

9 HEDONIC DAMAGES

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9.1 Introduction

Intangible damages resulting from the loss of life have resisted objective quantification in the past. Intangible damages from profound injury, and the loss of society and companionship have likewise been difficult to quantify. This chapter explains the basic guidelines for providing economic expert witness testimony for the lost pleasure of life based on a model of hedonic or intangible damages in wrongful death and injury cases. This model is grounded on well-accepted economic principles. In this chapter, we concentrate primarily on the loss of the pleasure of life in wrongful death cases, although the other intangible losses to which the concept can be applied are discussed.

Placing a dollar value on life may seem crass to some, but with increasing frequency juries are now being asked to do so; money is merely the yardstick of measurement. Thus, developing a model for the loss of life for litigation purposes has recently become very important. Life may be priceless (we observe no explicit price) and irreplaceable, but its value can be estimated with a reasonable degree of economic certainty so that fair compensation for its loss can be determined.

Plaintiffs' attorneys may find that juries can be presented with economic evidence as to the value of the lost pleasure of living, thus making some cases economically viable to bring to court. Such cases would include instances where the allowable income losses are small, such as those for the very young and the retired, for people who choose public service positions over more highly paid entrepreneurial positions, and for single people with no dependents. The testimony can give a jury a concrete basis for discussing and deciding upon an award. In

a case where the injury is not physically obvious, such testimony can help a jury recognize the seriousness of the hidden loss.

Defense attorneys may see that the objective process of valuing life can preclude runaway awards. This is especially useful where jury sympathy for the plaintiff on the issue of liability is likely to adversely impact their ability to assess fair compensation. This can happen especially in tragic accident cases against obviously wealthy defendants, including large corporations. Also, defense attorneys may wish to use their own economist to counter a plaintiff expert who has set forth unrealistic estimates of hedonic losses.

The use of an economist to provide expert witness testimony can be extremely effective in the area of hedonic damages. However, since this area of forensic economics is more complex and new, it is important to give great weight to engaging an expert who has thorough knowledge in the area. An economist familiar with well-established methods of estimating lost earnings may be unaware of the pitfalls of estimation and testimony in the area of hedonic damages. It would be extremely useful if the expert also had substantial experience in testifying in court since the cross-examination is likely to be as arduous and difficult as may ever be encountered. As yet only a small percentage of economists have any expertise in hedonic damages and only a small percentage of these have experience in testifying and responding to intense cross-examination.

Adam Smith first suggested that wage differentials can be used to value the increase in the risk of death for a risky job.¹ Ronald Ehrenberg and Robert Smith discussed the concept in greater detail and arrived at two important conclusions: wages increase with higher job risks, and workers who are least risk averse will seek out riskier jobs that pay higher wages.² Studies of wage risk differentials are among those published in recent years that reveal how life is valued.

Thus, the concept in economic science that life has a value beyond a labor value is not new. What is new is the development of an economic model to measure the value of life on the basis of a large body of economic literature. Testimony based on this model has captured the attention of the American courts and the legal press since one of the authors first testified on this subject in a wrongful death action, *Sherrod v. Berry*,³ brought under the Civil Rights Act, 42 U.S.C. 1983. Subsequent testimony in a medical malpractice injury case, *Ferguson v. Vest*,⁴ involving an injured, 62-year-old retired woman, also resulted in considerable controversy in the legal profession.

In affirming *Sherrod*, U. S. Court of Appeals for the Seventh Circuit wrote that "...the testimony of expert economist Stan V. Smith was invaluable to the jury in enabling it to [determine] the most accurate and probable estimate of...the

¹ See Adam Smith, *Wealth of Nations* (New York: Modern Library, 1937), Book I, Chapter 10.

² Ronald B. Ehrenberg and Robert S. Smith, *Modern Labor Economics*, 2nd ed., Scott Foresman & Co., Glenview, IL, 1988, pp. 258-281.

³ 629 F.Supp. 159 (N.D.Ill. 1985), affirmed, 827 F.2d 195 (7th Cir. 1987), reversed on other grounds and vacated, 835 F.2d 1222 (7th Cir. 1988). For a discussion of this case see "Hedonic Damages in Wrongful Death Cases", by Stanley V. Smith, *ABA Journal*, Vol. 74, Sept. 1988, pp. 70-74.

