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Dennis C. Taylor

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Your Money or Your Life?: Thinking About the Use of Willingness-to-Pay Studies to Calculate Hedonic Damages*

Thief: Your money or your life?
Jack Benny: (Pause) I'm thinking! I'm thinking!¹

I. Introduction

Legal commentators frequently debate the propriety of awarding damages for nonpecuniary losses,² often called losses for pain and suffering,³ in tort actions.⁴ Some legal commentators propose abolishing, at least in some situations, awards for nonpecuniary losses altogether.⁵

* The author would like to express his appreciation to Professor James M. Phemister and Tanya Dobash for their assistance in the development of this Note.

1. See *Mercado v. Ahmed*, 974 F.2d 863, 871 (7th Cir. 1992) (quoting Jack Benny's comedy bit when considering admission of testimony of hedonic damages expert).

2. See John E. Calfee & Paul H. Rubin, *Some Implications of Damage Payments for Nonpecuniary Losses*, 21 J. LEGAL STUD. 371, 371 (1992) (defining harms other than loss of wealth as nonpecuniary losses).

3. See John E. Calfee & Clifford Winston, *The Consumer Welfare Effects of Liability for Pain and Suffering: An Exploratory Analysis*, in BROOKINGS PAPERS ON ECONOMIC ACTIVITY: MICROECONOMICS 1 at 133, 133 (Martin N. Baily et al. eds., 1993) (observing that commentators treat compensation for nonpecuniary losses and pain and suffering damages as synonymous terms); W Kip Viscusi, *Comments and Discussion*, in BROOKINGS PAPERS ON ECONOMIC ACTIVITY: MICROECONOMICS 1, *supra*, at 175, 175 (describing "pain and suffering" as shorthand that commentators use to summarize all components of nonpecuniary compensation that accident victims receive, including loss of consortium and companionship, mental anguish, grief, and loss of enjoyment of life).

4. See 2 DAN B. DOBBS, *LAW OF REMEDIES: DAMAGES—EQUITY—RESTITUTION* § 8.1(4), at 397 (2d ed. 1993) (noting that number of critics have expressed disapproval of pain and suffering awards that courts now make); W KIP VISCUSI, *REFORMING PRODUCTS LIABILITY* 114 (1991) (noting dissatisfaction with manner in which courts calculate damages for pain and suffering).

5. See Alan Schwartz, *Proposals for Products Liability Reform: A Theoretical Synthesis*, 97 YALE L.J. 353, 408-11 (1988) (arguing that courts should not impose strict

Other commentators propose expanding the contexts in which courts permit such awards.⁶ Still others propose that state legislatures place caps on awards for nonpecuniary losses⁷ or develop compensation schedules that courts or juries can apply to the facts of particular cases.⁸ Legal commentators present such proposals because they perceive that jury awards for pain and suffering lack consistency⁹ and provide an inefficient means of compensating victims for nonpecuniary losses.¹⁰

Despite the vigorous debate by legal commentators, courts traditionally have upheld the vast majority of pain and suffering awards with little comment.¹¹ Recently, however, courts also have begun to debate the extent to which victims should receive compensation for nonpecuniary losses.¹² Largely responsible for this debate is a small group of economists who

liability for nonpecuniary losses).

6. See WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF TORT LAW* 186-89 (1987) (criticizing wrongful death statutes that do not allow courts to award damages for decedents' nonpecuniary losses).

7. See Marcus L. Plant, *Damages for Pain and Suffering*, 19 OHIO ST. L.J. 200, 211 (1958) (proposing that courts limit pain and suffering awards to 50% of medical, nursing, and hospital expenses proved at trial); see also 2 DOBBS, *supra* note 4, § 8.8, at 523-30 (discussing tort reformers' efforts to place statutory caps on damage awards).

8. See VISCUSI, *supra* note 4, at 115-16 (recommending that courts assist juries in awarding damages for pain and suffering by providing advisory schedules); Randall R. Bovbjerg et al., *Valuing Life and Limb in Tort: Scheduling "Pain and Suffering,"* 83 NW. U. L. REV. 908, 975 (1989) (suggesting that courts replace present system of awards for nonpecuniary losses with quantitative scheduling).

9. See, e.g., VISCUSI, *supra* note 4, at 114 (noting claims of inconsistency in jury awards for pain and suffering); Bovbjerg et al., *supra* note 8, at 908 (calling noneconomic damage awards unpredictable); Schwartz, *supra* note 5, at 411 (stating that businesses find nonpecuniary damages difficult to predict and insure against); Stan V. Smith, *Hedonic Damages in the Courtroom Setting—A Bridge Over Troubled Waters*, 3 J. FORENSIC ECON. 41, 48 (1990) (observing that courts traditionally have left jurors to make unpredictable estimations of nonpecuniary damages).

10. Cf. Schwartz, *supra* note 5, at 408 (arguing that strict liability for nonpecuniary harm requires consumers to purchase more insurance and safety than they want).

11. See RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 197 (4th ed. 1992) (noting that courts largely have ignored vexing problem of proper valuation of life); Irene Deaville Sann, *Remittitur (and Additur) in the Federal Courts: An Evaluation with Suggested Alternatives*, 38 CASE W. RES. L. REV. 157, 186-87 (1987) (observing that most courts deny motions for remittitur unless jury verdict shocks court's conscience).

12. See Michael L. Brookshire & James C. Peterson, *Loss of Enjoyment of Life Damages*, TRIAL, June 1992, at 60, 60 (calling admissibility of lost-enjoyment-of-life evidence issue in almost every jurisdiction).

assert that they have developed a revolutionary method of calculating nonpecuniary damages.¹³ These economists base their calculations of "hedonic damages"¹⁴ on willingness-to-pay (WTP) studies.¹⁵ WTP studies measure how much individuals will pay to reduce or will accept to increase their risks of death or injury.¹⁶ Many government policymakers already use data from WTP studies as the basis for evaluating the relative benefits of regulations that save lives.¹⁷ Hedonic damages experts assert that courts should use this same data to calculate nonpecuniary damages.¹⁸ These

13. See MICHAEL L. BROOKSHIRE & STAN V. SMITH, *ECONOMIC/HEDONIC DAMAGES: THE PRACTICE BOOK FOR PLAINTIFF AND DEFENSE ATTORNEYS* 162 (1990 & Supp. 1992) (asserting that only small percentage of economists has expertise in new method of calculating nonpecuniary damages); Ted R. Miller, *Willingness To Pay Comes of Age: Will the System Survive?*, 83 NW. U. L. REV. 876, 906 (1989) (describing new method of calculating nonpecuniary damages as quantum leap beyond current approaches).

14. See BROOKSHIRE & SMITH, *supra* note 13, at 164 (defining hedonic damages as value of pleasure, satisfaction, or utility that human beings derive from life, separate and apart from labor or earnings value of life); cf. John R. Glennie, *Hedonic Damages: Economists Can Assist With Proof*, NAT'L L.J., Sept. 5, 1988, at 15, 15 (stating that hedonic value of life encompasses all satisfactions and joys life may bring, including satisfaction from personal achievement, being in love, and enjoying company of friends). The term "hedonic damages," as used in this Note, refers to calculations of the value of nonpecuniary damages in tort actions using data from willingness-to-pay (WTP) studies.

15. See generally BROOKSHIRE & SMITH, *supra* note 13, at 161-75 (1990) & 57-67 (Supp. 1992) (discussing use of WTP data to calculate hedonic damages); Miller, *supra* note 13, at 891-907 (discussing use of WTP data in courts).

16. See Ann Fisher et al., *The Value of Reducing Risks of Death: A Note on New Evidence*, 8 J. POL'Y ANALYSIS & MGMT. 88, 89 (1989) (stating that WTP estimate measures how much of other goods and services people will give up to gain reduction in risk of death).

17. See *id.* at 98 (explaining that WTP studies can assist government policymakers in allocating resources among various programs that extend human lives, and between programs that save human lives and those that accomplish other societal goals); Miller, *supra* note 13, at 886-91 (discussing use of risk reduction values in regulatory analysis); see also Peter Passell, *Disputed New Role for Polls: Putting a Price Tag on Nature*, N.Y. TIMES, Sept. 6, 1993, at A1 (noting that Congress and courts have ordered federal regulators to use WTP measurements to value animals' lives).

18. See BROOKSHIRE & SMITH, *supra* note 13, at 161 (explaining that economic experts can assist courts in calculating intangible damages). Some economists also recommend using data from WTP studies to evaluate the efficacy of awarding punitive damages in product liability actions. *Id.* at 173; W. Kip Viscusi, *The Value of Life: Has Voodoo Economics Come to the Courts?*, 3 J. FORENSIC ECON. 1, 15 (1990). According to hedonic damages experts Michael L. Brookshire and Stan V. Smith, courts should levy punitive damages against manufacturers that exhibit considerable disregard for life's value.

experts argue that hedonic damages calculations will add a measure of certainty previously unknown to nonpecuniary awards,¹⁹ will guarantee victims of tortious conduct adequate compensation,²⁰ and will increase judicial efficiency.²¹

According to one economist, however, pain and suffering awards will consume ten to fifteen percent of this nation's gross national product per year if courts adopt hedonic damages calculations as the universal standard for nonpecuniary awards.²² According to another economist, admission of hedonic damages testimony will lead to a tenfold increase in tort awards.²³ Even if these economists exaggerate the effect of hedonic damage awards, it is clear that such awards could have a significant impact on tort recoveries. Therefore, courts must evaluate carefully the propriety of such awards, as well as the scientific support for both the WTP approach and hedonic damages experts' further extrapolations of nonpecuniary losses from WTP data.²⁴

This Note discusses some of the complex legal and scientific questions surrounding the debate over admission of expert testimony in the area of hedonic damages. Part II illuminates how economists calculate hedonic damages. Part II.A examines how those who conduct WTP studies go about placing a value on human life. Part II.B reveals how economists derive a value for victims' nonpecuniary damages from WTP data. Part III addresses the relevance of hedonic damages calculations to pain and suffering awards. Part III.A discusses the dual goals of the tort sys-

BROOKSHIRE & SMITH, *supra* note 13, at 173. A manufacturer who spends only \$10,000 to save one statistical life, when WTP studies indicate that society would pay much more, for example, should pay punitive damages.

19. See BROOKSHIRE & SMITH, *supra* note 13, at 167 (asserting that expert testimony about way that economists measure life's value removes assessment process from speculative realm).

20. See *id.* at 165 (asserting that expert testimony will lead to fair awards).

21. *Id.*

22. Thomas Havrilesky, *Valuing Life in the Courts: An Overview*, 3 J. FORENSIC ECON. 71, 71 (1990).

23. Viscusi, *supra* note 18, at 1, cf. Jack E. Karns, *Economics, Ethics, and Tort Remedies: The Emerging Concept of Hedonic Value*, 9 J. BUS. ETHICS 707, 708 (1990) (observing that some hedonic damage awards triple or quadruple amount of awards for lost earnings).

24. See BROOKSHIRE & SMITH, *supra* note 13, at 168 (describing WTP literature as highly technical); see also *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 113 S. Ct. 2786, 2795 (1993) (concluding that Federal Rule of Evidence 702 requires courts to evaluate relevance and reliability of scientific testimony or evidence before permitting admission).

tem—compensation and deterrence—and Part III.B explains that hedonic damages calculations represent deterrence values, not compensation values. Part III.C analyzes the contexts in which hedonic damage awards and testimony by experts may be relevant. Part III.D addresses whether the testimony of hedonic damages experts actually assists jurors in calculating nonpecuniary damages. Part IV explores critics' concerns about the reliability of WTP studies and experts' calculations of nonpecuniary damages based on WTP data. Part IV.A analyzes criticisms of the types of risks that WTP studies measure, of the risk assessment data upon which WTP studies rely, and of discrepancies in value-of-life estimates and then looks at one court's criticisms of WTP studies and explains the flaws in those criticisms. Part IV.B considers criticisms of the ways in which experts convert WTP data to estimates of hedonic damages. This Note concludes that courts only rarely should permit nonpecuniary awards based on the calculations of hedonic damages experts because such calculations are irrelevant to most tort contexts. In those few contexts in which such awards may be appropriate, however, courts should not hastily dismiss WTP studies or hedonic damages calculations as "junk science."

