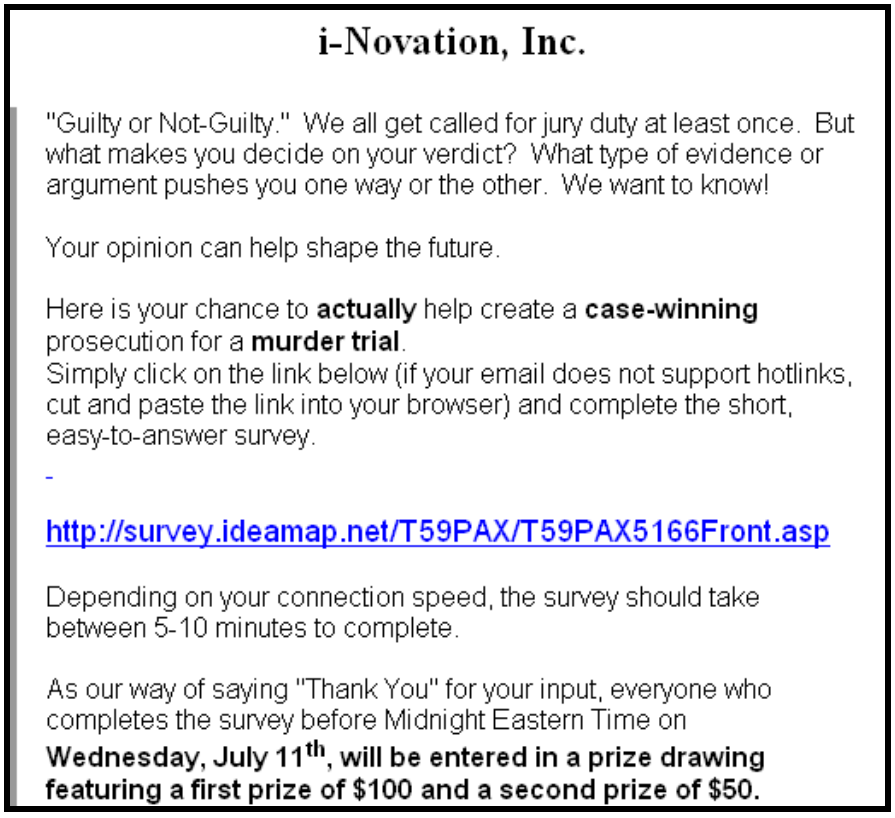
	Category1: Visuals of surviving spouse who is giving the testimony
A1	 Black female
A2	 Black male
A3	 White female
A4	 White male
	Category2: Financial
B1	I am having trouble paying the mortgage since the murder
B2	Since the murder I have had to go on public assistance
B3	I am unable to keep up with the childrens' tuition payments since the murder
B4	I am having difficulty paying the family's health insurance premiums since the murder
	Category3: Emotional
C1	Since my loved one was killed, I find myself crying most of the time
C2	Since the murder, I find myself overwhelmed by even the thought of leaving the house
C3	Although I used to enjoy food, since the murder I no longer have an appetite
C4	I am always tired and can never get a good night's sleep since the murder
	Category4: Viciousness of the Crime
D1	I still remember how shocked I was when the detectives told me the body had been mutilated
D2	I couldn't believe that my spouse's throat was slashed
D3	The detectives found it hard to tell me that the body showed signs of sexual molestation
D4	The body was bludgeoned beyond recognition
	Category5: Social
E1	My friends treat me differently since the murder
E2	Since the murder, I no longer know who my true friends are
E3	Since the murder, I can't remember the last time my friends invited me out
E4	Since the murder, it seems that my friends are uncomfortable around me

The 20 elements in Table 1 were combined into 25 small, easy-to-read vignettes, comprising a minimum of two and a maximum of five elements, as well as one or no element from each of the five categories. Each element appeared exactly three times, in different combinations so that each respondent evaluated a unique set of combinations.. This 'fractional factorial' design insured that the 20 elements appear in a statistically independent fashion for each respondent. Such an approach of permuting 25 different combinations for each respondent insured that there was no possibility of any specific combination unduly influencing the results, while at the same time allowing an individual-level model to be run for each respondent to show how the different elements 'drive' responses.

Field Execution

The respondents were selected at random from the i-Novation panel of individuals who have agreed to participate in Internet-based studies. A total of 5,000 respondents were invited to participate by means of an e-mail invitation. (Figure 1). The invitation was designed to be fairly neutral. A total of 288 respondents participated, for a response rate of 5.7%. This is a typical research response rate for mid 2007. (Note: response rates have been declining steadily from 2001. There is no reason to believe that the response rate observed was unusually low or high). Although this study used a random sample from a panel, other studies of a similar nature can customize the composition of the panel, in terms of age, gender, race, income, etc.

Figure 1—Email Invitation



i-Novation, Inc.

"Guilty or Not-Guilty." We all get called for jury duty at least once. But what makes you decide on your verdict? What type of evidence or argument pushes you one way or the other. We want to know!

Your opinion can help shape the future.

Here is your chance to **actually** help create a **case-winning** prosecution for a **murder trial**.
Simply click on the link below (if your email does not support hotlinks, cut and paste the link into your browser) and complete the short, easy-to-answer survey.