⁴ *Ferguson v. Vest et al.*, 3rd Judicial Circuit, Madison Co., Ill., 87-L-207. For a discussion of this case see "More Suing over Lost Joy of Life", by Andrew Blum, *The National Law Journal*, April 17th, 1989, Page 1; and *Inside Litigation*, June 1989, Vol. 3, No. 6, Prentice-Hall, New Jersey, pp. 3-20.

hedonic value of [decedent's] life."⁵ The case was subsequently reheard *en banc*, reversed and vacated on other grounds (the district court erred in admitting evidence that the plaintiff was unarmed); but with respect to the district court's other evidentiary rulings and jury instructions, including those relating to testimony on hedonic damages, the appellate court advised the trial court on remand to "decide in light of this court's prior discussions of those matters, specifically those found in our earlier vacated opinion."

The hedonic value of life as an element of damages in court is also not new. Many courts have allowed triers of fact to award damages for the lost pleasure of life in death and injury cases. What is new is that more and more state and federal courts are allowing expert economic witness testimony to assist juries in quantifying hedonic losses, acknowledging that there is much that economists can teach juries about how our contemporary society implicitly values life. Some jurisdictions are interpreting wrongful death and pain and suffering statutes as expressly recognizing the loss of the pleasure of life as a separate element of compensable loss. Economists can provide useful guidelines for evaluating this loss.

The trial judge in *Sherrod* ruled that hedonic damages are not speculative; that the issue of speculative damages generally refers to uncertainty as to cause or origin of the damages, and not to the ability to precisely measure the loss; and "the fact that the hedonic value of a human life is difficult to measure did not make either Smith's testimony or the damages speculative."⁶ While some courts have barred testimony on hedonic damages, no state or federal appeals court has ruled against the admission of economic expert witness testimony on hedonic damages.

The terminology in state statutes and in case law, applying to various types of losses, is not fully consistent. Statutes and courts frequently distinguish between economic and non-economic losses as well as between pecuniary and non-pecuniary losses. There is no clear agreement as to which losses constitute economic or pecuniary losses and which constitute non-economic or non-pecuniary losses. It seems that when referring to pecuniary losses, case law and statutes generally mean those losses which have an actual money transfer associated with them, such as a paycheck; economic losses seem to mean those that can be readily valued in the marketplace. But such distinctions can be murky: the loss of fringe benefits (which include such items as company discounts) may not involve money transfers and may not be readily valued in the marketplace, but is routinely calculated as a pecuniary loss.

Losses discussed in earlier chapters and the losses discussed in this chapter fall along a continuum, from tangible to intangible, and from directly observed to indirectly inferred. Estimates for tangible lost wages are frequently based on directly observable past earnings. The value of tangible lost benefits is typically estimated from directly inferred values, based upon the actual employer contributions. The value of tangible lost household services is often indirectly inferred by using data for average household services contributed. The pleasure of life is an intangible

⁵ 827 F.2d 206.

⁶ 629 F.Supp. 164.

asset. The loss of the pleasure of living in wrongful death cases, or the reduction in the pleasure of living in injury cases, is an intangible loss, indirectly inferred in part by using data based on averages or central tendency estimates.

Whether elements of hedonic damages are admissible in a given jurisdiction can sometimes depend on whether a court interprets them to be economic or pecuniary losses. Since we can actually observe payments for preservation of life, the lost pleasure of life could be viewed as a pecuniary loss that can be valued in monetary terms; since lifesaving is readily valued in the marketplace, it could be viewed as an economic loss. Courts' interpretations will surely differ.

The hedonic value of life refers to the value of the pleasure, the satisfaction, or the "utility" that human beings derive from life, separate and apart from the labor or earnings value of life. To determine the hedonic loss, we seek to measure the value of human beings separate from the value of their output as mere "economic machines." The word hedonic stems from a Greek root meaning pleasure. The word was used in the *Sherrod* trial and by the trial and appellate courts in their written opinions. Subsequently the legal press has used the word extensively. Because the word hedonic can be confused by a juror with the word hedonistic (meaning the devotion to pleasure), attorneys and economists frequently find the term problematic. Alternative terms, such as "net life value" (subtracting "money life costs" from "whole life costs"), do not seem to have taken hold in the literature. For the sake of consistency, we use the word hedonic in this book.