II. Calculation of Hedonic Damages

Calculating hedonic damages involves a two-step process. First, hedonic damages experts, relying on WTP studies, place a value on the average human life.²⁵ Second, hedonic damages experts deduct pecuniary losses from that value to arrive at what they claim is the victim's nonpecuniary damages.²⁶

A. Placing a Value on Human Life

Hedonic damages experts begin their calculations by placing a value on the life of a statistically average person (statistical life).²⁷ Although hedonic damages experts may gather information for their calculations from

25. See *infra* part II.A (discussing how economists who conduct WTP studies measure life's value).

26. See *infra* part II.B (discussing how experts calculate nonpecuniary losses).

27. See BROOKSHIRE & SMITH, *supra* note 13, at 168 (indicating that hedonic damages expert begins by estimating life's total value); Daniel McGowan & Sharon O'Hanlon, *An Attorney's Primer on Hedonic Damages*, 26 TRIAL LAW. GUIDE 1, 7 (1993) (indicating that hedonic value represents residual value derived from anonymous individual's after-tax value).

many sources,²⁸ they principally rely on data from WTP studies.²⁹ Economists who conduct WTP studies use a relatively simple mathematical formula to calculate the value of a statistical life:

$$\text{Payment to Reduce Probability of Dying} - \text{Reduction in Probability of Dying} = \text{Value of Life}^{30}$$

Assume, for example, that Boris and five of his friends will pay an average of \$100,000 to avoid playing one round of Russian roulette, a game in which each faces a risk of death of one in six. Economists would conclude that Boris and his friends place a value of \$600,000 on a statistical life, \$100,000 for each person's one-sixth chance of dying.³¹

Economists who conduct WTP studies traditionally gather three types of information: information from the labor market, information about consumers' purchasing habits, and information from survey hypotheticals.³² Wage-risk analyses, which make up the majority of WTP studies,³³

28. See BROOKSHIRE & SMITH, *supra* note 13, at 166-70 (identifying three possible approaches hedonic damages experts can use to value life: estimates based on WTP studies, estimates based on individuals' willingness to pay for their own lives, and estimates based on society's willingness to pay for specific lives). Hedonic damages expert Stan V. Smith testified in one case that the federal government's expenditure for pilot ejection seats indicated that the government valued pilots' lives at \$9.8 million each. Jerome M. Staller, *Damages: Placing a Value on the Enjoyment of Life*, FOR DEF., June 1989, at 8, 9. Brookshire and Smith also recommend presenting juries with information about the cost that society incurs to keep prisoners incarcerated. BROOKSHIRE & SMITH, *supra* note 13, at 170.

29. See BROOKSHIRE & SMITH, *supra* note 13, at 59 (Supp. 1992) (indicating clear consensus that WTP model must serve as benchmark for value-of-life estimates in hedonic analyses). Some economists base their measures of the value of individuals' lives on the amount of their economic output. Miller, *supra* note 13, at 876-77. Economists who use the WTP model criticize this method, known in the economics literature as the human capital approach, for ignoring nonmonetary values such as quality of life and for undervaluing the services of homemakers, senior citizens, and others. *Id.* at 877-78.

30. See McGowan & O'Hanlon, *supra* note 27, at 3 (explaining WTP methodology: monetary value of life × reduction in probability of dying = payment to reduce probability of dying).

31. \$100,000 - 1/6 = \$600,000.

32. See Fisher et al., *supra* note 16, at 89 (grouping WTP studies into three categories: wage-risk studies, contingent market studies, and consumer market studies).

33. See BROOKSHIRE & SMITH, *supra* note 13, at 59 (Supp. 1992) (noting that more wage-risk studies exist than any other category of WTP studies).

review information about how much more workers earn for increased risks of death and injury³⁴ If the average coal miner earns an additional \$500 for every one-ten-thousandth increase in the risk of death, for example, economists who conduct wage-risk analyses conclude that average coal miners value their lives at \$5 million.³⁵ Wage-risk analyses differ from other types of WTP studies because they focus on what average individuals will accept to increase, not pay to decrease, their risks of death or injury³⁶

Consumer market analyses review information about the amount consumers pay for products that affect their health and safety³⁷ In her study of the fire detector market,³⁸ for example, economist Rachel Dardis observed that consumers paid an annualized cost of \$9 75 in 1976 dollars for smoke detectors.³⁹ Dardis also observed that purchasing a smoke detector reduced one's risk of dying by about one in 31,600 in any given year.⁴⁰ Based on these findings, Dardis concluded that consumers valued

34. See Fisher et al., *supra* note 16, at 89 (stating that wage-risk studies estimate wage premium associated with greater risks of death on job); Ted R. Miller, *The Plausible Range for the Value of Life—Red Herrings Among the Mackerel*, 3 J. FORENSIC ECON. 17, 17 (1990) (stating that wage-risk studies analyze compensating wage differentials associated with risky jobs).

35. $500 - 1/10,000 = \$5,000,000$; see Fisher et al., *supra* note 16, at 89 (using hypothetical to explain how economists derive value for statistical life from wage-risk information). In their review of the WTP literature, Fisher et al. presented the preceding hypothetical merely to explain how wage-risk analyses work. *Id.* Fisher et al. do not appear to have based this hypothetical on an actual WTP study

36. See *infra* notes 182-86 and accompanying text (addressing contexts in which economists deem distinction between willingness to pay money to prevent risk and willingness to accept money to avoid exposure to risk important).

37. See Fisher et al., *supra* note 16, at 95 (stating that consumer market studies examine observable tradeoffs that people make between risks and benefits in consumption decisions); Miller, *supra* note 34, at 17 (stating that market studies analyze market for products that affect health and safety).

38. Rachel Dardis, *The Value of a Life: New Evidence from the Marketplace*, 70 AM. ECON. REV. 1077 (1980); cf. Miller, *supra* note 34, at 25, 28 (explaining Miller's "improved version" of Dardis's model). Cf. generally Christopher Garbacz, *Smoke Detector Effectiveness and the Value of Saving a Life*, 31 ECON. LETTERS 281 (1989) (reporting on Garbacz's consumer market analysis of smoke detector market).

39. Dardis, *supra* note 38, at 1080. Dardis calculated the present value of the amount individuals paid for smoke detectors for the years 1974 through 1979 by using both a 5% and 10% discount rate. *Id.*

40. *Id.* at 1079. Dardis also considered the amount that individuals were willing to pay to avoid injury *Id.* at 1078-79. This example, however, ignores the possibility that

a statistical life at approximately \$308,000 in 1976 dollars.⁴¹ Consumer market analyses, like wage-risk analyses, measure actual behavior.⁴²

Contingent valuation surveys, by contrast, present respondents with hypothetical situations and then ask them to make choices that will affect their health and safety.⁴³ A surveyor might ask drivers to estimate the amount of money they would pay for an automobile with a safety package that cuts in half a driver's chances of dying in a fatal accident.⁴⁴ Economists traditionally conduct contingent valuation surveys only when market information does not exist⁴⁵ because economists find it difficult to design surveys that produce reliable responses.⁴⁶

B. Deriving a Value for Nonpecuniary Losses

WTP studies produce a wide range of estimates, from as low as \$0 to as high as \$15 million and beyond, for the value of a statistical life.⁴⁷ Thus, the value that a hedonic damages expert selects has a significant impact on the outcome of that expert's calculations.⁴⁸ Reviews of the WTP literature provide the best source for consensus statistical life values

individuals might also buy smoke detectors to reduce their risks of injury.

41. *Id.* at 1080.

42. Fisher et al., *supra* note 16, at 95.

43. *See id.* at 94 (stating that contingent valuation approach poses hypothetical market situation to survey respondents, who then must respond about their willingness to pay for alternative levels of safety).

44. *See Calfee & Winston, supra* note 3, at 141 (using survey hypothetical similar to hypothetical in text).

45. *See* W KIP VISCUSI, FATAL TRADEOFFS: PUBLIC AND PRIVATE RESPONSIBILITIES FOR RISK 68 (1992) (suggesting that economists limit surveys to situations for which no good market information exists); Fisher et al., *supra* note 16, at 94 (asserting that economists can tailor surveys to address policy questions for which market information does not exist).

46. *See* VISCUSI, *supra* note 45, at 67-68 (expressing concern that survey respondents neither give honest and thoughtful responses nor process probability information accurately); Fisher et al., *supra* note 16, at 94 (identifying fact that surveys measure what people say, not what they do, as principal drawback). *Compare* Calfee & Winston, *supra* note 3, at 142-43 n.17 (identifying criticisms of contingent valuation surveys, but asserting that most criticisms do not apply to Calfee and Winston survey) *with* Viscusi, *supra* note 3, at 182-91 (discussing problems with Calfee and Winston survey).

47. *See* Miller, *supra* note 34, at 17 (stating that WTP studies yield statistical life values ranging from \$0 to \$15 million in 1988 dollars).

48. *See infra* note 75 and accompanying text (setting out mathematical formula that experts use to derive hedonic damages and discussing significance of statistical life value experts choose).

because reviewers attempt to reconcile data from different WTP studies.⁴⁹ Wage-risk analyses, for example, traditionally rely on data bases that measure before-tax income, while consumer market analyses consider how individuals spend their after-tax income.⁵⁰ Economists who conduct WTP studies also often express their values in terms of different base-year amounts.⁵¹ Reviews of the WTP literature consider and adjust for these and other factors before arriving at what the reviews describe as consensus value-of-life estimates.⁵²

Government policy analysts Ann Fisher, Lauraine G. Chestnut, and Daniel M. Violette (1989)⁵³ and economists Ted R. Miller (1990)⁵⁴ and W. Kip Viscusi (1992)⁵⁵ have reviewed the WTP literature recently.⁵⁶ Fisher, Chestnut, and Violette conclude that the value of a statistical life falls somewhere between \$1.6 million and \$8.5 million in 1986 dollars.⁵⁷ Miller places the value at \$2.2 million plus or minus thirty percent in 1988 dollars.⁵⁸ Viscusi believes that reasonable estimates cluster in the \$3 million to \$7 million range in December 1990 dollars.⁵⁹ Many hedonic damages experts currently use Miller's \$2.2 million estimate, adjusted to present value, as the starting point for their calculations.⁶⁰

49. Cf. BROOKSHIRE & SMITH, *supra* note 13, at 168 (expressing opinion that no single study provides perfect answer to value of statistical life).

50. Miller, *supra* note 34, at 19.

51. See VISCUSI, *supra* note 45, at 52-54, 61-63, 66 (adjusting data from WTP studies to December 1990 dollars); Fisher et al., *supra* note 16, at 90 (adjusting data from WTP studies to 1986 dollars); Miller, *supra* note 34, at 26-27, 31, 38-39 (adjusting data from WTP studies to 1988 dollars).

52. See generally VISCUSI, *supra* note 45 (surveying WTP literature); Fisher et al., *supra* note 16 (same); Miller, *supra* note 34 (same).

53. Fisher et al., *supra* note 16.

54. Miller, *supra* note 34.

55. VISCUSI, *supra* note 45, at 34-74.

56. Cf. M.W. JONES-LEE, THE ECONOMICS OF SAFETY AND PHYSICAL RISK 36-101 (1989) (reviewing both British and American WTP studies and concluding that value of statistical life is not less than £500,000 and may exceed £1,000,000).

57. Fisher et al., *supra* note 16, at 96.

58. Miller, *supra* note 34, at 32.

59. VISCUSI, *supra* note 45, at 73.

60. See Fetzer v Wood, 569 N.E.2d 1237, 1246 (Ill. App. Ct. 1991) (noting that hedonic damages expert proposed to testify about statistically anonymous life by using value similar to estimate in Miller's review); *Lang v American Honda Motor Co.*, 628 So. 2d 196, 203-04 (La. Ct. App. 1993) (same); *Wilt v Buracker*, 443 S.E.2d 196, 204 (W. Va.

The WTP literature contains little about the effect of personal characteristics like age, income, or personal habits on the values that different individuals place on reducing risks of death and injury.⁶¹ As a result, hedonic damages experts do not adjust value-of-life estimates to reflect any of a victim's personal characteristics except age.⁶² Yet, even when addressing age, hedonic damages experts adjust their calculations only to reflect the remaining life expectancy of the average individual of the victim's age because experts presume that individuals' valuations do not change as individuals grow older.⁶³ Even so, some hedonic damages experts will assert at trial that personal characteristics unique to a particular victim indicate that the particular victim values life more or less than the average person does.⁶⁴ Individuals who own smoke detectors,⁶⁵ do not work as bartenders,⁶⁶ and

1993) (describing Miller's review, but not identifying it by name, while discussing testimony of hedonic damages expert), *cert. denied*, 114 S. Ct. 2137 (1994); *see also* BROOKSHIRE & SMITH, *supra* note 13, at 58 (Supp. 1992) (citing Miller's review of WTP research as most current). *But see* Livingston v United States, 817 F Supp. 601, 605 (E.D.N.C. 1993) (noting that hedonic damages expert Gary Albrecht sought to rely on review of WTP literature by Daniel M. Violette and Lauraine G. Chestnut).

61. *See* BROOKSHIRE & SMITH, *supra* note 13, at 168 (indicating that economists who conduct WTP studies find taking into account individual characteristics beyond age, race, and sex difficult); Miller, *supra* note 13, at 895 (noting that economic literature has rarely discussed tailoring value-of-life estimates to fit demographic characteristics); *see also* VISCUSI, *supra* note 45, at 28-31 (discussing effects of income and age on value-of-life estimates).