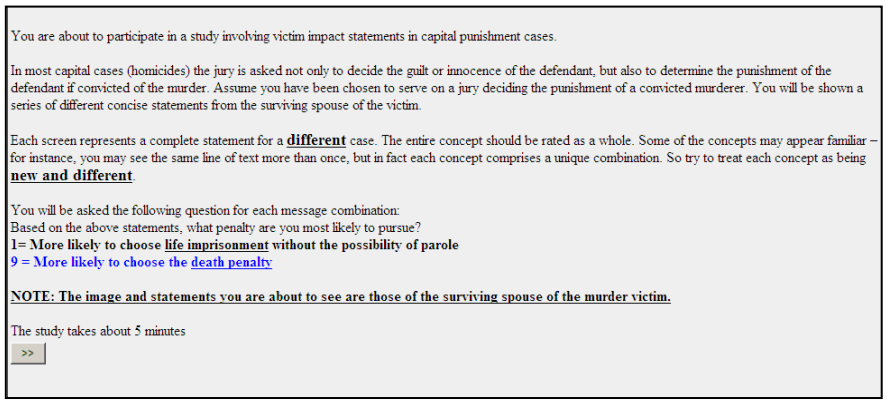
http://survey.ideamap.net/T59PAX/T59PAX5166Front.asp

Depending on your connection speed, the survey should take between 5-10 minutes to complete.

As our way of saying "Thank You" for your input, everyone who completes the survey before Midnight Eastern Time on **Wednesday, July 11th, will be entered in a prize drawing featuring a first prize of $100 and a second prize of $50.**

When the respondent clicked on the invitation e-mail, he or she was led to the actual study, which began with an orientation page, shown in Figure 2. The orientation page is relatively neutral, not providing much information about what is expected, other than a general outline of what the respondent will read and instructions about what the scale means.

Figure 2—Orientation Page



You are about to participate in a study involving victim impact statements in capital punishment cases.

In most capital cases (homicides) the jury is asked not only to decide the guilt or innocence of the defendant, but also to determine the punishment of the defendant if convicted of the murder. Assume you have been chosen to serve on a jury deciding the punishment of a convicted murderer. You will be shown a series of different concise statements from the surviving spouse of the victim.

Each screen represents a complete statement for a **different** case. The entire concept should be rated as a whole. Some of the concepts may appear familiar – for instance, you may see the same line of text more than once, but in fact each concept comprises a unique combination. So try to treat each concept as being **new and different**.

You will be asked the following question for each message combination:
Based on the above statements, what penalty are you most likely to pursue?
1= More likely to choose life imprisonment without the possibility of parole
9 = More likely to choose the death penalty

NOTE: The image and statements you are about to see are those of the surviving spouse of the murder victim.

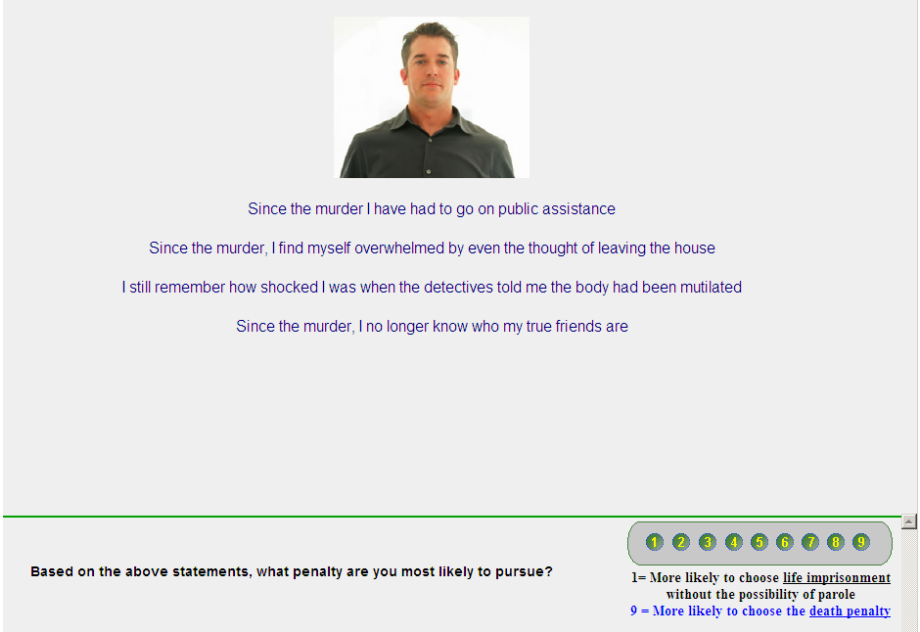
The study takes about 5 minutes

>>

After the orientation page, the respondent read 25 different vignettes, rating each vignette on the scale. They were not instructed how to read the vignette or what to look for in the vignette. Rather, the vignette was simply presented and the respondent was instructed to assign a rating

Each respondent read a unique combination of 25 vignettes, each comprised of short phrases (2-5 elements). A vignette had either one or no elements from each of the five categories. The combinations were created so that the elements appeared in a statistically independent manner, so that each respondent evaluated every element three times across the 25 concepts. The combinations for each respondent allowed the creation of an individual-level model for the respondent. This strategy insured a statistically robust experimental design in which no combination appeared unduly often. Figure 3 shows an example of the test concept or vignette.

Figure 3—Test Concept



After the respondent completed the test concepts evaluation, s/he finished a self-profiling classification questionnaire. The questionnaire asked both conventional demographic questions (e.g., gender, age, income), as well as more topic-related questions (e.g., whether or not the respondent had been the victim of a crime; whether or not the respondent believed in the death penalty).

Out of the 5000 invitations, 288 individuals responded and completed the interview. This was a response rate of 5.5%, about the same response rate that the authors have found in similar studies dealing with products rather than with the seriousness of crimes. Table 2 shows the distribution of respondents for total panel, and for the two concept-respondent segments that will be discussed later.

ANALYSIS OF THE RATING BY REGRESSION MODELING

The respondents rated each of the 25 vignettes on an anchored 1-9 point scale, where 9 = death penalty for the crime, and 1 = life imprisonment without the possibility of parole. The 9-point scale, anchored at both ends, was used twice, first to create a model for 'persuasion' and a second to create a model for 'interest'.