In referring to life's pleasures, we do not mean to imply that we are measuring the value of pleasure in the narrow sense; the process of life is sometimes very pleasurable, but also sometimes intensely difficult. Life is fired at us daily, point blank, presenting us with challenges, upsets, irreversible failures, and ennui, as well as pleasure. Generally, however, we human beings find the whole challenge of the gift of life to be intensely engaging and satisfying, not only when we stare adoringly into a baby's smiling face, but also when we endure life's hardships. In measuring the hedonic value, we are valuing the pleasure of life in the broad sense of the word.

Living is dangerous to one's health. As a society, we cannot afford to reduce to zero the risk of accidental death or injury in every circumstance. Nor should the consequence of accidents always be borne by someone besides the victims. But cost-benefit analysis valuing life, grounded on sound academic studies on the value of life, can help juries weigh the consequential losses resulting from the actions of tortfeasors. Expert witness testimony based on the economic literature on the value of life can greatly assist juries in framing appropriate awards. There is much useful information. While some economists may not be comfortable in presenting such an analysis because it might not be accomplished with the same degree of precision that is customary in presenting lost earnings or business values, the relative degree of precision in the estimating techniques does not reduce the right of both plaintiff and defendant to a fair estimate of the loss, nor does it undermine the validity of the approach. There are other instances where the measurement of losses can be less precise a process than an economist would ideally desire. Such examples can be found for every loss category discussed in this book. The forensic economist is always taking the best and most relevant data which he can find to reach sound conclusions and fair estimates for defendants and plaintiffs alike.

While Copernicus first asserted that the earth revolved around the sun, it was not until several generations later that Kepler was able to measure the speed and the distance with any accuracy. Precision was not required to adopt the heliocentric model of the solar system. Likewise, while we may know the distance from New York to London with greater precision than we know the distance to the moon, we nevertheless did land on the moon, successfully and safely.

Over the past 20 years or so, there has been a substantial development in the methodology for measuring the pleasure of life. Increasingly, courts are ruling that economists can provide estimates of the value of life to a reasonable degree of economic certainty. As more data is gathered and analyzed, the measurement will most likely become more refined over time. Undoubtedly the concept will be the subject of considerable attention as it continues to be discussed by its proponents and its challengers alike. To the extent that such testimony can help make awards more fair and more predictable, there will be an increase in the overall efficiency of the judicial process.

In this chapter, using an illustrative case, we lay a foundation for valuing the lost pleasure of life, independent of lost earnings, in a wrongful death case. We also present a second approach based on lost earnings, and mention other approaches that have been used. This foundation is shown to have application in evaluating the reduction in the ability to experience the pleasure of life in injury cases, in evaluating the loss of society and companionship to survivors of deceased and profoundly injured victims, and in evaluating punitive damages in product liability cases.

9.2 Background

Since 1937 in *Rose v. Ford*,⁷ English courts have allowed a separate recovery for the "loss of expectation of life." In the U.S., in some states such as Connecticut,⁸ the state supreme court has interpreted the wrongful death statutes to explicitly allow for the loss of the value or pleasure of life itself. Many states have statutes which are broadly worded, allowing juries to award for losses "they shall deem fair and just." This language is general enough to allow the jury to render an award for the loss of the pleasure of life, separate from monetary losses, as an element of damages. At least one state supreme court, that of Mississippi,⁹ has recently interpreted its statute to expressly mean so. In other states, such losses can be recovered, but only if the victim is conscious of the loss.¹⁰ This restriction can imply that the worse the harm, the less the claim for damages. Such a position lends support to the complaint that in some jurisdictions it is cheaper to kill than to maim. As a result, a number of other states' courts have explicitly rejected the requirement that the victim be conscious of the loss. Recovery for the loss of the pleasure of living is also actionable under Section 1983 of Title 42 of the United

⁷ A.C. 836 (1937).

⁸ *Katsetos v. Nolan*, 170 Conn. 637, 368 A 2d 172 (1976).

⁹ *McGowan v. Estate of Wright*, 524 So. 2d 308 (Miss., 1988). The majority holding on this point is, peculiarly, contained in the dissenting opinions which were joined in part by members of the majority.

¹⁰ *McDougald v. Garber*, 73 N.Y. 2d 246. The court also held that the loss of the pleasure of life is an element of pain and suffering.