62. *See* BROOKSHIRE & SMITH, *supra* note 13, at 168 (explaining that hedonic damages experts adjust calculations to reflect life expectancy); McGowan & O'Hanlon, *supra* note 27, at 9 (observing that hedonic damages experts begin calculations by determining "anonymous" life's total value).

63. *See* McGowan & O'Hanlon, *supra* note 27, at 10 (assuming unchanging real value of anonymous life over individual's life expectancy as necessary predicate to calculation of hedonic damages). No one appears to have tested in a WTP study the hypothesis that individuals' life valuations remain the same as they grow older.

64. *See* Miller, *supra* note 13, at 899-900 (explaining that individual's behavior may serve as basis for individualizing value-of-life estimates). Miller warns, though, that defendants may attack an expert's attempts to individualize value-of-life estimates because individuals behave inconsistently. *Id.* at 899.

65. *See supra* notes 38-41 and accompanying text (discussing Dardis's study of fire detector market). Hedonic damages experts might argue that plaintiffs that do not own smoke detectors value their lives at \$308,000 or more in 1976 dollars. *See generally* Dardis, *supra* note 38 (reporting results of Dardis's study of fire detector market).

66. *See* Fisher et al., *supra* note 16, at 91 (observing that actuarial risk information reveals that bartenders face higher risks of death than policemen and firemen). Fisher explains this seeming anomaly by pointing to the personal characteristics of individuals who

do not smoke cigarettes,⁶⁷ for instance, arguably value reducing their risks of death and injury more than those exhibiting the opposite characteristics do.

When economist Stan Smith first introduced the concept of hedonic damages to Illinois courts in the mid-1980s,⁶⁸ Smith argued incorrectly that WTP studies measure the value of the average human life "separate from [the] economic productive value of an individual."⁶⁹ Not surprisingly, Smith, when calculating hedonic damages in those early cases, did not deduct economic values such as earnings, fringe benefits, and household services from value-of-life estimates.⁷⁰ Almost all experts, including Smith, now agree that WTP studies measure the total value society places on life, including pecuniary values.⁷¹

Therefore, most hedonic damages experts today deduct the present value of damages for the victim's lost future earnings, fringe benefits, and household services from statistical life values to prevent what they characterize as double recoveries for these items.⁷² Experts also deduct the value for preserving financial security⁷³ because damage awards, at least in theory, restore any financial security that the tortious conduct takes from

work as bartenders. *Id.*

67. See Miller, *supra* note 13, at 899 (stating that expert witness might argue that person who quits smoking places value of at least \$700,000 on life). Miller notes in an accompanying footnote that the value that he gives represents a purely hypothetical example. *Id.* at 899 n.121. See generally Pauline M. Ippolito & Richard A. Ippolito, *Measuring the Value of Life Saving from Consumer Reactions to New Information*, 25 J. PUB. ECON. 53 (1984) (analyzing effect of health hazard information on cigarette smoking).

68. See BROOKSHIRE & SMITH, *supra* note 13, at 162 (stating that Smith first introduced expert testimony on hedonic damages in 1985 Illinois case).

69. *Sherrod v Berry*, 629 F. Supp. 159, 163 (N.D. Ill. 1985), *rev'd and remanded on other grounds*, 856 F.2d 802 (7th Cir. 1988).

70. See Miller, *supra* note 13, at 893-94 n.95 (noting that Smith in *Sherrod* incorrectly failed to subtract lost earnings from value-of-life estimate).

71. See *id.* (stating that Smith now subtracts lost earnings from value-of-life estimates, but that other "experts" have failed to correct Smith's error); see also Smith, *supra* note 9, at 43 (indicating that economists must subtract lost earnings, household services, and financial security, from value-of-life estimates to arrive at hedonic value).

72. See BROOKSHIRE & SMITH, *supra* note 13, at 168 (discussing method for calculating lost enjoyment of life from value-of-life estimates); McGowan & O'Hanlon, *supra* note 27, at 7-10 (same).

73. BROOKSHIRE & SMITH, *supra* note 13, at 168; see McGowan & O'Hanlon, *supra* note 27, at 8 (noting that hedonic damages experts subtract present value of satisfaction of knowing that plaintiffs will have income available in future from value-of-life estimates).

the victim.⁷⁴ Experts use the following mathematical formula to calculate hedonic damages:

$$\begin{aligned} & \textit{Statistical Life Value} \\ & - \textit{Future Earnings} \\ & - \textit{Future Fringe Benefits} \\ & - \textit{Future Household Services} \\ & - \textit{Financial Security} \\ & \hline & \textit{Hedonic Damages}^{75} \end{aligned}$$

Experts assert that courts should award this residual value, which experts call "hedonic damages," for a victim's nonpecuniary damages.⁷⁶

Although some WTP studies measure how much average individuals will pay to reduce their risks of injury,⁷⁷ hedonic damages experts generally do not rely on this data for their calculations in personal injury cases.⁷⁸ Instead, mental health professionals assist experts by assessing the loss that a particular plaintiff has suffered.⁷⁹ Mental health professionals evaluate the

74. See Miller, *supra* note 13, at 893-94 (stating that individuals compensated for economic losses do not lose sense of financial security).

75. See BROOKSHIRE & SMITH, *supra* note 13, at 168 (setting out equation that experts use to calculate hedonic damages); McGowan & O'Hanlon, *supra* note 27, at 9 (same). A hedonic damages expert starting with a statistical life value of \$8.5 million (the high end of Fisher, Chestnut, and Violette's range) will arrive at an estimate for hedonic damages \$6.9 million larger than an expert starting with a value of \$1.6 million (the low end of Fisher, Chestnut, and Violette's range), all other values being equal. Fisher et al., *supra* note 16, at 96.

76. See BROOKSHIRE & SMITH, *supra* note 13, at 168 (explaining that residual hedonic value can assist jurors in determining appropriate damage award for intangible losses).

77. See VISCUSI, *supra* note 45, at 59-65, 70-73 (reviewing WTP studies that measure value that individuals place on preventing injury).

78. See *Mercado v Ahmed*, 974 F.2d 863, 869 (7th Cir. 1992) (explaining how economist arrived at value for hedonic damages in personal injury action); *Wilt v Buracker*, 443 S.E.2d 196, 204-05 (W Va. 1993) (same), *cert. denied*, 114 S. Ct. 2137 (1994); see also BROOKSHIRE & SMITH, *supra* note 13, at 172-73 (1990) & 64 (Supp. 1992) (discussing hedonic damages calculations in personal injury actions); Miller, *supra* note 13, at 896-99 (discussing approaches that experts could take to calculate hedonic damages in personal injury actions). See generally Edward P Berla et al., *Hedonic Damages and Personal Injury: A Conceptual Approach*, 3 J. FORENSIC ECON. 1 (1990) (explaining method for calculating hedonic damages in personal injury actions); Wolfgang W Franz, *Calculating Hedonic Damages in Personal Injury Cases*, WASH. ST. BAR NEWS, March 1993, at 20 (discussing hedonic damages calculations in personal injury actions).

79. See *Mercado*, 974 F.2d at 869 (noting that hedonic damages expert relied on information that neuropsychologist provided in considering degree of plaintiff's loss); see

plaintiff's loss of practical functioning,⁸⁰ emotional functioning,⁸¹ social functioning,⁸² and occupational functioning⁸³ and then estimate in percentage terms the diminution in the plaintiff's quality of life.⁸⁴ According to one scale, a person who suffers significant scarring as a result of burns suffered in a fire generally will experience a fifty percent to sixty-seven percent loss in functioning, while a person who misses a few days of work after an automobile accident will suffer only a one percent to seventeen percent loss.⁸⁵ Hedonic damages experts simply multiply the value of hedonic damages had the plaintiff died by the percentage of loss that the mental health professional provides.⁸⁶

III. Relevance of Hedonic Damages Calculations

Courts have been reluctant to recognize the hedonic damages approach as a legitimate method of valuing nonpecuniary losses.⁸⁷ Even so, many

also BROOKSHIRE & SMITH, *supra* note 13, at 64 (Supp. 1992) (recommending interdisciplinary process, involving economists and psychologists, for calculating hedonic damages in personal injury actions); Berla et al., *supra* note 78, at 1 (same).

80. *See* Berla et al., *supra* note 78, at 2 (explaining that practical functioning refers to extent of effect on person's activity in daily living, including reading, grooming, dressing, eating, sleeping, shopping, traveling, doing housework, and parenting).

81. *See id.* (explaining that emotional/psychological functioning refers to person's ability to live on daily basis free of any debilitating emotional problems that diminish capacity to enjoy life and compromise person's sense of self-worth, dignity, and integrity).

82. *See id.* (explaining that social functioning refers to person's capacity to derive pleasure from interacting with other people, including family interactions, athletic activities, social events, hobbies, and any other interpersonal interactions).

83. *See id.* (explaining that occupational functioning refers to person's ability to engage in career or vocation of choice and to derive pleasure from occupational identity independent of any monetary compensation).

84. *See* BROOKSHIRE & SMITH, *supra* note 13, at 64 (Supp. 1992) (noting that psychologists usually provide conclusions on degree of lost enjoyment of life in percentage terms).

85. *See* Berla et al., *supra* note 78, at 2-4 (explaining lost-pleasure-of-life scale for use in personal injury actions). The degree of an individual's loss may vary over time. *Id.* at 4.

86. *See id.* at 6-7 (illustrating calculation process that hedonic damages experts use in personal injury cases).

87. *See, e.g.,* Trabucco v Hilton Hotels Corp., No. 93-3090, 1994 WL 419846, at *1 (E.D. La. Aug. 5, 1994) (granting defendant's motion in limine to exclude testimony of hedonic damages expert); Livingston v United States, 817 F. Supp. 601, 606 (E.D.N.C. 1993) (concluding that testimony of hedonic damages expert failed to pass muster under

courts speak less than articulately when explaining this reluctance because they misunderstand the rationale behind hedonic damages testimony⁸⁸ Many courts mistakenly believe that hedonic damage awards seek to make victims whole.⁸⁹ Instead, hedonic damage awards make tortfeasors pay victims amounts equivalent to that which society (average individuals)

Federal Rules of Evidence); *Johnson v. Inland Steel Co.*, No. 87-C-5541, 1992 WL 396296, at *3 (N.D. Ill. Dec. 28, 1992) (granting defendant's motion to bar expert from discussing hedonic damages); *Bramlette v Hyundai Motor Co.*, No. 91-C-3635, 1992 WL 213956, at *5 (N.D. Ill. Aug. 28, 1992) (granting defendants' motion to bar evidence of hedonic damages); *Craft v Matlack, Inc.*, No. 91-2465, 1992 WL 124406, at *1 (E.D. La. May 26, 1992) (refusing to allow expert to present hedonic damages testimony); *Buckhalter v Burlington N. R.R.*, No. EC90-139-D-D, 1992 WL 236676, at *2 (N.D. Miss. Mar. 23, 1992) (excluding testimony of hedonic damages expert); *Augustin v Hyatt Regency*, No. 91-0670, 1992 WL 21823, at *2 (E.D. La. Jan. 29, 1992) (granting defendants' motion to prohibit testimony of economist on value of loss of enjoyment of life); *Mercado v Ahmed*, 756 F Supp. 1097, 1103 (N.D. Ill. 1991) (granting defendants' motion to bar testimony of hedonic damages expert), *aff'd*, 974 F.2d 863 (7th Cir. 1992); *Fetzer v Wood*, 569 N.E.2d 1237, 1247 (Ill. App. Ct. 1991) (affirming trial court's exclusion of testimony of hedonic damages expert); *Southlake Limousine & Coach, Inc. v Brock*, 578 N.E.2d 677, 682 (Ind. Ct. App. 1991) (concluding that trial court erred in admitting testimony of hedonic damages expert); *Longman v Allstate Ins. Co.*, 635 So. 2d 343, 354-55 (La. Ct. App. 1994) (finding that trial court did not abuse discretion when it excluded testimony of hedonic damages expert); *Foster v Trafalgar House Oil & Gas*, 603 So. 2d 284, 286 (La. Ct. App. 1992) (holding that trial court erred by not granting defendants' motion in limine to exclude testimony of hedonic damages expert); *Wilt v Buracker*, 443 S.E.2d 196, 203-04 (W Va. 1993) (concluding that trial court erred in admitting testimony of hedonic damages expert), *cert. denied*, 114 S. Ct. 2137 (1994); *Liston v University of W Va. Bd. of Trustees*, 438 S.E.2d 590, 595 (W Va. 1993) (same). *But see* *Wanke v Lynn's Transp. Co.*, 836 F Supp. 587, 591 (N.D. Ind. 1993) (deferring ruling on defendants' motion in limine to exclude testimony of hedonic damages expert, but indicating that expert likely would not satisfy admissibility standards); *Moore v Kroger Co.*, 800 F Supp. 429, 436 (N.D. Miss. 1992) (refusing to limit testimony of hedonic damages expert until court could more fully explore substance of testimony at trial), *aff'd*, 18 F.3d 936 (5th Cir. 1994); *Sherrod v Berry*, 629 F Supp. 159, 164 (N.D. Ill. 1985) (holding that court did not err in admitting testimony of hedonic damages expert), *rev'd and remanded on other grounds*, 856 F.2d 802 (7th Cir. 1988); *Lang v American Honda Motor Co.*, 628 So. 2d 196, 204 (La. Ct. App. 1993) (finding sufficient support for \$1.35 million jury award for plaintiff's loss of enjoyment of life and mental anguish, even if trial court erroneously permitted hedonic damages expert's testimony).