Persuasion Model

The ratings for each respondent enabled the use of an ordinary least squares method to relate the presence/absence of the 20 elements to the 9-point rating, assigned by a respondent. The persuasion model can be expressed by the simple equation:

$$\text{Rating} = k_0 + k_1(\text{Element A1}) \ldots k_{20}(\text{Element E4})$$

The rating is the 9-point scale that respondents used. The elements take on the value 0 if the elements were absent in the concept and 1 if the elements were present in the concept. Regression analysis generates coefficients, which in the persuasion model show the part-worth contributions of each of the 20 elements to the 9-point rating scale. Each element generates a coefficient for each respondent.

The persuasion model is used for two analyses:

1. Calculate the Consistency of an Individual's Response.

To the degree that the respondent attends to the task, the goodness-of-fit of the individual model to the actual rating will be higher. That is, the model will conform to the data and the variability in the ratings will be traceable to the variability of the elements. The statistical measure is the multiple R^2 of the model, which ranges from a low of 0.0 (ratings are random) to a high of 1.0 (ratings are perfectly consistent).

2. Segment Respondents into Clusters or Mind-Set Segments.

Cluster analysis allows for the placement of the 288 respondents into 2, 3, 4 or more groups such that the patterns of the 20 utilities for respondents placed into a group (i.e., segment) are similar. The patterns of utilities across the groups (i.e., segments) are different. Prior to clustering, the set of 20 persuasion coefficients, one per element, was processed to reduce the redundancy. The clustering would be done on a set of utilities that was parsimonious. Redundancy across the 20 elements was reduced by a principal components factor analysis, followed by a quartimax rotation, which reduced the 20 elements to six orthogonal factors, on which the clustering was performed. What is critical here is that the analysis was done strictly statistically. Only after the data was clustered into segments was an attempt made to name the segments.

Interest Model

Consumer researchers usually focus on the number or proportion of respondents exhibiting a certain type of behavior or belonging to a certain group. Their focus is on incidence measures, not on intensity measures. That is, the researcher is not interested in the strength of feeling, but rather what the person will do. A 9-point scale is used as a means by which to measure membership in one of two classes, vote for death penalty (rating of 7-9) versus do not vote for the death penalty (rating of 1-6). Each individual rating each concept could either fall into the group of 'pro-death penalty' for that concept or against death-penalty for that concept.

In the 9-point rating scale, 1 represented 'life sentence without parole', whereas 9 represented the 'death penalty'. Each respondent's data was recoded, so that a rating of 1-6 was replaced by the value 0 to denote life without parole and a rating of 7-9 was replaced by the value 100 to denote the death penalty. This recoding means that minus numbers in the model suggest leaning towards life imprisonment, whereas positive numbers in the model suggest leaning towards the death penalty.

RESULTS

Who Participated

Table 2 presents the distribution of the respondents, based upon their self-profiling classification questionnaires, as well the relative proportion of

respondents from each of the two concept responses segment answering each classification question.

Table 2—Classification of Respondents

	Total Base	Seg1 (%)	Seg2 (%)
Believe in death penalty			
yes	240	40	60
no	48	31	69
Victim of crime			
yes	119	35	65
no	169	40	60
Age			
18-25	7	14	86
26-30	16	19	81
31-40	58	47	53
41-50	98	40	60
51-60	80	39	61
60+	29	31	69
Gender			
Female	223	39	61
Male	65	35	65
Income (thousands of dollars)			
18-25	18	43	57
25-35	35	37	63
35-45	38	39	61
45-55	38	37	63
55-65	32	41	59
65-75	22	32	68
75-85	16	50	50
85-100	25	32	68
100+	21	39	61
No answer	43		
Education			
Grade	4	25	75
High school grad	99	41	59
College grad	104	35	65
Graduate school	31	39	61

Other education	50	40	60
Marital status			
Single		30	70
Separated		33	67
Divorced		37	63
Married		42	58
Widowed		17	83

Consistency of Respondent Results

Figure 4 shows that the majority of the persuasion models from the individual respondents show multiple R^2 values exceeding 0.80. For each of these consistent respondents, more than 80% of the variability in the respondent's ratings is accounted for by knowing the presence/absence of the elements. The ratings of the individual respondent are not random, but rather follow a discernable pattern. It is important to bear in mind that consistency is not validity, but simply a measure of whether, for a single element, the respondent evaluates the element in a consistent fashion when the element is present in different concepts. If the responses were random, then there would be a weak correlation between the presence/absence of the 20 elements and the ratings, manifesting itself as a low R^2.

Figure 4

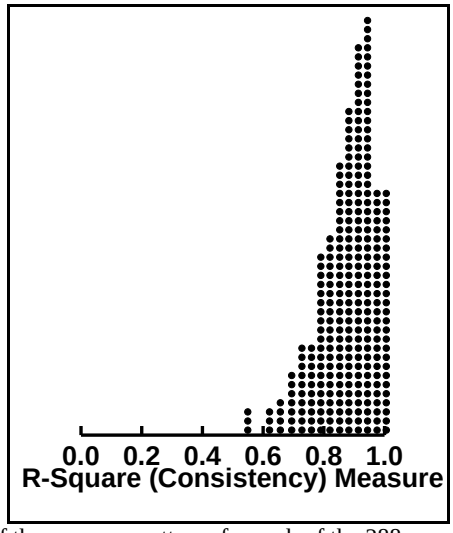


Figure 4—Consistency of the response patterns for each of the 288 respondents, measured by the goodness of fit of the individual's persuasion model. Each respondent is shown as a

filled circle. R2 values above 0.8 indicate very consistent data. A majority of respondents showed this high R2 statistic for their models.

Creating the 'Interest Model' for the Total Panel

The interest model was created by ordinary least squares regression. Although one might use logistic regression in place of ordinary least-squares (OLS), OLS is easier for managers, and decision makers to understand. Furthermore, it is easy to construct better arguments because one can simply add up the element utilities to get an intuitive idea of how strong the argument will be.

On a substantive basis, the parameters of the interest model show the relative number of respondents pushing towards either life without parole or for the death sentence. Table 3 shows the parameters for all of the data combined, in one large model, independent of individual respondent.