States Code, which provides a cause of action for the deprivation of any rights, privileges, or immunities secured by the Constitution and laws. Chapter 12 provides an analysis of various state injury and wrongful death statutes, and elements of damages recoverable under such statutes, along with citations for many supporting cases.

In the past, the law has been generally conservative in allowing for full compensation in wrongful death cases; there has been a reluctance to allow for the recovery of intangible damages. Perhaps this was so because, as with household services, there is no monetary loss that one can measure; the value of the loss must be inferred.

However, over time the attitude of courts has changed; claims for the inferable value of lost services are routine. More recently, the courts seem to be generally moving toward a measure of compensation for wrongful death and injury which includes the loss of the pleasure of life. The notion that a human being is worth what we can directly measure as the financial value of his or her work is being aggressively challenged, in part by the use of hedonic testimony. However, the admission of hedonic testimony in courts is by no means unchallenged.

Proponents argue that if the hedonic damages are disallowed, all things being equal, the life of a working mother, for example, would be valued more highly than that of a mother who spent considerable time at home and donated time as a volunteer in the community. Justice Richard Posner of the U.S. Court of Appeals for the Seventh Circuit has observed that courts have "generally resolved the vexing problem of the proper valuation of life by ignoring it."¹¹ He adds that by valuing only the lost labor component (now routinely including household services) courts are saying that people do not derive any utility from their non-working life.

Challengers of the testimony argue that we as a society cannot afford to fully compensate for the intangible loss of life. They further argue that such testimony tends to invade the province of the jury and unreasonably inflate awards. Also, they believe that there is no point in compensating an estate or survivors for a dead person's loss of the pleasure of life, since the survivors themselves have not experienced the loss of the value of life.

It seems beyond argument that we do value our non-working life. Because this value does not have an observable price does not mean the value cannot be measured. We do not sacrifice life casually, nor do we spend all of society's resources to save a single life. It seems likely that many of the issues raised by proponents and challengers alike will continue to be debated for some time to come.

9.3 How to Value A Life

Most of us have the general sense that we as human beings are worth more than the measure of our human "doings," but how much more? And to whom? What constitutes the hedonic value of life? Society has shown a willingness to pay to prevent loss of life or injury to persons unknown, regardless of their earning potential. The ability to enjoy living itself is a valuable asset. Unlike a lost earnings stream, life cannot be replaced with money. But fair compensation has routinely been

¹¹ Richard A. Posner, *Economic Analysis of Law*, Little, Brown and Company, 1986, p. 182.

determined in the past for pain and suffering. By giving a jury sufficient background and knowledge about how society expresses the value of life, the difficult assessment process can be removed from the realm of speculation. Juries can think in terms of an objective range to estimate hedonic losses so that neither unduly high or low awards may result.

The task then is to inform jurors about how economists have measured the value of life in different ways. These measures reflect how society values life and give us valuable insight into how each of us on average values his own life and the life of others. The value of any specific life is not directly observable. There is no explicit free market for life; we will never observe a market price. Because each life is unique, with widely varying characteristics, unlike more homogenous commodities such as oil or wheat, the problems of valuing a unique life can seem much more difficult than valuing a lost earnings stream.

The predominant economic model for valuing life is the Willingness To Pay (WTP) approach. In this approach, the price associated with a change in the risk of death is estimated in several different ways through questionnaire studies, consumption studies, labor market studies, and studies analyzing the cost and impact of regulations imposed by rulemaking agencies. In these studies, the price measured is that associated with a small change in the risk of death. These studies do not focus on what we do pay to save the life of a particular person facing almost certain death, such as a baby trapped in a well, or a hostage imprisoned in the Middle East. Our identification with the known victim can mobilize tens of millions of dollars of resources, sometimes even when the victims are whales trapped in ice floes. Rather, the studies focus upon the saving of lives of people who for the most part are anonymous, unknown individuals.

These studies give us enormous insight into the issue of value since they reflect the attitudes and opinions of our contemporary American culture. This information is thus an important contribution to a juror's store of knowledge for the purposes of arriving at a final conclusion.

One set of studies is based on data regarding what private citizens spend on their own safety, for items such as air bags, larger tires, smoke detectors, etc. These data reflect actual market values and transactions.