88. See Tina M. Tabacchi, Note, *Hedonic Damages: A New Trend in Compensation?*, 52 OHIO ST. L.J. 331, 348 (1991) (concluding that hedonic damages calculations have confused courts).

89. See *infra* notes 98-100 and accompanying text (explaining why no amount of compensation can make most victims of nonpecuniary losses whole).

would pay to prevent the harms in the first place.⁹⁰ More than semantics distinguishes these two rationales, at least in the context of nonpecuniary losses.

A. *The Goals of Compensation and Deterrence*

Tort damage awards ideally fulfill two goals—compensation and deterrence.⁹¹ Tort awards compensate when they restore victims to their former positions.⁹² Tort awards deter potential tortfeasors when they provide potential tortfeasors with an incentive to behave in ways that society considers optimal.⁹³

Tort awards for property losses generally fulfill the goals of compensation and deterrence simultaneously.⁹⁴ Assume, for example, that a tortfeasor negligently destroys a 1994 Buick Regal worth \$20,000. A jury award of \$20,000 compensates the former Buick owner by allowing her to purchase a similar automobile and thus places her in a position similar to her former one.⁹⁵ A \$20,000 jury award also deters potential tortfeasors from destroying more automobiles by forcing actual tortfeasors to pay victims an amount equivalent to what society, through the market, pays for 1994 Buick Regals.⁹⁶

90. See Paul H. Rubin & John E. Calfee, *Consequences of Damage Awards for Hedonic and Other Nonpecuniary Losses*, 5 J. FORENSIC ECON. 249, 249 (1992) (observing that economists measure hedonic losses as linear extrapolation from willingness to pay to reduce risk).

91. See David R. Kamerschen & Robert W. Kamerschen, *Hedonic Damages in Personal Injury and Wrongful Death Cases*, 60 DEF. COUNS. J. 118, 118 (1993) (identifying compensation and deterrence as tort system's goals).

92. See 2 DOBBS, *supra* note 4, § 8.1(1), at 357 (analogizing compensation with making good losses); Kamerschen & Kamerschen, *supra* note 91, at 118 (describing objective of compensation as placing victims in "same position they would have occupied had the injury never occurred").

93. See Kamerschen & Kamerschen, *supra* note 91, at 118 (defining objective of deterrence as encouraging potential tortfeasors to use optimal care to avoid negligent behavior); Rubin & Calfee, *supra* note 90, at 255 (explaining that deterrence justification for damages exists in situations in which consumers prefer to pay costs of risk reduction, but tortfeasor does not).

94. See VISCUSI, *supra* note 4, at 89 (explaining that tort liability for property functions effectively by providing adequate compensation and efficient levels of accident deterrence).

95. See Calfee & Rubin, *supra* note 2, at 374 (indicating that compensation of \$X will restore victim who suffers \$X reduction in wealth to original wealth).

96. See Viscusi, *supra* note 18, at 2 (stating that strict liability or negligence regime

Tort awards for nonpecuniary losses, by contrast, rarely fulfill the goals of compensation and deterrence simultaneously.⁹⁷ First, most nonpecuniary losses lack adequate replacements, making compensation impossible.⁹⁸ A \$20,000 damage award allows the 1994 Buick Regal's owner to replace her automobile; no amount of money replaces a life or reverses the effects of paraplegia.⁹⁹ Therefore, courts cannot make most personal injury and wrongful death victims whole with damage awards.¹⁰⁰ Second, nonpecuniary losses often cause changes in the marginal utility that individuals derive from wealth.¹⁰¹ Both personal injury victims and survivors of wrongful death victims generally find money less useful than they did before they suffered the loss.¹⁰² Thus, the amount needed to replace \$20,000 worth of nonpecuniary losses likely will be more than that needed to replace \$20,000 worth of pecuniary losses. The amount needed to compensate victims for nonpecuniary losses only rarely will equate with the amount needed to deter potential tortfeasors from engaging in tortious conduct.

will result in efficient levels of accident deterrence provided that regime appropriately recognizes role of contributory negligence).

97. See Calfee & Rubin, *supra* note 2, at 372 (explaining that nonpecuniary losses eliminate approximate equivalence between willingness to pay for prevention and willingness to pay for compensation).

98. See VISCUSI, *supra* note 4, at 89 (noting "irreplaceable character of life and health").

99. See Viscusi, *supra* note 18, at 2 (stating that no monetary transfer can restore paraplegic to same well-being that paraplegic would have had if accident had not occurred); see also Rubin & Calfee, *supra* note 90, at 254 (observing that "any level of compensation for severe nonpecuniary losses leaves consumers undercompensated").

100. See *Foster v Trafalgar House Oil & Gas*, 603 So. 2d 284, 286 (La. Ct. App. 1992) (noting that compensation for general damages never provides true compensation for nonpecuniary losses).

101. See W Kip Viscusi & William N. Evans, *Utility Functions That Depend on Health Status: Estimates and Economic Implications*, 80 AM. ECON. REV. 353, 371 (1990) (concluding that healthy individuals generally enjoy greater marginal utility of income than injured individuals do).

102. See Rubin & Calfee, *supra* note 90, at 251 (explaining that both victims of personal injury and survivors of victims of wrongful death experience reduced marginal utility of wealth). Economists Paul H. Rubin and John E. Calfee illustrate how death reduces the marginal utility of survivors' wealth by using the example of the loss of a child's life. *Id.* After a child's death, bereaved parents no longer need money to feed, clothe, and educate their child. *Id.* Instead of increasing the parents' need for wealth, the child's death reduces the parents' need. *Id.* Parents would choose to have more money in a world in which their child lives than in a world in which their child dies. *Id.*

B. Methods of Arriving at Compensation and Deterrence Values

Economists assert that they can help policymakers define the appropriate level of compensation for pain and suffering¹⁰³ and the optimal level at which to deter conduct that causes death or injury¹⁰⁴. Economists study the insurance market to determine the appropriate level of compensation¹⁰⁵ and conduct WTP studies to determine the appropriate level of deterrence.¹⁰⁶ Economists leave it to policymakers to decide whether to award compensation values, deterrence values, or some combination of the two in the context of nonpecuniary damages.¹⁰⁷

1. Insurance Values

Economists view the tort system as an insurance market.¹⁰⁸ Consumers pay insurance premiums in the form of higher prices for goods and services.¹⁰⁹ In return, consumers receive compensation for harms that those goods and services cause.¹¹⁰ Courts serve as the conduit through which consumers make insurance claims.

In an efficient insurance market, rational consumers purchase insurance to maximize expected utility between two worlds—a world in

103. See *infra* part III.B.1 (discussing connection that economists draw between compensation for pain and suffering and insurance market).

104. See *infra* part III.B.2 (discussing how economists define appropriate level at which to deter conduct that causes death or injury).

105. Cf. Viscusi, *supra* note 18, at 5 (implying that social insurance efforts primarily focus on appropriate compensation after accident). Cf. generally Calfee & Winston, *supra* note 3 (conducting study of consumers' willingness to purchase insurance against possibilities of nonpecuniary losses for purpose of comparing optimal level of compensation with optimal level of deterrence derived from WTP studies of consumers' purchasing decisions).

106. Cf. Viscusi, *supra* note 18, at 8 (observing that most estimates of deterrence values come from wage-risk analyses).

107. See *id.* (stating that appropriate level of nonpecuniary awards depends on whether policymakers want damages to provide insurance or to create accident deterrence).

108. See 2 DOBBS, *supra* note 4, § 8.1(4), at 399 (stating that observers increasingly view tort system as compulsory insurance); Calfee & Rubin, *supra* note 2, at 371 (stating that tort system has features in common with insurance when used for compensation).

109. See Schwartz, *supra* note 5, at 362 (stating that portion of purchase price for products serves as insurance premium).

110. See *id.* (noting that firms use portion of purchase price to compensate consumers for harms that products cause).

which harm occurs and a world in which harm does not occur.¹¹¹ Economists observe that consumers purchase insurance to compensate for potential pecuniary harms.¹¹² Interestingly, consumers rarely purchase insurance to compensate for potential nonpecuniary harms and buy very little such insurance when they do.¹¹³ Economists explain these phenomena by pointing out that money provides a poor substitute for nonpecuniary harms.¹¹⁴ Consumers thus prefer to have more money in the world in which harm does not occur than in the world in which harm does occur.¹¹⁵ Tort awards based on WTP studies, by exceeding the value consumers place on insurance and forcing consumers to purchase more insurance (pay higher prices) than they ideally would, create what economists characterize as a deadweight loss for society.¹¹⁶

2. Deterrence Values

WTP studies measure the total amount of money that society believes potential tortfeasors should spend for safety.¹¹⁷ Hedonic damages experts

111. See George L. Priest, *The Current Insurance Crisis and Modern Tort Law*, 96 YALE L.J. 1521, 1539 (1987) (stating that insurance provides method for individuals to equalize amount of money available to them over diverse states of world); Rubin & Calfee, *supra* note 90, at 251 (explaining that consumers rationally use insurance to maximize utility across various states of world—one in which accident occurs and one in which accident does not occur).

112. See Viscusi, *supra* note 18, at 3 (observing that risk-averse individuals would choose to insure fully against property losses).

113. See Priest, *supra* note 111, at 1547 (stating that one never observes individuals purchasing insurance for pain and suffering); Rubin & Calfee, *supra* note 90, at 249 (stating that consumers do not want insurance for nonpecuniary losses). An individual who insures her house for an amount in excess of what she would need to replace the house may be purchasing insurance against nonpecuniary losses that would accompany the destruction of her house.

114. See Viscusi, *supra* note 18, at 3 (noting that no mechanism exists to trade off health losses for financial rewards).

115. See Calfee & Rubin, *supra* note 2, at 378-79 (explaining that optimally insured consumer will pay more to prevent loss when loss reduces marginal utility); Rubin & Calfee, *supra* note 90, at 249 (stating that "consumers are willing to pay large sums to prevent nonpecuniary losses, but are not willing to pay similar sums for insurance against such losses").

116. See Calfee & Winston, *supra* note 3, at 154 (concluding that hedonic damage awards force consumers to purchase large insurance policies of far less value than their cost); Rubin & Calfee, *supra* note 90, at 252-53 (concluding that prices must increase to cover involuntary insurance premium that tort awards for nonpecuniary losses impose).

117 See Rubin & Calfee, *supra* note 90, at 255 (describing WTP measure of damages as penalty needed to induce optimal precautions if potential injurer would otherwise take no precautions at all); *supra* note 16 and accompanying text (explaining what WTP studies measure).

argue that courts encourage potential tortfeasors to spend a proper amount on safety by permitting nonpecuniary awards based on WTP studies.¹¹⁸ Some economists disagree, however, and note that hedonic damage awards provide an optimal level of deterrence only if potential tortfeasors encounter no other incentives to take safety precautions.¹¹⁹ Adding hedonic damage awards to other incentives encourages potential tortfeasors to behave in ways that society considers less than optimal.¹²⁰

In the real world, many forces encourage potential tortfeasors to take adequate safety precautions.¹²¹ General Motors (GM), for example, faces strict government safety regulation.¹²² Moreover, GM receives additional safety incentives from consumers who rely on media-produced safety information to decide which brand of automobile to purchase.¹²³ Even GM shareholders exert influence on the safety calculus by selling shares of GM stock following adverse reports about the safety of GM automobiles.¹²⁴ The addition of hedonic damage awards in a context like this in which safety incentives already exist encourages GM to produce automobiles that society considers "too safe."¹²⁵

C. Policy Analysis

When evaluating the relevance of hedonic damages calculations courts generally have taken two approaches. Some courts have analyzed the issue by addressing whether their respective jurisdictions award hedonic

118. Cf. BROOKSHIRE & SMITH, *supra* note 13, at 62 (Supp. 1992) (stating that value-of-life estimates from WTP studies are "values of a statistically average American life based upon what individuals are willing to pay to preserve a life"); Smith, *supra* note 9, at 48 (expressing concern that hedonic damage awards might drive certain products from market).