1. The additive constant in the interest model is the conditional probability of a juror voting for the death penalty in the absence of any elements. The additive constant, or intercept in the regression model, is a purely estimated parameter, but can be used as a benchmark to show basic propensity to vote for the death penalty. Here, we have 23; without elements, about 23% of the respondents are pushing for the death penalty.
2. The utilities, or coefficients from the interest model for the different elements, show the driving power for the death penalty, when the particular element is present in the test concept. The coefficient gives the additive (or subtractive) conditional probability of voting for the death penalty. The elements add or subtract to that baseline. Thus, element D4 (*The body was bludgeoned beyond recognition)* increases the probability of a vote for the death penalty from a baseline of 23.47% to a sum of 23.47% and 25.54% or from about 23% to 49%.
3. The T value shows the test for 'difference from 0' (i.e., the test to show whether the coefficient is a real effect, not just a random effect)
4. The P value shows the probability that the coefficient's value (i.e., utility of the element) occurs by chance, when it is really 0.

Table 3

		Utility	T value	P Value
	Additive constant	23.47	8.93	0.00
A1	Black Female	-2.28	-1.26	0.21
A2	Black Male	-1.11	-0.61	0.54

A3	White Female	-3.18	-1.75	0.08
A4	White Male	-2.01	-1.11	0.27
B1	I am having trouble paying the mortgage since the murder	1.87	1.03	0.30
B2	Since the murder I have had to go on public assistance	0.42	0.23	0.82
B3	I am unable to keep up with the children's tuition payments since the murder	0.21	0.11	0.91
B4	I am having difficulty paying the family's health insurance premiums since the murder	1.38	0.76	0.45
C1	Since my loved one was killed, I find myself crying most of the time	4.71	2.59	0.01
C2	Since the murder, I find myself overwhelmed by even the thought of leaving the house	4.36	2.40	0.02
C3	Although I used to enjoy food, since the murder I no longer have an appetite	1.87	1.03	0.30
C4	I am always tired and can never get a good night's sleep since the murder	2.98	1.64	0.10
D1	I still remember how shocked I was when the detectives told me the body had been mutilated	23.11	12.74	0.00
D2	I couldn't believe that my spouse's throat was slashed	18.34	10.11	0.00
D3	The detectives found it hard to tell me that the body showed signs of sexual molestation	22.70	12.51	0.00
D4	The body was bludgeoned beyond recognition	25.54	14.07	0.00
E1	My friends treat me differently since the murder	0.28	0.15	0.88
E2	Since the murder, I no longer know who my true friends are	0.62	0.34	0.73
E3	Since the murder, I can't remember the last time my friends invited me out	1.94	1.07	0.29

E4	Since the murder, it seems that my friends are uncomfortable around me	0.69	0.38	0.70
	Analysis of variance for the model			
Source	Sum-of-Squares	df	Mean-Square	F-ratio
Regression	656941.2	20	32847.06	13.8
Residual	17141846	7204	2379.49	P = 0

Table 3—Parameters of the interest model for total panel based on combining all 25 observations from each of 288 respondents for a total of 7200 cases. The model may differ slightly from the consensus model averaged across 288 individual models.

Do Different Groups Differ in What Drives Them to Recommend The Death Penalty?

Although the data from the total panel showed clearly that the severity of the crime drove the likelihood of voting for the death penalty (see Table 2), it may well be that there were key differences among subgroups. These may have existed in the additive constant, which showed the propensity to prescribe the death penalty, or they may have existed in the elements themselves. In each of the following analyses, utility values of ±5 approach significance at the p=.10 level and utility values of ±8 approach significance at the p=.05 level.

A comparison of parameters for the models of three key pairs of subgroups appears in Table 4.

1. The first pair contrasts those respondents who believe in the death penalty (DP/Y) versus those who do not (DP/N) as stated on the classification questionnaire. The additive constant was 28 for those who believe and 3 for those who don't believe. Those who classify themselves as believing showed a greater basic propensity to prescribe the death penalty when evaluating concepts. Furthermore, for those respondents who didn't believe in the death penalty, elements that describe the heinousness of the crime were far less effective in driving the vote for the death penalty than they were among those respondents who do believe in the death penalty. Respondents behaved consistently in their evaluations, when such behavior was predicted from the self-profiling classification.

2. For respondents who said that they have been victims of a crime, there was no clear pattern either in the additive constant or in the utility values. The additive constant or predisposition to recommend the death penalty was only slightly higher for those who have been victims of a crime versus non victims (25 vs. 22). The elements describing the heinousness of the crime were, surprisingly, slightly more effective in driving towards the death penalty among the non victims. In all, the additive constant and the element utilities cancelled each other, so being a victim of a crime had no apparent major effect on likelihood of voting for the death penalty among these mock jurors.
3. For gender there again was no clear pattern either across all the elements. Both females and males were equally likely to recommend the death penalty. Their additive constants were similar (23 versus 24, respectively). Females were somewhat more moved by the statements about brutality, so that for the same statement about 3%- 5% more of females than males were likely to recommend the death penalty. Men were more swayed by crying than were females, leading them to recommend the death penalty (*Element C1 Since my loved one was killed, I find myself crying most of the time has a utility for the death sentence of 4 for women and 9 for men*)

Table 4

		Total		DP/Y	DP/N		Vic/Y	Vic/N		Gen/F	Gen/M
	Additive constant	23		28	3		25	22		23	24
D4	The body was bludgeoned beyond recognition	26		29	10		23	29		27	22
D1	I still remember how shocked I was when the detectives told me the body had been mutilated	23		26	8		22	24		24	19
D3	The detectives found it hard to tell me that the body showed signs of sexual molestation	23		26	9		22	25		23	21
D2	I couldn't believe that my spouse's throat was slashed	18		21	8		17	20		19	17