In questionnaire studies, economists have determined, for example, how much extra money people would pay to fly on safer airlines. From this information the implicit value that the respondent places on his or her own life may be inferred.

A third set of data comes from the labor market. Economists measure how much extra a worker must be paid to work at a job with a measurable life risk, such as coal mining or high beam welding. The extra compensation is a measure of the value the individual places on his or her own life.

A final category of information comes from what government causes to be spent on the prevention of loss of life through regulation. While sometimes as little as a few cents may result in significant lifesaving, the question is not how little can be spent, but how much *is* routinely spent. Government agencies have various standards of the value of life to guide them in their decision-making regarding spending on safety measures; undoubtedly, NASA now has one, surely for political if not solely for humanitarian reasons. Federal regulations impose a cost of compliance

on regulated entities, industry and government agencies alike. The implied dollar value per life saved can be measured.

The literature on the value of life has grown substantially over the past decade. It consists of a rich but highly technical body of information and analysis. Without having an explicit market price to observe, any inferential analysis will be less than perfect, but these studies reveal vital information. The preponderance of results as to the value estimates range from the high several hundred thousands well into the several millions; few results are beyond \$10 million, or below \$500,000. This is a broad range. But by taking the jury through the various estimates and the studies on which they are based, as well as the assumptions behind them, an economist can help a jury see that we routinely value life in the dimension of up to several million dollars for the statistically average person. Table 1 shows the results from several studies published in a recent survey article.

Just as different economists may arrive at different projections for the lost earnings of a person with one year of high school and no previous earnings history, economists may differ as to precisely what is the net hedonic value of life. An economist can interpret the studies and provide information that can help a jury form its own judgement regarding the net hedonic value based on the estimates published in the literature.

From the estimate for the total value of life, we must subtract estimates of the labor component (earnings, fringe benefits, household services) for a statistically average person. Further, since we include in the total value of life the value we place on preserving our financial security, we must also subtract an estimate for the value of this security to arrive at a net hedonic value. This net value may then be divided by the remaining life expectancy of a statistically average person to arrive at a hedonic value per year of life expectancy.

The important contribution of an economic expert witness with special expertise in this area of economics lies in assisting a jury to narrow the range of values appropriately and then to determine how that range is applicable to the case at hand. The evidence that an expert economist can present serves as a valuable guideline which the juror can then integrate with his or her own moral, social, philosophical and spiritual values to arrive at an appropriate conclusion.

Even when that is accomplished, the juror must then weigh the importance of the evidence that the defense and the plaintiff present with respect to quality of life of the individual concerned, the specific circumstances in the life of the victim, and her or his ability to enjoy life. An economist can present a probable range of the value of life. Only the jury takes all the additional information into account to decide where on that range a given individual falls.

Limitations of this approach include the different categories of studies and the wide range of results. Further, individual characteristics beyond age, race and sex, which imply life expectancy, are not easily taken into account by economists. No single study can give the perfect answer as to the value of life, but the preponderance of studies with results in the high six-figure to mid seven-figure range should be viewed as evidence of a consensus.

A second approach to providing an estimate of hedonic value of life is based on the individual's willingness to pay. Thus it is based on the earnings of the victim