119. See Rubin & Calfee, *supra* note 90, at 255 (concluding that presence of other precautionary incentives makes WTP measure of damages larger than needed to induce optimal precautions).

120. See *id.* at 256 (concluding that addition of tort-based incentives to other incentives forces potential tortfeasors to take more precautions than society will pay for).

121. See *id.* at 258 (stating that no evidence indicating that risk-imposing behavior goes undeterred exists).

122. Cf. *id.* at 255 (noting that National Highway Traffic Safety Administration directly regulates automobile safety and that local governments often require automobile inspections).

123. Cf. *id.* at 257-58 (stating that consumers reduce demand for products alleged to be or proven unsafe).

124. Cf. *id.* at 257 (citing studies that found relationships between safety recalls, product tampering, and product liability actions on one hand and stock market prices on other).

125. Cf. *id.* at 256 (explaining how deterrence incentives can encourage firms to act too safely).

damages.¹²⁶ Other courts have asked whether the testimony of hedonic damages experts will assist jurors in assessing nonpecuniary damages.¹²⁷

126. See, e.g., *Livingston v United States*, 817 F Supp. 601, 606 (E.D.N.C. 1993) (concluding that North Carolina's wrongful death statute does not permit recovery of hedonic damages); *Johnson v Inland Steel Co.*, No. 87-C-5541, 1992 WL 396296, at *4 (N.D. Ill. Dec. 28, 1992) (stating that Indiana's wrongful death statute precludes recovery of hedonic damages); *Moore v Kroger Co.*, 800 F Supp. 429, 435-36 (N.D. Miss. 1992) (concluding that Mississippi does not recognize claim for hedonic damages separate from physical pain and mental anguish in personal injury action, but declining to limit testimony of expert until court could explore issue more fully at trial), *aff'd*, 18 F.3d 936 (5th Cir. 1994); *Mister v Illinois Cent. Gulf R.R.*, 790 F Supp. 1411, 1421 (S.D. Ill. 1992) (concluding that allowing award of hedonic damages on top of back pay would cause double recovery); *Buckhalter v. Burlington N. R.R.*, No. EC90-139-D-D, 1992 WL 236676, at *1 (N.D. Miss. Mar. 23, 1992) (finding that Mississippi forbids recovery of damages for lost enjoyment of life in wrongful death actions); *Simmons v Hartford Ins. Co.*, 786 F Supp. 574, 579-81 (E.D. La. 1992) (concluding that Louisiana's survival and wrongful death statutes do not permit recovery of hedonic damages); *Ortega v Plexco*, 793 F Supp. 298, 299 (D.N.M. 1991) (dismissing plaintiff's claim for hedonic damages in wrongful death suit); *Brown v Seebach*, 763 F Supp. 574, 583 (S.D. Fla. 1991) (dismissing claim for hedonic damages in cause of action under Florida's wrongful death statute); *Frye v Town of Akron*, 759 F Supp. 1320, 1326 (N.D. Ind. 1991) (concluding that 42 U.S.C. § 1983 permitted recovery of damages for decedent's lost enjoyment of life); *Sterner v Wesley College, Inc.*, 747 F Supp. 263, 272-74 (D. Del. 1990) (concluding that Delaware's wrongful death and survival statutes do not permit recovery of hedonic damages); *Sherrod v. Berry*, 629 F Supp. 159, 163 (N.D. Ill. 1985) (stating that survivors of decedent could recover for decedent's lost enjoyment of life in § 1983 action), *rev'd and remanded on other grounds*, 856 F.2d 802 (7th Cir. 1988); *Southlake Limousine & Coach, Inc. v Brock*, 578 N.E.2d 677, 680 (Ind. Ct. App. 1991) (stating that Indiana's wrongful death statute does not permit damages for decedent's lost pleasures of life); *Spencer v A-1 Crane Serv., Inc.*, 880 S.W.2d 938, 943-44 (Tenn. 1994) (concluding that Tennessee's wrongful death statute does not permit recovery of hedonic damages).

127 See, e.g., *Trabucco v Hilton Hotels Corp.*, No. 93-3090, 1994 WL 419846, at *1 (E.D. La. Aug. 5, 1994) (concluding that jurors were capable of understanding propriety of awarding general damages without help of expert); *Mercado v Ahmed*, 756 F Supp. 1097, 1103 (N.D. Ill. 1991) (concluding that testimony of hedonic damages expert would not assist trier of fact), *aff'd*, 974 F.2d 863 (7th Cir. 1992); *Sherrod v Berry*, 629 F Supp. 159, 164 (N.D. Ill. 1985) (stating that testimony of hedonic damages expert enabled jury to consider important aspect of injury to decedent's estate), *rev'd and remanded on other grounds*, 856 F.2d 802 (7th Cir. 1988); *Fetzer v Wood*, 569 N.E.2d 1237, 1246 (Ill. App. Ct. 1991) (agreeing with trial court's assertion that jury could decide damages for pain and suffering as well as expert); *Longman v. Allstate Ins. Co.*, 635 So. 2d 343, 354-55 (La. Ct. App. 1994) (affirming trial court's finding that proffered testimony of hedonic damages expert would not have aided jury); *Foster v Trafalgar House Oil & Gas*, 603 So. 2d 284, 286 (La. Ct. App. 1992) (describing task of awarding general damages as uniquely human endeavor); cf. FED. R. EVID. 702 (requiring that expert testimony assist triers of fact).

Neither approach addresses the critical issue—whether hedonic damage awards achieve the goals that legislatures and courts have established for the tort system.

1. Statutorily-Created Remedies

Courts have been extremely reluctant to award hedonic damages in wrongful death and survival actions.¹²⁸ In *Sterner v Wesley College, Inc.*,¹²⁹ for example, the United States District Court for the District of Delaware considered whether parents of a student killed in a dormitory fire could recover hedonic damages under Delaware's survival and wrongful death statutes.¹³⁰ The *Sterner* court noted that the Pennsylvania Supreme Court had construed Pennsylvania's survival statute, the source of Delaware's own survival statute, to preclude recovery of damages for life's lost pleasures.¹³¹ Consequently, the *Sterner* court concluded that the plaintiffs could not recover for the hedonic value of the decedent's life under Delaware's survival statute, but only for the pain and suffering the decedent experienced between the start of the fire and his death.¹³²

128. See, e.g., *Livingston v. United States*, 817 F Supp. 601, 604, 606 (E.D.N.C. 1993) (construing North Carolina's wrongful death statute to deny recovery of hedonic damages); *Johnson v. Inland Steel Co.*, No. 87-C-5541, 1992 WL 396296, at *3-4 (N.D. Ill. Dec. 28, 1992) (interpreting Indiana's wrongful death statute to deny recovery of hedonic damages); *Simmons v. Hartford Ins. Co.*, 786 F Supp. 574, 579-81 (E.D. La. 1992) (construing Louisiana's survival and wrongful death statutes to deny recovery of hedonic damages); *Brown v. Seebach*, 763 F Supp. 574, 583 (S.D. Fla. 1991) (construing Florida's wrongful death statute to deny recovery of hedonic damages); *Frye v. Town of Akron*, 759 F Supp. 1320, 1327 (N.D. Ind. 1991) (construing Indiana's wrongful death statute to deny recovery of hedonic damages); *Sterner v. Wesley College, Inc.*, 747 F Supp. 263, 272-74 (D. Del. 1990) (construing Delaware's wrongful death and survival statutes to deny recovery of hedonic damages); *Southlake Limousine & Coach, Inc. v. Brock*, 578 N.E.2d 677, 679-80 (Ind. Ct. App. 1991) (construing Indiana's wrongful death statute to deny recovery of hedonic damages); *Spencer v. A-1 Crane Serv., Inc.*, 880 S.W.2d 938, 943-44 (Tenn. 1994) (construing Tennessee's wrongful death statute to deny recovery of hedonic damages). But see *Kaufman v. Cserny*, 856 F Supp. 1307, 1312 (S.D. Ill. 1994) (permitting recovery of hedonic damages under Illinois's survival act but not under Illinois's wrongful death or family expense acts).

129. 747 F Supp. 263 (D. Del. 1990).

130. See *Sterner v. Wesley College, Inc.*, 747 F Supp. 263, 272-74 (D. Del. 1990) (discussing hedonic damages issue).

131. *Id.* at 272-73.

132. *Id.* at 273.

The *Sterner* court also addressed the plaintiffs' contentions that they could collect hedonic damages under Delaware's wrongful death statute, either as a distinct basis of recovery or for the mental anguish that they, as survivors, suffered following the decedent's death.¹³³ The court observed that the Delaware legislature specifically listed the types of damages recoverable for wrongful death.¹³⁴ Because the Delaware Legislature failed to list hedonic damages in the statute, the plaintiffs could not recover for hedonic damages as a distinct basis of recovery.¹³⁵ Similarly, the *Sterner* court, stating that awards for mental anguish compensate survivors for the grieving process but not for a decedent's lost pleasure, rejected the plaintiffs' assertion that hedonic damages calculations measured survivors' mental anguish.¹³⁶ As a result, the *Sterner* court refused to permit economist Stan Smith to testify about his calculations of hedonic damages.¹³⁷ Strangely, the *Sterner* court left open the possibility that Smith could use such evidence to establish the decedent's pain and suffering.¹³⁸

When state legislatures enact wrongful death and survival statutes, they serve as policymakers in determining the proper level of damages in cases in which victims have died.¹³⁹ Wrongful death statutes in most jurisdictions

133. *Id.*

134. *Id.* at 274. Delaware's wrongful death statute permits recovery for deprivation of the expectation of pecuniary benefits; loss of contributions for support; loss of parental, marital, and household services; reasonable funeral expenses not to exceed \$2000; and mental anguish to the decedent's surviving spouse and next of kin. DEL. CODE ANN. tit. 10, § 3724(d) (1975 & Supp. 1992).

135. *Sterner*, 747 F Supp. at 274.

136. *Id.*, see also *Southlake Limousine & Coach, Inc. v Brock*, 578 N.E.2d 677, 678-82 (Ind. Ct. App. 1991) (rejecting argument similar to plaintiff's argument in *Sterner*).

In *Southlake*, the Third District Court of Appeals of Indiana reversed a \$1.5 million jury award in a civil action based on Indiana's wrongful death statute because of economist Stan Smith's testimony on the value of hedonic damages. *Id.* at 682. Smith argued that his calculations measured the value of the loss of care, love, and affection that the surviving spouse sustained and the value of the loss of parental guidance that the children sustained as a result of the death of Donna Brock. *Id.* at 678-79. The *Southlake* court, rejecting Smith's assertion, concluded that Smith's calculations measured the value of Donna Brock's life, not the value of the loss to Brock's husband and children. *Id.* at 682. The *Southlake* court explained that Indiana's legislature did not intend for the state's wrongful death statute to compensate victims for the decedent's loss, but rather for the loss sustained by survivors. *Id.* at 679-80.

137. *Sterner*, 747 F Supp. at 275.

138. *Id.*

139. See 2 DOBBS, *supra* note 4, § 8.3 (discussing damages for wrongful death).

severely restrict survivors' recoveries for a decedent's nonpecuniary losses.¹⁴⁰ In such jurisdictions, state policymakers, by rejecting awards based on deterrence values, have implicitly decided that hedonic damages calculations that rely on WTP studies irrelevant.¹⁴¹ Courts should honor state policymakers' decisions, much as the *Sterner* court did, when courts interpret state wrongful death and survival statutes.¹⁴²

In *Sherrod v. Berry*,¹⁴³ the United States District Court for the Northern District of Illinois reached the opposite result of the *Sterner* court.¹⁴⁴ In *Sherrod*, the district court addressed whether it had properly admitted economist Stan Smith's testimony on the hedonic value of human life in a § 1983 action¹⁴⁵ brought by the father of a man shot and killed by a police officer.¹⁴⁶ According to the court, § 1983 permitted the plaintiff to recover damages for the loss of the decedent's life, including the decedent's lost pleasures.¹⁴⁷ The *Sherrod* court concluded that Smith's presentation of data from WTP studies enabled the jury to consider the value of the decedent's lost pleasure from living.¹⁴⁸ Consequently, the *Sherrod* court held that it had not erred in permitting Smith's expert testimony.¹⁴⁹

140. See 2 *id.* § 8.3(1), at 429 (stating that most wrongful death statutes cover some nonpecuniary claims of survivors).

141. See Tabacchi, *supra* note 88, at 348 (describing damage awards for lost enjoyment of life in wrongful death actions as illogical, but noting that state legislatures likely will consider whether to add hedonic damages to list of permitted damages in future); Gretchen L. Valentine, Comment, *Hedonic Damages: Emerging Issue in Personal Injury and Wrongful Death Claims*, 10 N. ILL. U. L. REV. 543, 577 (1990) (finding little justification for hedonic damage awards in wrongful death actions).