C1	Since my loved one was killed, I find myself crying most of the time	5		5	5		6	3		4	9
C2	Since the murder, I find myself overwhelmed by even the thought of leaving the house	4		5	-1		5	3		5	4
C4	I am always tired and can never get a good night's sleep since the murder	3		4	0		3	3		3	4
E3	Since the murder, I can't remember the last time my friends invited me out	2		3	-3		2	2		2	1
B1	I am having trouble paying the mortgage since the murder	2		2	2		1	3		2	2
C3	Although I used to enjoy food, since the murder I no longer have an appetite	2		2	0		3	1		1	4
B4	I am having difficulty paying the family's health insurance premiums since the murder	1		1	2		2	1		2	0
E4	Since the murder, it seems that my friends are uncomfortable around me	1		2	-3		0	1		1	0
E2	Since the murder, I no longer know who my true friends are	1		1	-1		1	0		1	0
B2	Since the murder I have had to go on public assistance	0		1	0		-1	2		1	0
E1	My friends treat me differently since the murder	0		1	-3		0	0		1	-2
B3	I am unable to keep up with the children's tuition payments since the murder	0		0	0		0	0		0	2

A2	Black Male	-1		-1	0		-1	-2		-2	3
A4	White Male	-2		-2	-3		-2	-2		-2	-2
A1	Black Female	-2		-2	-3		-3	-1		-3	-1
A3	White Female	-3		-4	-2		-4	-2		-4	0

Table 4—The interest model for total panel and for three matched pairs of subgroups as well as the range of utility values across these three matched pairs.

How 'Who Does the Judging' (Males, Females) and 'Who Does the Testifying' (Surviving Spouse) Jointly Determine What Elements Work Most Strongly to Drive a Vote for the Death Penalty

How can systematic experimentation that shows what elements 'work' to drive towards the death penalty be further mined to identify what elements work, if it is known who is doing the evaluating and who is doing the testifying? The analysis of interactions between the respondent (mock juror) and the witness (part of the test concept) works because researchers can stratify the test concepts according to the different witnesses who are part of the concept. Then, they can run the interest model for those concepts only. The interest model is run separately on all of the concepts containing each of the four testifying witnesses (white versus black males, white versus black females).

Representation of the different test concepts is done in a matrix format. Each row of the matrix is a concept. With 288 respondents and with each respondent evaluating a unique set of 25 concepts, there are (25 x 288) or 7200 rows of data.

Finally, by summary, the model is run for the remaining 16 elements (four elements each from financial, social, viciousness of the crime, emotional, respectively) and leaving out the category of surviving spouse who does the testifying. The regression analysis is run five times, once each for the stratum comprising concepts with no surviving spouse and once each for the four different strata comprising concepts with each of the four different surviving spouses. The regression model shows the utility value for the 16 elements (testimony) in the presence of each surviving spouse who is giving that testimony. The data show how these remaining 16 elements drives the death penalty decision when statements are given by the four types of spouses (black and white males, black and white females).

This analysis can be done with an even more fine-grained focus. One can examine how male respondents versus female respondents respond to the elements as driving to the death penalty or when the surviving spouse is

male or female, black or white (i.e., how the gender of the juror interacts with the gender and color of the surviving spouse to drive the impact of the messages).

This analysis generated the data shown in Table 5. Note that it is not important to see a pattern immediately. Confirming or denying a specific hypothesis, or looking for a simple rule based upon one or two observations, is not the objective. Rather, the utility values in Table 5 stand for 'what works', when it is known who the juror is, who the testifying witness is, and what is being said. Which one of those statements drives towards the death penalty? Moving forward, an attempt can be made to abstract a pattern. Most important, however, is to be able to create this table.

A few interesting patterns were noted, although they are not yet worthy to be called findings, because there are not enough respondents behind each of the data points. For example, the additive constant or propensity to vote for the death penalty, varies by the gender of the juror and the gender and color of the surviving spouse giving the testimony.

Looking at the additive constant, the predisposition to vote for the death penalty in the absence of any element, it can be seen that females judging males were quite different from males judging males. This can be discerned from looking at the additive constant for four columns, corresponding to the gender of the juror, and the race/gender of the surviving spouse who testified. Males were more consistent. Males listening to the testimony of black male spouses showed an additive constant of 19. Males who listen to the testimony of white male spouses showed an additive constant of 21. Females were less consistent. Females listening to the testimony of black male spouses showed an additive constant of 10, whereas when they listened to the testimony of white males they showed an additive constant of 27.

The database shown in Table 5 can be 'mined' in order to extract various findings and, in turn, create a wealth of hypotheses. That is not as important as recognizing one of the major contributions of systematic exploration, as shown here. The analysis can focus at many levels, from simply 'what works' to 'what works among which respondents', to 'what works among which respondents based on who is giving the testimony'. The results come back in the form of 'basic propensity to vote for the death penalty' (additive constant) or part-wise impact or utility value for each element as a driver towards the death penalty.

Table 5

	A	X	B	C	D	E	F	X	G	H	I	J	K
Gender of the juror	**Average**		**Male**	**Male**	**Male**	**Male**	**Male**		**Fem**	**Fem**	**Fem**	**Fem**	**Fem**
Gender and race of the surviving spouse who testifies	**None**		**None**	**Black F**	**Black M**	**White F**	**White M**		**None**	**Black F**	**Black M**	**White F**	**White M**
Additive constant	**24**		**22**	**29**	**19**	**18**	**21**		**22**	**33**	**10**	**32**	**27**
The body was bludgeoned beyond recognition	**25**		**28**	**21**	**29**	**27**	**26**		**21**	**22**	**28**	**18**	**13**
The detectives found it hard to tell me that the body showed signs of sexual molestation	**24**		**24**	**22**	**22**	**25**	**22**		**24**	**13**	**27**	**16**	**17**
I still remember how shocked I was when the detectives told me the body had been mutilated	**23**		**26**	**24**	**24**	**23**	**25**		**20**	**18**	**24**	**18**	**19**
I couldn't believe that my spouse's throat was slashed	**20**		**21**	**18**	**19**	**19**	**18**		**18**	**12**	**23**	**14**	**11**
Since my loved one was killed, I find myself crying most of the time	**9**		3	3	3	2	7		**15**	7	8	5	**10**
Although I used to enjoy food, since the murder I no longer have an appetite	**9**		3	-3	3	-4	4		**14**	4	5	-4	7
I am always tired and can never get a good night's sleep since the murder	6		4	-2	6	-2	4		8	3	3	0	**10**