TABLE 1
ESTIMATES OF THE TOTAL VALUE OF LIFE BASED ON
MARGINAL WILLINGNESS TO PAY FOR REDUCTIONS IN RISK

Study	Mean risk level for the sample	(millions of 1986 dollars)	
		Range of estimates	Judgmental best estimate
<i>Early low-range wage-risk estimates</i>			
1. Thaler and Rosen (1975)	11.0	0.44–0.84	0.64
2. Arnould and Nichols (1983)	11.0	0.72	0.72
3. Dillingham (1979)	1.7	0.38–1.2	0.45
<i>Early high-range wage-risk estimates</i> (all based on BLS industry accident rates)			
4. R. Smith (1974)	1.0–1.5	8.5–14.9	8.5
5. R. Smith (1976)	1.0 & 1.5	3.6–3.9	3.7
6. Viscusi (1978)	1.2	4.1–5.2	4.3
7. Olson (1981)	1.0	8.0	8.0
8. Viscusi (1981)			
a. w/o risk interaction terms	1.04	5.4–7.0	7.0
b. with risk interaction terms	1.04	4.7–13.4	
9. V. K. Smith (1976)	3.0	1.9–5.8	3.9
<i>New wage-risk studies</i>			
10. Dillingham (1985)	1.4–8.3	2.1–5.8	2.5
11. Marin & Psacharopoulos (1982)			
a. manual workers	2.0	2.7–3.1	2.9
b. nonmanual workers	2.0	9.0	
12. Low and McPheters (1983)	3.6	0.9	0.9
13. Leigh and Folsom (1984)	1.3–1.4	4.3–10.2	6.8
14. Gegax et al. (1985)			
a. all union workers	8.2	1.9	
b. union blue-collar workers	10.1	1.6	1.6
15. Moore and Viscusi (1988)	0.79	5.2–6.6	5.4
	0.52	1.9–2.1	
<i>New contingent valuation studies</i>			
16. Jones-Lee et al. (1985)	0.8–1.0	1.6–4.4	3.0
17. Gegax et al. (1985)	4.2–10.0	2.4–3.3	2.8
<i>Consumer market studies</i>			
18. Ghosh, Lees, and Seal (1975)	not reported	0.56	.56
19. Blomquist (1979)	3.0	0.38–1.4	.61
20. Dardis (1980)	0.9	0.36–0.56	0.46
21. Ippolito and Ippolito (1984)	varied	0.24–1.26	.52

SOURCE: Reproduced with permission by John Wiley & Sons, Inc., from: Ann Fisher, Lauraine Chestnut and Daniel Violette, "The Values of Reducing Risks of Death: A Note of New Evidence," *Journal of Policy Analysis and Management*, Vol 8, No 1, p.90 (Copyright 1989). The figures listed are for the total overall value of life, not the net hedonic component.

and his or her own ability to pay to avoid a catastrophic event such as certain death. An economist may estimate for a jury how much the victim could have paid to save his or her own life. For example, in Chapter 3 we saw (in Table 5) that the present value of Jack Doe's lost earnings capacity, not including fringe benefits and household services, is \$1,541,207. In order to estimate what is the most Mr. Doe could have paid to save his own life, we can estimate the extra amount of money he might have made by working a second shift. An estimate of the hedonic value he may have placed on his life is the incremental earnings he may have been able to generate, equal to his first shift earnings. We would generally not include additional fringe benefits since many of the typical benefits would not be increased by working a second shift. There would be no additional social security beyond a certain limit, no double coverage of health insurance, etc. Many benefits such as company discounts cannot be easily monetized. Nor would we include the value of household services, for obvious reasons. A jury may conclude that working an additional 40 hours per week is unrealistic over the long term, but working an additional 20 or 30 hours might be possible in order to avoid a catastrophe. At 30 hours a week, the estimate for Jack Doe would be \$1,155,904.

This approach is based upon a specific characteristic of Jack Doe, the present value of his earnings. The estimate of Jack Doe's valuation of his own life increases with earnings potential. It implies that the more we earn the more we are worth and thus a workaholic is worth more than a mother who chose to stay at home and raise the children. It is not a viable approach absent a prospective lost earnings stream.

A third approach is the societal willingness to pay when specific lives are at risk. For example, it costs approximately \$15,000 to \$20,000 a year to maintain a person in prison. When society chooses not to execute a criminal but to incur these annual costs, it is implicitly placing a value on the life of the criminal. The costs of maintaining profoundly injured people under minimal health care at institutions for the indigent significantly exceeds the costs of prison. When society chooses to pay these costs to prevent the death of incapacitated people, it is placing a value on life. Undoubtedly, there are additional data regarding what we pay to save trapped miners, trapped whales, hostages, and others whose specific lives are in imminent danger.

This third approach may have considerable jury appeal. However, it consists of data from unique and unusual circumstances and thus may be best explained as providing background reference data for the case at hand.