142. See *supra* notes 129-38 and accompanying text (discussing *Sterner*). But see generally Andrew J. McClurg, *It's a Wonderful Life: The Case for Hedonic Damages in Wrongful Death Cases*, 66 NOTRE DAME L. REV. 57 (1990) (arguing that tort system should award hedonic damages in wrongful death cases); Erin A. O'Hara, Note, *Hedonic Damages for Wrongful Death: Are Tortfeasors Getting Away with Murder?*, 78 GEO. L.J. 1687 (1990) (same). McClurg and O'Hara both ignore the existence of nontort-based incentives that encourage potential tortfeasors to behave in ways that society considers optimal.

143. 629 F. Supp. 159 (N.D. Ill. 1985).

144. See *Sherrod v. Berry*, 629 F. Supp. 159, 164 (N.D. Ill. 1985) (permitting economist Stan Smith to testify concerning hedonic damages), *rev'd and remanded on other grounds*, 856 F.2d 802 (7th Cir. 1988).

145. 42 U.S.C. § 1983 (1988).

146. *Sherrod*, 629 F. Supp. at 160.

147. *Id.* at 163.

148. *Id.* at 163-64.

149. *Id.* at 164.

One arguably can justify the *Sherrod* court's decision to permit Smith's testimony on the ground that Congress, in enacting § 1983, placed a premium on deterring unconstitutional conduct by those, like the police officer in *Sherrod*, acting under the mantle of governmental authority¹⁵⁰ Of course, police officers and others acting under the mantle of governmental authority already encounter incentives to refrain from violating individuals' constitutional rights,¹⁵¹ such as departmental disciplinary proceedings,¹⁵² lawsuits for declaratory or injunctive relief,¹⁵³ and even criminal sanctions.¹⁵⁴ Adding hedonic damage awards to these other deterrence incentives may deter unconstitutional conduct more than Congress intended.¹⁵⁵

2. Common-Law-Based Remedies

Courts assume roles as policymakers when courts consider the proper level of damages in areas, like personal injury, in which common-law remedies still govern.¹⁵⁶ When evaluating the propriety of permitting hedonic damage awards, courts first should ask what goals their respective

150. *But see* *Carey v. Phipus*, 435 U.S. 247, 256-57 (1978) (concluding that "[t]o the extent that Congress intended that awards under § 1983 should deter the deprivation of constitutional rights, there is no evidence that it meant to establish a deterrent more formidable than that inherent in the award of compensatory damages"). *See generally* John A. Williamson, Note, *Hedonic Damages in Section 1983 Actions: A Remedy for the Unconstitutional Deprivation of Life*, 44 WASH. & LEE L. REV 321 (1987) (discussing hedonic damages in context of § 1983 actions).

151. *See generally* Matthew V Hess, Comment, *Good Cop-Bad Cop: Reassessing the Legal Remedies for Police Misconduct*, 1993 UTAH L. REV 149 (discussing legal remedies for police misconduct).

152. *See* *Rizzo v. Goode*, 423 U.S. 362, 366 (1976) (refusing to require Philadelphia police department to upgrade procedures for handling police misconduct).

153. *See* 42 U.S.C. § 1983 (1988) (providing that individual whose constitutional rights have been violated by person acting under color of state law can bring suit in equity). *But see* *City of Los Angeles v. Lyons*, 461 U.S. 95, 101 (1983) (denying plaintiffs' request to enjoin Los Angeles police department from using life-threatening chokehold); *Rizzo*, 423 U.S. at 366 (reversing issuance of injunction that required Philadelphia to improve handling of citizen complaints alleging police misconduct).

154. *See* 18 U.S.C. § 241 (1988) (criminalizing conspiracy to violate federal civil rights); *id.* § 242 (criminalizing deprivation of constitutional rights by persons acting under color of law).

155. *See supra* notes 119-25 and accompanying text (discussing problem of multiple deterrence incentives).

156. *See* 2 DOBBS, *supra* note 4, § 8.1 (discussing damages for personal injury).

jurisdictions seek to achieve with tort awards—compensation through awards approximating insurance values, deterrence, or some combination of the two—recognizing, of course, that nonpecuniary awards do not fulfill the goals of compensation and deterrence simultaneously.¹⁵⁷ Only jurisdictions that emphasize deterring tortious conduct at the expense of other goals should consider admitting testimony of hedonic damages experts.¹⁵⁸

Courts also should evaluate whether society, through mechanisms other than the tort system, already deters potential tortfeasors from behaving in less-than-optimal ways.¹⁵⁹ Deterrence mechanisms may include government regulations,¹⁶⁰ prices,¹⁶¹ and media-generated safety information.¹⁶² Finally, courts should consider possible side effects of hedonic damage awards. Can society afford to pay hedonic damages?¹⁶³ Should plaintiffs receive all or most of such awards?¹⁶⁴ In what situations, if any,

157. See *supra* notes 97-102 and accompanying text (explaining why tort awards for nonpecuniary losses do not achieve goals of compensation and deterrence simultaneously).

158. See *supra* note 106 and accompanying text (explaining that WTP studies measure deterrence values).

159. See *supra* notes 119-25 and accompanying text (explaining importance of considering nontort-based deterrents).

160. See Rubin & Calfee, *supra* note 90, at 255 (identifying sources of direct governmental regulation of products and professionals).

161. See *id.* at 254-55 (explaining how prices signal risk). Rubin and Calfee assert that society would not need to use the tort system to deter potential tortfeasors if individuals had perfect information about risks. *Id.* at 255. Rubin and Calfee explain that the results of wage-risk analyses lend support to this assertion. *Id.* at 256. Workers distinguish between the riskiness of various jobs and demand more money for riskier jobs. *Id.* The extra compensation that employers pay workers encourages employers to spend optimally on safety. *Id.*

162. See *id.* at 257 (discussing link between reputation and optimal deterrence). The news media aid the tort system in deterring potential tortfeasors by communicating the progress and results of tort actions. *Id.* at 255.

163. See *supra* notes 22-23 and accompanying text (discussing estimates of societal cost of hedonic damage awards); see also Smith, *supra* note 9, at 48 (comparing cost of hedonic damage awards to present value (1990) of savings and loan bailout).

164. See Smith, *supra* note 9, at 48 (calling issue of whether estate should receive award for decedent's loss of life legitimate one for public debate).

Professor George L. Priest expresses concern that pain and suffering awards have regressive income distribution effects, particularly in the product liability context. Priest, *supra* note 111, at 1558. Priest explains that all consumers pay the same third-party insurance premium when they purchase goods and services. *Id.* at 1559. Yet, courts award high-income individuals more money than they award low-income individuals. *Id.* The rich

should courts award punitive damages as an additional deterrence incentive?¹⁶⁵ Scholarly discussion about the potential wrinkles of hedonic damage awards has just begun.

D Assistance to Triers of Fact

WTP studies measure the behavior and opinions of average individuals presumably just like jurors.¹⁶⁶ As a result, some courts have found hedonic damages calculations based on WTP studies problematic.¹⁶⁷ In *Fetzer v Wood*,¹⁶⁸ the Second District Appellate Court of Illinois addressed this

get richer as a result, and the poor get poorer. *Id.* Hedonic damage awards potentially exacerbate the regressive income distribution problem.

In addition, hedonic damage awards based on WTP studies provide financial windfalls to some plaintiffs, particularly survivors of wrongful death victims, much as large punitive damage awards do. Recognizing this problem, several states have limited the portion of punitive damage awards that plaintiffs can keep for themselves. *See, e.g.*, IOWA CODE ANN. § 668A.1 (West 1987) (limiting plaintiff to only 25% of punitive damage award in cases in which defendant did not aim conduct specifically at plaintiff); KAN. STAT. ANN. § 60-3402 (Supp. 1993) (providing that plaintiffs in medical malpractice cases keep only 50% of punitive damage awards); N.Y. CIV. PRAC. L. & R. § 8701 (McKinney Supp. 1994) (giving plaintiffs only 75% of punitive damage awards). Policymakers could decide to limit hedonic damage awards accordingly. Ideally, any amount of a pain and suffering award in excess of what the plaintiffs needed for compensation would go to reducing future risks of death and injury.

165. *See Viscusi, supra* note 18, at 14-15 (arguing that courts should use WTP concepts to set punitive damage awards).

W Kip Viscusi argues that courts currently lack clear guidelines for setting punitive damage awards. *Id.* at 15. Viscusi believes that WTP studies provide policymakers with a solution to this problem in product liability actions. *Id.* According to Viscusi, courts should award punitive damages against manufacturers who exhibit considerable disregard for safety incentives. *Id.* Any manufacturer who spends only \$10,000 to save one life when society would spend much more, for example, should pay punitive damages.

It makes little sense to award both hedonic damages and punitive damages based on data from WTP studies. Hedonic damage awards deter potential tortfeasors from behaving in ways that society considers less than optimal. Courts should award punitive damages on top of hedonic damages only when courts intend to punish (in some truly retributive sense) tortfeasors and to ignore economic theory.

166. *See supra* note 42 and accompanying text (stating that wage-risk and consumer market analyses measure actual behavior); *supra* note 43 and accompanying text (indicating that contingent valuation surveys measure opinions).

167. *See Mercado v Ahmed*, 756 F. Supp. 1097, 1103 (N.D. Ill. 1991) (comparing admission of evidence based on WTP studies with permitting jurors to ask group of court bystanders their opinions), *aff'd*, 974 F.2d 863 (7th Cir. 1992).

168. 569 N.E.2d 1237 (Ill. App. Ct. 1991).

problem when the court considered whether a state trial court had erred in excluding the testimony of hedonic damages expert Stan Smith in a wrongful death action.¹⁶⁹ In *Fetzer*, the court noted that Illinois law requires that expert testimony "assist the trier of fact to understand the evidence or to determine a fact in issue."¹⁷⁰ The court observed that the plaintiffs had conceded that jurors understand the concept of value of life in a general sense, indicating that jurors did not find it difficult to comprehend the subject matter of WTP studies.¹⁷¹ Accordingly, the *Fetzer* court concluded that Smith's proposed testimony would not aid jurors in their deliberations.¹⁷²

While the *Fetzer* court's argument has some superficial appeal, it ignores two important considerations. First, the mere fact that average individuals provide data for WTP studies does not mean that average jurors could derive a statistical life value from WTP data without expert assistance.¹⁷³ Second, average jurors probably lack the skills needed to calculate the appropriate amount of a nonpecuniary award based solely on their opinions about what they would spend to reduce their respective risks of death.¹⁷⁴ Courts theoretically could develop detailed jury instructions describing ways for jurors to conduct their own calculations, but likely would find doing so a formidable task.

IV Reliability of Hedonic Damages Calculations

Not surprisingly, economists who conduct WTP studies and reviewers of the WTP literature generally agree that WTP studies accurately measure what society will expend to save a statistical life.¹⁷⁵ Hedonic damages

169. *Fetzer v Wood*, 569 N.E.2d 1237, 1244, 1247 (Ill. App. Ct. 1991).

170. *Id.* at 1247; see FED. R. EVID. 702 (requiring that expert assist trier of fact to understand evidence or determine fact in issue).

171. *Fetzer*, 569 N.E.2d at 1247

172. *Id.*

173. See *supra* note 30 and accompanying text (identifying formula economists use to measure value of statistical life). One need only read a WTP study or review of WTP literature to recognize the complexity of undertaking a value-of-life analysis.

174. See *supra* note 75 and accompanying text (identifying formula experts use to derive hedonic damages from WTP studies). One must remember that hedonic damages experts not only estimate the amount of lost earnings, fringe benefits, household services, and financial security, but also adjust all of these estimates to reflect the victim's pre-injury life expectancy and present values. BROOKSHIRE & SMITH, *supra* note 13, at 168.

175. See, e.g., JONES-LEE, *supra* note 56, at 36 (calling WTP approach most effective means currently available for taking account of variations in safety in public decisions);

experts also agree that WTP studies offer the best source of information for calculating nonpecuniary damages.¹⁷⁶ Critics of WTP studies and hedonic damages attack both propositions.¹⁷⁷ Although many courts have questioned the reliability of WTP studies and hedonic damages experts' calculations, they have found it difficult to sort through the morass of conflicting claims.¹⁷⁸

A. Reliability of Willingness-to-Pay Studies

Critics raise three major objections to WTP studies that deserve extended consideration. First, critics assert that WTP studies measure only small risks and that this limitation makes value-of-life data unhelpful in many contexts.¹⁷⁹ Second, critics challenge much of the risk assessment information upon which economists conducting WTP studies depend for their calculations.¹⁸⁰ Third, critics question whether courts truly can rely

VISCUSI, *supra* note 45, at 73 (stating that WTP approach became well established in 1970s); Fisher et al., *supra* note 16, at 88 (observing that current consensus in economics profession is that determining what people will pay provides appropriate way to measure value of reducing risk of death); Miller, *supra* note 13, at 879 (claiming that "use of risk reduction values to value lives has become widely accepted").