Since the murder, I find myself overwhelmed by even the thought of leaving the house	4		2	7	7	4	4		5	5	1	-2	**9**
Since the murder, it seems that my friends are uncomfortable around me	2		-3	-1	5	2	1		6	0	4	**-3**	-1
Since the murder I have had to go on public assistance	0		7	-4	1	1	-2		-6	-5	**13**	0	-3
Since the murder, I can't remember the last time my friends invited me out	0		0	-4	3	8	4		1	-2	7	-1	-1
I am having trouble paying the mortgage since the murder	0		4	0	0	5	0		-4	3	**13**	2	2
I am having difficulty paying the family's health insurance premiums since the murder	0		5	-3	1	0	5		-5	-3	8	0	4
My friends treat me differently since the murder	0		0	-2	3	3	0		-1	-8	6	-2	**-11**
Since the murder, I no longer know who my true friends are	-1		-3	1	2	6	-1		2	-6	7	4	**-11**
I am unable to keep up with the children's ' tuition payments since the murder	-1		1	-6	0	3	-2		-3	-6	**9**	**9**	6

Table 5—How the gender of the juror and the gender/race of the surviving spouse who testifies drive the propensity to vote for the death penalty. The additive constant reflects the basic propensity without elements. Statistically significant and meaningful utilities are shown in shade and bold.

Different Mindsets Demonstrated by Concept-Response Segmentation

Marketers have long known that people differ from each other in ways that are more attitudinal than might be expected on the basis of geo-demographic differences. One need only consider the plethora of foods in

any store to realize that there are many different 'tastes' in the population, and that a single product cannot satisfy all of these preference groups. The same reasoning can be applied to people's responsiveness to messaging, such as we have here with the juror votes for the death penalty. There are differences among key subgroups, but these differences are not systematic.

To determine whether more fundamentally different, more 'basic' groups of mind-sets in the population exist with respect to the messaging, a clustering analysis was performed to uncover latent 'segments' or groups of individuals with different mind-sets. The term 'latent' means that these segments exist but are not necessarily co-terminus with conventional ways of dividing people.

The method section of this paper provided the approach. Table 2 showed the distribution of respondents for the two segments that emerged from this analysis. Three, four and five segment solutions were tried. In the interests of parsimony and interpretability, we selected two segments as being the simplest solution. Table 6 shows how the elements perform for the two segments which can be called 'more swayable' and 'less swayable', respectively.

1. The additive constant for the More Swayable segment was 20, and for the Less Swayable segment was 26. The Less Swayable started off slightly more predisposed to assign the death penalty.
2. The real difference came in the utility values from the testimony. The messaging was far more powerful (3x more) from some of the strongest scoring elements dealing with the heinousness of the crime. Element D4, for example, 'The body was bludgeoned beyond recognition' had a utility of 45 for the More Swayable segment and only a utility of 14 for the Less Swayable.
3. Using the foregoing testimony (D4) created a 65% conditional probability of the death penalty voted for by the More Swayable Segment (Constant + Element Utility = 20 + 45 = 65), and a far lower 40% conditional probability for the Less Swayable Segment (Constant + Element Utility = 26 + 14 = 40).
4. The degree to which the More Swayable segment can be moved always may work to the defendant's advantage. The More Swayable segment responded to pictures of the surviving spouse by moving towards life without parole. A white female as the surviving spouse, for example, generated a utility value of -7, which is just as impactful (but in a different direction) as

testimony that *Since my loved one was killed, I find myself crying most of the time!*

Table 6

		Total Panel	**Segment 1 More Swayable**	**Segment 2 Less Swayable**
	Additive constant	23	20	26
D4	The body was bludgeoned beyond recognition	26	45	14
D1	I still remember how shocked I was when the detectives told me the body had been mutilated	23	40	13
D3	The detectives found it hard to tell me that the body showed signs of sexual molestation	23	37	14
D2	I couldn't believe that my spouse's throat was slashed	18	32	10
C1	Since my loved one was killed, I find myself crying most of the time	5	6	4
C2	Since the murder, I find myself overwhelmed by even the thought of leaving the house	4	5	4
C4	I am always tired and can never get a good night's sleep since the murder	3	5	2
E3	Since the murder, I can't remember the last time my friends invited me out	2	-3	5
B1	I am having trouble paying the mortgage since the murder	2	5	0
C3	Although I used to enjoy food, since the murder I no longer have an appetite	2	2	2
B4	I am having difficulty paying the family's health insurance premiums since the murder	1	4	0
E4	Since the murder, it seems that my friends are uncomfortable around me	1	-3	3
E2	Since the murder, I no longer know who my true friends are	1	-4	3
B2	Since the murder I have had to go on public assistance	0	2	-1
E1	My friends treat me differently since the murder	0	-5	3
B3	I am unable to keep up with the children's tuition payments since the murder	0	4	-2
A2	Black Male	-1	-4	1
A4	White Male	-2	-4	-1
A1	Black Female	-2	-5	-1
A3	White Female	-3	-7	-1

Table 6—Segmenting the respondents by the pattern of their persuasion utilities generates two mind-set segments with substantially different response patterns to the same testimony.