9.4 Sample Death Case

In our example we use the first approach for estimating hedonic damages presented in the last section. Mr. Jack Doe was 35 years old at the time of his death. He had a 75 year total life expectancy. For the purposes of this example, it has been estimated, as a benchmark for the jury, that the *total* value of life is approximately \$3.5 million for a statistically average person. This might be accomplished by showing the range of published results such as those in Table 1, and an estimate of the central tendency. Further assume that it has been shown that the average lost earnings, fringe benefits, household services and value of financial security for an anonymous

TABLE 2
PRESENT VALUE OF THE LOST PLEASURE OF LIFE
OF JACK DOE 1989 - 2028

YEAR	AGE	VALUE OF LIFE	DISCOUNT FACTOR	PRESENT VALUE	CUMULATE
1989	36	\$52,500	1.00000	\$52,500	\$ 52,500
1990	37	60,774	0.96965	58,930	111,430
1991	38	61,558	0.94022	57,878	169,308
1992	39	62,352	0.91169	56,846	226,154
1993	40	63,156	0.88402	55,831	281,985
1994	41	63,971	0.85719	54,835	336,820
1995	42	64,796	0.83117	53,856	390,676
1996	43	65,632	0.80594	52,895	443,571
1997	44	66,479	0.78148	51,952	495,523
1998	45	67,337	0.75777	51,026	546,549
1999	46	68,206	0.73477	50,116	596,665
2000	47	69,086	0.71247	49,222	645,887
2001	48	69,977	0.69084	48,343	694,230
2002	49	70,880	0.66988	47,481	741,711
2003	50	71,794	0.64955	46,634	788,345
2004	51	72,720	0.62983	45,801	834,146
2005	52	73,658	0.61072	44,984	879,130
2006	53	74,608	0.59218	44,181	923,311
2007	54	75,570	0.57421	43,393	966,704
2008	55	76,545	0.55678	42,619	1,009,323
2009	56	77,532	0.53988	41,858	1,051,181
2010	57	78,532	0.52350	41,112	1,092,293
2011	58	79,545	0.50761	40,378	1,132,671
2012	59	80,571	0.49220	39,657	1,172,328
2013	60	81,610	0.47727	38,950	1,211,278
2014	61	82,663	0.46278	38,255	1,249,533
2015	62	83,729	0.44874	37,573	1,287,106
2016	63	84,809	0.43512	36,902	1,324,008
2017	64	85,903	0.42191	36,243	1,360,251
2018	65	87,011	0.40911	35,597	1,395,848
2019	66	88,133	0.39669	34,961	1,430,809
2020	67	89,270	0.38465	34,338	1,465,147
2021	68	90,422	0.37298	33,726	1,498,873
2022	69	91,588	0.36166	33,124	1,531,997
2023	70	92,769	0.35068	32,532	1,564,529
2024	71	93,966	0.34004	31,952	1,596,481
2025	72	95,178	0.32972	31,382	1,627,863
2026	73	96,406	0.31971	30,822	1,658,685
2027	74	97,650	0.31001	30,272	1,688,957
2028	75	68,831	0.30342	20,885	\$1,709,842

JACK DOE

\$1,709,842

person totals approximately \$800,000. Thus, the hedonic value of life for the statistically average person is assumed to be \$2.7 million. Dividing that figure by the remaining life expectancy of the median-aged person, 45 years, produces a result of \$60,000 per year of life expectancy. The \$60,000 per year of life expectancy is in 1989 dollars. Since our willingness to pay is based upon, in great part, our ability to pay, the hedonic value is assumed to grow, in real terms, at 1.29% per year. This is the same as the real growth rate in wages (from Chapter 3). The discount factor for each year of the future is a real riskless rate of return equal to 3.13%. Table 2 shows the hedonic value of life for Mr. Doe.

This result is independent of the value of his earnings, fringe benefits, and household services. To arrive at the total value of Jack Doe's life, and assuming an average worklife, we need to add up all the losses we have estimated in earlier chapters:

TABLE 3
THE TOTAL VALUE OF JACK DOE'S LIFE

Lost Earnings (Chapter 3)	\$ 568,512
Lost Fringe Benefits (Chapter 4)	\$ 170,555
Lost Household Services (Chapter 5)	\$ 72,463
Less Personal Consumption on Earnings (Chapter 3)	\$ (158,263)
Less Personal Consumption on Benefits (Chapter 4)	\$ (47,472)
Lost Hedonic Value (Chapter 9)	\$1,709,842
TOTAL ECONOMIC LOSS: <u>\$2,315,637</u>	

9.5 Additional applications

The history of science is, in part, the history of quantifying the hitherto unquantifiable. The concept of the hedonic value of life enables us to quantify other damages in addition to the value of life itself. Courts have allowed the recovery of the lost pleasure of life not just in wrongful death cases, but in profound injury cases. Further, the loss of society and companionship is typically recoverable in most jurisdictions. The model is shown to have implications for the assessment of punitive damages.