176. See BROOKSHIRE & SMITH, *supra* note 13, at 161 (describing hedonic damages model as "grounded on well-accepted economic principles").

177 See generally James Lambrinos, *Hedonic Damages: Economic Theory, Statistical Foundation, Strategy*, 58 DEFENSE COUNS. J. 391 (1991) (discussing theoretical and empirical criticisms of WTP methodology); Jerome M. Staller, *Testimony from Oz: 'Hedonic' Damages in Personal Injury*, FOR DEF., Aug. 1990, at 30 (arguing that hedonic damages do not measure value of life's lost pleasure); Staller, *supra* note 28 (same).

178. See, e.g., *Livingston v United States*, 817 F Supp. 601, 606 (E.D.N.C. 1993) (expressing concern that WTP measures do not work when certainty of death exists); *Mercado v. Ahmed*, 756 F Supp. 1097, 1103 (N.D. Ill. 1991) (concluding that economists' life valuations lack reliability), *aff'd*, 974 F.2d 863 (7th Cir. 1992); *Sherrod v Berry*, 629 F Supp. 159, 164 (N.D. Ill. 1985) (concluding that hedonic damages expert's testimony helped jurors arrive at proper measure of damages), *rev'd and remanded on other grounds*, 856 F.2d 802 (7th Cir. 1988); *Fetzer v. Wood*, 569 N.E.2d 1237, 1247 (Ill. App. Ct. 1991) (declaring damages for loss of enjoyment of life not amenable to analytical precision); *Foster v Trafalgar House Oil & Gas*, 603 So. 2d 284, 286 (La. Ct. App. 1992) (stating that intellectual and emotional losses do not lend themselves to mathematical computation and analysis); *Wilt v Buracker*, 443 S.E.2d 196, 204 (W Va. 1993) (questioning reliability of WTP studies).

179. See *infra* part IV.A.1 (discussing criticism that WTP studies measure only small changes in risk).

180. See *infra* part IV.A.2 (discussing risk assessment information upon which WTP studies rely).

on the vast range of value-of-life estimates that WTP studies present.¹⁸¹ None of these objections necessarily requires courts to reject WTP studies out of hand as "junk science."

1. *Small Risks v Large Risks*

The value that society identifies as the optimal level of deterrence varies with the degree of risk.¹⁸² Just because individuals will pay \$10 to purchase a safety device that reduces their respective risks of death by one in sixty thousand does not mean that they will pay \$100,000 to reduce their risks by one in six in a game of Russian roulette.¹⁸³ Most individuals can pay \$10 for a safety device; not everyone can pay \$100,000.¹⁸⁴ Conversely, individuals will not expose themselves to some safety risks for any amount of money¹⁸⁵ because risks eventually become so large that individuals fear that they will not reap the benefits of their risk-taking.¹⁸⁶

WTP studies measure only relatively small changes in risk.¹⁸⁷ Because no linear relationship exists between individuals' willingness to pay or to accept money to avoid small risks and their willingness to pay or to accept money to avoid very large risks, data from WTP studies prove unhelpful in the latter context.¹⁸⁸ Like WTP studies, though, the tort

181. See *infra* part IV.A.3 (discussing criticism of range of value-of-life estimates).

182. See Rubín & Calfee, *supra* note 90, at 254 (stating that willingness to pay for marginal reduction in risk will be greater than willingness to pay to eliminate risk altogether for large losses).

183. See Viscusi, *supra* note 18, at 10 (illustrating that individuals' attitudes toward large risks differ from their attitudes toward small risks); *supra* note 31 and accompanying text (discussing WTP analysis of game of Russian roulette).

184. See Rubín & Calfee, *supra* note 90, at 254 (describing limitation of "income effect" on WTP studies).

185. See POSNER, *supra* note 11, at 199 (stating that simply because individual demands \$100 to incur .0001 risk of death does not mean that he will demand \$100,000 to incur .1 risk of death); see also *Livingston v. United States*, 817 F Supp. 601, 606 (E.D.N.C. 1993) (observing that inducements necessary to persuade person to perform dangerous activity increase as certainty of death increases until person needs infinite inducement to engage in activity involving certain death).

186. See POSNER, *supra* note 11, at 199-200 (explaining that exposure to greater risk makes it less likely that risk taker will enjoy monetary differential for taking risk).

187. See Fisher et al., *supra* note 16, at 89 (observing that WTP studies look at small reductions in risk); Viscusi, *supra* note 18, at 10 (noting that deterrence values in WTP studies pertain to small changes in risk).

188. See POSNER, *supra* note 11, at 199-200 (observing nonlinear relationship between risk and utility).

system traditionally concerns itself with making tortfeasors pay damages to victims for creating relatively small risks.¹⁸⁹ Courts hold a manufacturer liable for a drug that kills one in every five thousand users and hold a negligent driver liable for an automobile accident although that driver has driven thousands of miles safely.¹⁹⁰ Only in the area of intentional torts, in which awards in excess of hedonic damages arguably may be appropriate, do risk levels greatly exceed the risks that WTP studies observe.¹⁹¹ Consequently, the fact that WTP studies measure small risks does not make them unhelpful.¹⁹²

2. Risk Assessment

Critics question much of the risk assessment information upon which WTP studies rely.¹⁹³ Most WTP studies use risk data collected for other purposes to calculate the value of a statistical life.¹⁹⁴ Wage-risk analyses, for example, generally rely on job safety data that the Bureau of Labor Statistics (BLS) gathers from a nonscientific sample of employers.¹⁹⁵ Critics assail BLS data for relying on employers' reports about job-related deaths and injuries¹⁹⁶ and for failing to differentiate between jobs within particular occupations and for thus equating the job-related risks of individuals as diverse as the assembly line worker and the secretary working in the same factory.¹⁹⁷

189. See Viscusi, *supra* note 18, at 10 (discussing connection between individual valuations of small changes in risk and tort liability).

190. See *id.* (noting low probability of death from use of most products); see also Rubin & Calfee, *supra* note 90, at 253 (discussing tort liability for schizophrenia drug Chlozaril—treatment with .0002 probability of fatal side effects).

191. Cf. POSNER, *supra* note 11, at 209 (arguing that courts should award punitive damages in "real" intentional tort cases, but not in strict liability and negligence cases).

192. See Viscusi, *supra* note 18, at 10 (arguing that fact that WTP studies measure small risks should not undermine their usefulness in tort liability context).

193. See Lambrinos, *supra* note 177, at 394-95 (questioning risk estimates upon which wage-risk analyses rely).

194. Cf. Dardis, *supra* note 38, at 1079 (relying on risk information from National Bureau of Standards).

195. See Miller, *supra* note 34, at 20 (calling Bureau of Labor Statistics (BLS) risk data most frequently used in wage-risk analyses and noting that BLS relies on nonstatistically-designed sample).

196. See *id.* (describing failure to differentiate risks for janitor, clerk, factory production worker, and supervisor within particular industry as problem with BLS data).

197 See *id.* (questioning whether company reports to BLS miss some deaths and omit

In addition, critics argue that individuals inaccurately perceive differences between risks, especially small risks like those that WTP studies address.¹⁹⁸ Ideally, economists conducting WTP studies would rely on individuals' risk perceptions in their calculations because individuals decide how much to spend to reduce safety risks based on their perceptions, not on reality.¹⁹⁹ The cost and complexity of gathering information about individuals' risk perceptions, though, appears to have discouraged economists from conducting such research. Empirical research does indicate that individuals perceive risks to their safety reasonably accurately, although less than perfectly.²⁰⁰

Finally, critics assert that economists who conduct WTP studies generally ignore nonrisk-based explanations for behavior.²⁰¹ Wage-risk analyses, for example, generally assume that workers move freely among different occupations²⁰² and change occupations solely because of risk-based concerns.²⁰³ In reality, workers may accept jobs as coal miners to be close

some injuries).

198. See Fisher et al., *supra* note 16, at 92 (noting concern that workers lack awareness about on-the-job risks); Lambrinos, *supra* note 177, at 393 (questioning whether workers know about health risks associated with different jobs); Miller, *supra* note 34, at 17 (identifying accuracy of people's perceptions of risk across situations as potential source of systematic bias in WTP studies).

199. See Fisher et al., *supra* note 16, at 92 (citing wage-risk analysis by Douglas Gegax, Shelby Gerking, and William Schulze as improvement over previous WTP studies because Gegax, Gerking, and Schulze relied on workers' own perceptions of job risk); Miller, *supra* note 34, at 17 (identifying difference between perceived and actual risk as potential source of systematic bias in WTP studies).

200. See VISCUSI, *supra* note 45, at 110 (observing consistency between Bayesian (rational) model of risk-taking behavior and actual behavior, but noting that not all behavior coincides with model); see also W. Kip Viscusi & Charles J. O'Connor, *Adaptive Responses to Chemical Labeling: Are Workers Bayesian Decision Makers?*, 74 AM. ECON. REV. 942, 955-56 (1984) (concluding that survey of chemical workers' risk perceptions reveals that market operates reasonably effectively at conveying risk information); Fisher et al., *supra* note 16, at 89-90 (characterizing workers' perceptions in Viscusi & O'Connor's study as quite similar to objective measures of on-the-job risk); Lambrinos, *supra* note 177, at 393 (same).

201. See Lambrinos, *supra* note 177, at 393-94, 395-96 (expressing concern that omitted variables might explain wage-risk differentials).

202. See Fisher et al., *supra* note 16, at 90 (stating that wage-risk studies assume that workers move freely between jobs); Lambrinos, *supra* note 177, at 393-94 (questioning assumption that workers enter and exit jobs freely).

203. See Lambrinos, *supra* note 177, at 395-96 (identifying other possible explanations for wage-risk differentials).

to their families, or may decline coal mining jobs because they do not like to get dirty²⁰⁴

Critics of the risk assessment information upon which WTP studies rely certainly raise issues worthy of future study. Even if well-founded, however, these criticisms do not require a wholesale rejection of large numbers of WTP studies. Reviewers of the WTP literature already take into account criticisms of particular studies and either adjust study results consistently with valid criticisms or, when necessary, reject study data outright.²⁰⁵ Future WTP research will address many of the issues that critics currently raise,²⁰⁶ and future reviewers likely will continue to recalculate the results of particular WTP studies as risk assessment improves.

3. Discrepancies in Value-of-Life Estimates

Despite efforts by reviewers such as Fisher et al.,²⁰⁷ Miller,²⁰⁸ and Viscusi²⁰⁹ to reconcile data from various WTP studies, significant discrepancies among value-of-life estimates remain.²¹⁰ Reviewers offer two explanations for these discrepancies. First, individuals do not always behave consistently.²¹¹ Individuals will expend more resources to save a specific life, such as that of "Baby Jessica" McClure, than they will to save an anonymous life.²¹² Individuals also exhibit a greater willingness

204. See *id.* at 395 (identifying skills, unionization, and pleasant work environment as variables affecting wages).

205. See VISCUSI, *supra* note 45, at 34-74 (evaluating specific WTP studies); Fisher et al., *supra* note 16, at 88-98 (same); Miller, *supra* note 34, at 17-39 (same).

206. Cf. generally Michael J. Moore & W. Kip Viscusi, *Doubling the Estimated Value of Life: Results Using New Occupational Fatality Data*, 7 J. POL'Y ANALYSIS & MGMT. 476 (1988) (comparing data on occupational fatalities that National Institute for Occupational Safety and Health compiles with BLS data for purpose of identifying best measure of actual job-related risk).

207. Fisher et al., *supra* note 16.

208. Miller, *supra* note 34.

209. VISCUSI, *supra* note 45, at 34-74.

210. See *id.* at 73 (finding \$4 million range in reasonable value-of-life estimates); Fisher et al., *supra* note 16, at 96 (finding \$6.9 million range in value-of-life estimates among most defensible empirical studies); Miller, *supra* note 34, at 33 (including margin of error of plus or minus 30% in estimate of value of statistical life).