Creating the typing tool was straightforward, combining elements that differentiate the segments were examined. Respondents in one segment were far more drawn to one of the concepts than to the other. None of the concepts were perfect; they were only devices by which to sort an individual. There may, in fact, be two sets of such concepts rather than one set.

For these data the statements about the heinousness of the crimes were not used, because both segments responded strongly to those statements. The statements about the heinousness simply did not sufficiently differentiate to be useful, even though Segment 1 was more responsive to them than was Segment 2.

Of practical import is the ability of the lawyer to 'type' the jurors in terms of their membership in a segment. Since the segments show different patterns of what drives jurors to recommend the death penalty versus life, when framing arguments it became important to fine-tune the statements to the jurors. In the voir-dire, and with allowable juror questionnaires, one can use the data from segmentation to frame two paragraphs, the choice of which places a potential juror into the more swayable versus less swayable segment, respectively. Examples of two paragraphs (i.e., test concepts) appear in Table 7. Other combinations of elements from the study may be used to type prospective jurors. The approach presented in Table 7 is simply one alternative typing tool.

Table 7

		Total	**More Swayable**	**Less Swayable**
	Additive constant	23	20	26
	Choose this concept - prospective juror is probably in Segment 1			
B1	I am having trouble paying the mortgage since the murder	2	5	0
B3	I am unable to keep up with the children's tuition payments since the murder	0	4	-2
B4	I am having difficulty paying the family's health insurance premiums since the murder	1	4	0
	Total (Constant + Element utilities)	27	33	23

		Total	**More Swayable**	**Less Swayable**
	Choose this concept – prospective juror is quite likely in Segment 2			
E3	Since the murder, I can't remember the last time my friends invited me out	2	-3	5
E2	Since the murder, I no longer know who my true friends are	1	-4	3
E1	My friends treat me differently since the murder	0	-5	3
	Total (Constant + Element utilities)	26	9	37

Table 7—Suggested pair of paragraphs by which to 'type' a prospective juror as belonging to Segment 1 (More Swayable) or Segment 2 (Less Swayable).

'1+1 Occasionally Make 3 and Occasionally Make 0'—Synergisms and Suppressions Are Absent Between Pairs of Elements

Synergism means that two elements generate a combination, the response to which is far higher than what might be expected from the response to the two elements considered separately. Suppression is the same, unexpected effect of the combination, but with the combination generating a response that is far lower.

In messaging research, synergisms and suppressions are often talked about but rarely demonstrated. Recent concept research by Gofman (2006) provides a method by which to uncover these synergisms. When applied to these data and this specific experimental design (5 categories, 4 elements per category, 20 elements altogether), the method first forces the 20 elements into the equation. Then the method attempts to find additional pairs of elements that add significant increased predictability to the model. The equation already has 20 terms. There are an additional 10 pairs of categories (AB, AC, AD, AE, BC, BD, BE, CD, CE, DE), and 16 pairs of elements for each pair of categories (e.g., $A_1B_1 \ldots A_4B_4$ = 16 unique combinations). Therefore, there are a possible 160 pair-wise interactions. The analysis looks for any pair of elements that adds significant predictability to the model that already comprises 20 elements. In previous studies of this type, about 3% to 5% of the pairs qualified as synergistic or suppressive.

The analysis of these results suggest that 4 of the 160, or 1/40 = 2.5% of the pairs, generate a synergism or suppression, about what is found in other studies. It is important thing to identify which specific combination

generates the significant interaction as well as the magnitude of the interaction. These appear in Table 8.

Table 8

Pair	First element	Second element	P value	F ratio and direction	Interaction Effect
Synergism: 1+1 make 3 – move towards death penalty					
C1E1	Since my loved one was killed, I find myself crying most of the time	My friends treat me differently since the murder	0.12	2.39	7.2
B2E2	Since the murder I have had to go on public assistance	Since the murder, I no longer know who my true friends are	0.15	2.03	7.8
A3B3	White Female	I am unable to keep up with the children's tuition payments since the murder	0.19	1.74	7.1
Suppression - 1+1 make 0 – Move unexpected away from the death penalty					
C1E3	Since my loved one was killed, I find myself crying most of the time	Since the murder, I can't remember the last time my friends invited me out	0.14	-2.17	-6.4

Changing One's Mind Over Time During the Interview

Do respondents change their mind during the course of the interview? If they do, then another key finding to examine may be how long to present the same information before the respondent habituates. This type of information is invaluable in the prosecution of an argument because it indicates when to stop.

One way to discover whether respondents change their minds in mid-interview, and if so, in what way, begins by dividing the interview into approximately three equal sections (concepts 1-8, 9-16, 17-25, respectively). Once this is done for all 288 respondents, the 'total panel' model is then computed for each 'third' of the interview, using all of the concepts as observations, and dividing the data set into thirds, based on order of evaluation. One then estimates the model separately for the

concepts in each third. This analysis of terciles is valid because each respondent evaluated a different set of combinations, totally randomized.

The results of this order analysis appear in Table 9. The concepts were divided into the three thirds and the model run for the panel, for males, and for females, respectively. The difference in utility values between the first third of the concepts and the final third of the concepts was then computed, keeping only those elements where the absolute value of the difference was 5 or more. *When the first third of the concepts generate higher utilities than do the final third (i.e., utilities decrease) it was concluded that repeated exposure decreases the propensity to vote for the death penalty, i.e., the respondent becomes more lenient. When the first third generated lower utilities than did the final third (i.e., utilities increase) it was concluded that repeated exposure increases the propensity to vote for the death penalty, i.e., the respondent becomes more strict.*

The most striking thing about these results was the strong drop in the additive constant, namely the conditional probability or percent of respondents (i.e., jurors) voting for the death penalty without the presence of elements. As the survey progressed there was a strong drop, *i.e., increasing leniency*, most noticeable for men, but also present for women. The same pattern held for the strong performing individual elements. It was men more than women who changed their mind during the course of the interview, and not always for leniency. As the survey went on, men became more lenient (voted for life without parole) with respect to the description of the heinousness of the crime. However, when the surviving spouse talked about hardships, the men became far less lenient, voting more for the death penalty. This change, during the course of the survey, and thus, by implication of the course of the trial, deserves far more investigation, because it suggested that different arguments may have to be adduced, depending upon where in the trial the parties find themselves.