211. See Miller, *supra* note 13, at 899 (noting lack of consistency in people's behavior toward risk).

212. See VISCUSI, *supra* note 45, at 21 (stating that society places greater value on

to avert fatalities when they have not chosen to expose themselves to the risk.²¹³ Second, individuals differ widely in their willingness to expose themselves to risky behavior.²¹⁴ WTP studies of police officers, for example, derive lower value-of-life estimates than studies of other segments of the population do.²¹⁵

As long as hedonic damages experts rely on WTP studies as sources for the mean value of a statistical life, discrepancies among WTP studies should raise few concerns.²¹⁶ After all, hedonic damage awards seek to deter potential tortfeasors from acting in ways that *average* individuals consider optimal, not to compensate victims.²¹⁷ Only when experts rely on WTP studies of atypical groups or attempt to tailor their estimates to characteristics of particular victims does the wide range of estimates become problematic. Reviews of the WTP literature traditionally dismiss studies of potentially atypical groups, such as police officers, when deriving consensus value-of-life estimates.²¹⁸

saving specific lives than on saving anonymous lives); Fisher et al., *supra* note 16, at 97 (explaining that individuals will expend more resources to save specific individual in life-threatening situation than to save anonymous individual because of empathy); *see also* BROOKSHIRE & SMITH, *supra* note 13, at 170 (discussing possibility of calculating hedonic damages by using data on society's willingness to pay for specific lives at risk).

"Baby Jessica" McClure was a 18 month-old child who tumbled into and became trapped in a well in her parents' backyard in Midland, Texas in 1987. Baby Jessica's rescue from the well received extensive media coverage. Lee Hancock, *Rescuing Jessica: Five Years Later*, CHI. TRIB., Oct. 14, 1991, at 8.

213. *See* Fisher et al., *supra* note 16, at 97 (observing that society's valuations of risk depend on way of dying). People exhibit much less willingness to accept risks over which they have no control, such as the risk of injury or death as a result of a nuclear accident or from air pollution, than risks that they voluntarily undertake, such as the risk of dying as a result of an automobile accident. *Id.*

214. *See* Miller, *supra* note 13, at 899-900 (discussing differences in individuals' risk averseness).

215. *See generally* Stuart A. Low & Lee R. McPheters, *Wage Differentials and Risk of Death: An Empirical Analysis*, 21 ECON. INQUIRY 271 (1983) (concluding that police officers place value of \$870,000 on statistical life).

216. *See* Miller, *supra* note 13, at 899 (explaining that hedonic damages expert using individualized approach should address behavioral inconsistencies).

217. *See supra* note 90 and accompanying text (defining purpose of hedonic damage awards).

218. *See* Fisher et al., *supra* note 16, at 93 (rejecting values derived from Low and McPheters' study of police officers); Miller, *supra* note 34, at 24 (same).

4. Policy Analysis

Discrepancies in value-of-life estimates in the WTP literature have troubled courts.²¹⁹ In *Mercado v Ahmed*,²²⁰ for example, the United States District Court for the Northern District of Illinois raised the discrepancies among WTP data as an issue when considering whether to admit testimony by hedonic damages expert Stan Smith in a personal injury action.²²¹ In *Mercado*, the court observed that Federal Rule of Evidence 702 limits expert testimony to areas of "scientific, technical, or other specialized knowledge."²²² The court found no agreement among economists about the elements that go into life valuations or about which WTP studies courts should consider.²²³ The *Mercado* court, in rejecting Smith's testimony, noted that coincidence could explain any similarities between studies with bottom lines ranging from \$100,000 to \$12 million.²²⁴

The United States Court of Appeals for the Seventh Circuit, in affirming the district court's decision, also expressed serious doubt that WTP studies measure the degree to which Americans value life.²²⁵ The Seventh Circuit stated that advertising and marketing, in addition to degrees of risk, affect spending decisions on items such as smoke detectors.²²⁶ The Seventh Circuit also worried that individuals' abilities to pay for items such as smoke detectors might skew results.²²⁷ Although admitting that Smith's proposed testimony might have some merit, the Seventh Circuit declined to conclude that the trial court abused its discretion by refusing to admit Smith's testimony.²²⁸

219. See *Mercado v Ahmed*, 756 F Supp. 1097, 1103 (N.D. Ill. 1991) (expressing concern about breadth of estimates in WTP studies that value life at less than \$100,000 to over \$12 million), *aff'd*, 974 F.2d 863 (7th Cir. 1992); *Fetzer v Wood*, 569 N.E.2d 1237, 1246-47 (Ill. App. Ct. 1991) (expressing concern that WTP studies valuing life at between \$1.6 million and \$8.5 million lack analytical precision).

220. 756 F Supp. 1097 (N.D. Ill. 1991).

221. *Mercado v Ahmed*, 756 F Supp. 1097, 1102-03 (N.D. Ill. 1991), *aff'd*, 974 F.2d 863 (7th Cir. 1992).

222. *Id.* at 1101.

223. *Id.* at 1103.

224. *Id.*

225. *Mercado v Ahmed*, 974 F.2d 863, 871 (7th Cir. 1992).

226. *Id.*

227. See *id.* (expressing concern that individuals cannot afford safety devices that they want).

228. *Id.*

Courts considering whether to admit the testimony of hedonic damages experts should not attach much significance to the *Mercado* court's observation that any similarities in WTP studies' results could arise solely from coincidence.²²⁹ WTP studies do measure the value that average individuals place on reducing small risks,²³⁰ and scientific evidence indicates that individuals act reasonably consistently, although not perfectly consistently, when they confront similar risks.²³¹ Nevertheless, the Seventh Circuit's concern that WTP studies fail to control for variables other than risk that affect behavior certainly raises a difficult issue.²³² One must remember, however, that no WTP study can control for every possible variable and that reviewers of the WTP literature disregard WTP studies when factors other than risk obviously played a significant role in the research subjects' responses.²³³

The Seventh Circuit's concern that differences among individuals' abilities to pay might skew the results of WTP studies²³⁴ misses the mark. The real world places limits on individuals' abilities to pay to reduce risks. In fact, WTP studies would derive infinite estimates for the value of a statistical life if WTP studies did not take ability-to-pay limitations into consideration.²³⁵ Besides, ability-to-pay limitations work to the detriment of plaintiffs seeking to introduce hedonic damages experts' testimony

B. Reliability of Experts' Calculations

Critics of hedonic damage awards characterize experts' calculations as both speculative²³⁶ and duplicative of other portions of traditional

229. *Mercado v Ahmed*, 756 F. Supp. 1097, 1103 (N.D. Ill. 1991), *aff'd*, 974 F.2d 863 (7th Cir. 1992).

230. *See supra* note 16 and accompanying text (discussing what WTP studies measure).

231. *See supra* part IV.A.3 (discussing discrepancies across WTP studies).

232. *See Mercado v Ahmed*, 974 F.2d 863, 871 (7th Cir. 1992).

233. *Compare Fisher et al.*, *supra* note 16, at 96 (disregarding Ippolito and Ippolito's study of cigarette market because of unique habit-forming nature of cigarettes) *with Miller*, *supra* note 34, at 27 tbl.3 (relying upon Ippolito and Ippolito's study of cigarette market).

234. *Mercado*, 974 F.2d at 871.

235. *Cf. Calfee & Winston*, *supra* note 3, at 142-43 n.17 (noting that contingent valuation surveys receive criticism for failing to place budget constraints on individuals' behavior).

236. *See Staller*, *supra* note 177, at 30 (calling calculation of hedonic damages impossible task and testimony of hedonic damages experts fraud on court).

damage awards.²³⁷ As evidence of the speculative nature of hedonic damage awards, critics note that experts do not tailor their calculations to reflect victims' personal characteristics.²³⁸ Additionally, critics point to the medical component of tort awards as a possible source of duplicative recoveries.²³⁹ Paraplegics, for example, often receive compensation for new wheelchair ramps, reconstructed bathrooms, and widened doorways as medical expenses.²⁴⁰ To avoid duplicative awards in personal injury actions, mental health professionals providing percentage-of-loss estimates must carefully consider the extent of the victim's loss after tort compensation for medical expenses.²⁴¹ Interestingly, courts repeatedly have addressed the potentially speculative nature of hedonic damage awards, but not the possibility of duplicative awards.²⁴²

Individuals will pay different amounts to avoid risks.²⁴³ Yet, hedonic damages experts treat all people of the same age as if they valued avoiding risks equally.²⁴⁴ In *Sherrod*,²⁴⁵ the United States District Court for the Northern District of Illinois rejected the argument that an expert's failure to differentiate among victims made the expert's calculations speculative.²⁴⁶

237. See Viscusi, *supra* note 18, at 4 (expressing concern about possibility of double recoveries).

238. See *supra* note 62 and accompanying text (discussing fact that hedonic damages experts do not adjust value-of-life estimates to reflect victims' personal characteristics).

239. See Viscusi, *supra* note 18, at 4 (noting that medical expense awards subsume many expenditures related to well-being).

240. See 2 DOBBS, *supra* note 4, § 8.1(3) (identifying types of damages recoverable under heading of medical expense).

241. See Viscusi, *supra* note 18, at 4 (explaining that juries need not compensate victims for items included in medical component of tort recovery as part of pain and suffering award); *supra* notes 77-86 and accompanying text (discussing hedonic damages calculations in personal injury actions).

242. Compare *Sherrod v Berry*, 629 F Supp. 159, 164 (N.D. Ill. 1985) (rejecting argument that hedonic damages are speculative), *rev'd and remanded on other grounds*, 856 F.2d 802 (7th Cir. 1988) with *Trabucco v Hilton Hotels Corp.*, No. 93-3090, 1994 WL 419846, at *1 (E.D. La. Aug. 5, 1994) (characterizing report of hedonic damages expert as speculative) and *Foster v Trafalgar House Oil & Gas*, 603 So. 2d 284, 286 (La. Ct. App. 1992) (concluding that hedonic damages are speculative).

243. See *supra* note 214 and accompanying text (stating that individuals differ widely in willingness to expose themselves to risky behavior).

244. See *supra* note 62 and accompanying text (stating that hedonic damages experts do not adjust estimates to reflect victims' personal characteristics).

245. For further discussion of *Sherrod*, see *supra* notes 143-55 and accompanying text.

246. *Sherrod*, 629 F Supp. at 164.

The *Sherrod* court stated that the rule against awards for speculative damages applies only if the cause of damages, not the measure or extent of damages, is speculative.²⁴⁷ Because no one doubted that the victim in *Sherrod* suffered a nonpecuniary loss—death—the court concluded that the expert's testimony did not violate the rule against speculative awards.²⁴⁸

Critics' arguments about the speculative nature of hedonic damage awards ignore the purpose behind such awards. When awarding hedonic damages, courts do not compensate particular victims, but rather deter conduct that society does not consider optimal.²⁴⁹ Hedonic damage awards parallel punitive damage awards in this respect because both focus on the tortfeasor's conduct, not on the victim's loss.²⁵⁰ The failure to take particular victims' unique characteristics into account arises because of the nature of hedonic damage awards, not because of any weakness in experts' methods of calculation.

V Conclusion

Hedonic damages experts have challenged courts to look seriously at the appropriate level of damages for nonpecuniary losses. Although courts have risen to this challenge, much of their analysis reflects a fundamental misunderstanding of the purpose of WTP studies and hedonic damages calculations. Those who conduct WTP studies do so to determine the appropriate expenditure for prevention of physical injury or death, not the appropriate level of compensation after physical injury or death has occurred.²⁵¹ Courts should award hedonic damages only in cases in which the tort system emphasizes the goal of deterrence exclusively and only if society does not provide potential tortfeasors with significant nontort-based deterrence incentives.

Future WTP studies likely will address many of the reliability issues that critics raise.²⁵² As a result, rationales that courts currently offer to

247 *Id.*

248. *Id.*

249. See *supra* note 90 and accompanying text (discussing purpose of hedonic damage awards).

250. See Viscusi, *supra* note 18, at 14-15 (identifying establishment of effective safety incentives as goal of punitive damage awards).

251. See *supra* part III (discussing relevance of hedonic damages calculations to pain and suffering awards).

252. See *supra* part IV (discussing reliability of WTP studies and hedonic damages calculations).

justify rejecting the testimony of hedonic damages experts will become inapplicable, or at least vulnerable to relitigation in the future. Courts that reject expert testimony solely on reliability grounds likely will revisit the reliability issue more than once in the coming decades.

The debate over the use of WTP studies to calculate hedonic damages also raises questions about the role that the tort system should play in today's increasingly regulated society. The tort system provides only one means of deterring what society defines as inappropriate behavior. Because of the tort system's notorious inefficiencies,²⁵³ policymakers likely will choose to limit the tort system's deterrent role in certain contexts in the future. As a result, the packages of remedies that courts make available for such torts as product liability, medical malpractice, and automobile injury may very well differ from one another in the future, making hedonic damages calculations relevant in some contexts but not in others.

Dennis C. Taylor

253. See generally Richard A. Epstein, *Legal Liability for Medical Innovation*, 8 CARDOZO L. REV 1139 (1987) (addressing inefficiencies of tort system in areas of medical malpractice and product liability for drug manufacturers); Priest, *supra* note 111 (addressing inefficiencies of tort system as insurer).