[pages 44 & 45 are intentionally left blank to insert Table 9]

[pages 44 & 45 are intentionally left blank to insert Table 9]

RELIABILITY—DO THE RESULTS HOLD UP WHEN THE TEST IS RUN TWO MONTHS LATER WITH DIFFERENT PEOPLE?

One of the key aspects of a good research procedure is that the procedure produces the same results when it is repeated. This is called reliability. In order to establish reliability it is necessary to run the same study twice, at different times, with different people. To the degree that the results are identical from one study to another, the procedure is reliable.

The same study was run two months apart. This paper presented the results of the first study, comprising 288 respondents (223 females, 65 males). The second study, run to replicate the first, comprised 194 respondents (154 females, 40 males). There was almost the same percent of males and females in the two studies. Figure 5 shows the closeness of the two sets of utilities. Each circle corresponds to one of the 20 elements in the study. The line shows the pattern to be expected if there were perfect agreement between the two studies, run at different times, with different respondents. It is very clear that except for a few elements, the data are highly reliable.

Figure 5

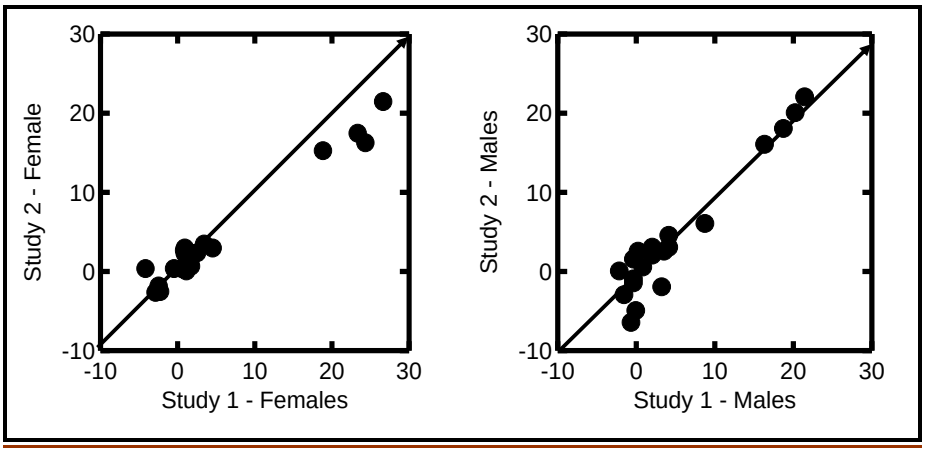


Figure 5—Scatter plot of the 20 utilities estimated for study 1 (reported here) and study 2 (run two months later). The line corresponds to perfect reliability. The correlations are 0.98 for females and 0.96 for males.

DISCUSSION

The first issue here is the representation of the respondents as surrogates for the jury. Requirements for participation in this study included access to a personal computer, online interconnectivity, and entrée to internet surveys. In real life, jurors come from a wider pool and may differ demographically from respondents used as surrogate jurors. Besides being computer literate, respondents here were predominantly white (88%), (African American 5%, Hispanic 2%, Asian 1%, other 4%), female (77%), overage 41 (72%), earned over $55,000 per year (47%), and had a college or graduate degree (47%). Real jurors are known to vary widely on these demographics depending on geographic locale. Jurors vary widely in the degree in which they volunteer for or attempt to elude jury duty.

The second issue here is the nature of the interview. This study was run as a self-administered, Internet-based interview. Real jurors do not vote in isolation as did study respondents, but are by most accounts, highly interactive in congregate deliberations leading to votes which may be multiple as all jurisdictions require unanimity or a lesser majority for a verdict. Depending on the situation, real jurors may see multiple family members impacted by a murder and the ways each can be impacted are more numerous than the four items listed in the other categories of this research study (financial, emotional, viciousness of crime, social). This research looked only at whether specific items of one of five categories combined to synergize or suppress across categories, but did not look at cumulative interactions within categories. Nonetheless, these are the types of concerns that beset most research incorporating mock jurors. Although such concerns limit generalizations that can be made about results, the heuristic value of such research remains recognized.

From the analyses of the segments identified in this study a ‘tool’ for typing or sorting jurors was created by empirical findings. ‘Typing’ allows the lawyer to identify jurors whose basic stance may be favorable or unfavorable to the case. One way to type a juror is to present two or more concepts constructed from the data set. Depending upon how the prospective juror rates, ranks, or chooses between the concepts, its possible to identify the respondent as belonging to one segment or to the other. An example of such typing was seen in Table 7.

For cases where there is more segmentation, the same approach can be used, except that the prospective juror has to select, rate, or rank from a set of three or more concepts, constructed to differentiate among the segments. It may not be necessary to infer a link between exogenous variables about a

prospective juror (e.g., age, income, gender, occupation, etc.) and membership in a 'mind-set' segment. Such links are, at best, tenuous. We avoid this effort and a possible weak bridge to segmentation by a method that is 'self-validating'. *The respondents are exposed to precisely the same elements to which a segment strongly responds, as established empirically. That is, to include new individuals in that segment, we simply use the response behavior defining a segment. To the degree that the 'test' is reliable, we can feel comfortable with the typing of new respondents, and can consider this typing to fall into the category or measurement reliability, rather than measurement validity.*

ACKNOWLEDGMENTS

The authors would like to thank Jim Wren of Baylor Law School for insight into potential application of 'typing' prospective jurors. Dr. Howard R. Moskowitz would like to thank his editorial assistant, Linda Lieberman, for keeping him on publication schedule.

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