A. *Wrongful Injury and Medical Malpractice*

We have developed an approach for measuring the reduction in the pleasure of living in injury cases, based on one of the approaches outlined earlier.¹² A qualified psychiatrist or psychologist or other mental health practitioner can determine the diminution, in percentage terms, of the quality of life of the victim due to a particular trauma. This impact and loss can be measured in several different areas of living: occupational, practical, emotional, and social functioning. A forecast may be made as to the prospective loss in future years. This diminution may then be used along with the total hedonic loss to estimate the reduction of hedonic value. For instance, if a woman who loses both legs in an accident is viewed to have lost approximately

¹² Ed Berla, Michael Brookshire and Stan Smith, "Quantifying Hedonic Damages: The Lost Pleasure of Life in Injury," *Journal of Forensic Economics*, Vol. III, No. 1, January 1990.

50% of her hedonic value of life, and if that percentage loss is estimated to remain constant throughout her remaining life expectancy, then the loss may be estimated to be approximately one-half the total hedonic value of her life. This is separate and apart from palpable pain and suffering since we are measuring the loss of the pleasure of life, not the onset of pain, suffering and anguish.

B. *Society and Companionship*

The data regarding lifesaving may also be used to examine the loss of the value of society and companionship resulting from wrongful death and from profound injury. What we as a society are willing to pay to prevent the wrongful death of some unknown, statistically average person is an estimate of what we would be willing to pay to preserve the life of a close loved one and hence is an estimate of how we value our relationships with close loved ones. While the deceased suffers a loss which in some states is not recoverable by either the estate or the survivors, the survivors also suffer a loss. There can be a loss of society and companionship in profound injury, also. The value of life literature gives us insight into these losses.

C. *Punitive Damages*

The value of life literature can also serve to determine the extent of punitive damages in product liability cases. For example, suppose a manufacturer of a machine knew that, by strengthening a part at a cost of \$5 per machine for 100,000 machines, there would be a reduction in accidental deaths from 9 to 4 during a given period. That means that by spending a total of \$500,000 on safety, or \$100,000 per person, the company might have prevented the accidental deaths of 5 people. If such expenditure was considered but not undertaken, a jury might conclude that the company was negligent in its safety design by valuing life at only \$100,000. Alternatively, if the cost had been \$50 per part and the expenditure had been undertaken, with the same reduction in death, a jury might conclude that by valuing life at \$1,000,000, a company had shown a considerable regard for the value of life, even if it did not, at greater expense, reduce the risk of death to zero.

9.6 Additional Considerations

In using the second approach, which is an earnings-based approach, the earnings used must be based on full time work if they are to be used to estimate how much additional income could have been generated to avoid a catastrophe. If the wage estimate is based on adjustments for work-life expectancy, these adjustments must be added back to the lost wages for both the first and second shift assumptions. Similarly, if the fringe benefits have been reduced for work-life expectancy, these reductions for the first shift must be added back under the full work-life assumption. Some appropriate fringe benefits may be added to the second shift. For example, under some union agreements, a worker receives in cash the payments made to a vacation fund during the prior year.

In estimating the hedonic value in injury cases, the total life estimate value, if based on the first approach, should have added to it the personal consumption of the unknown, statistically average person before applying the percentage loss due to injury. What we pay to avoid death takes into account, conceptually, the personal consumption savings resulting from death. In injury cases, consumption

continues. Having an hedonic estimate may also guide the economist toward using an “actual consumption” rather than a “maintenance” deduction alternative, as discussed in Chapter 3.

Also, the impact of taxes has been discussed earlier in Chapter 3. In estimating the additional wages that could be earned under approach two, the impact of taxes may have to be taken into account. The estimate of loss may increase if the “reverse” tax effect applies. Finally, under approach two where a second shift is assumed, the total value of life should not include household service contributions since there would be little if any time to contribute household services.

9.7 Testimony

A brief treatment of testimony on hedonic issues is provided here. A broader discussion of many of the issues for defense and plaintiff attorneys, including sample testimony, is provided in Chapter 11.

Plaintiffs’ attorneys should establish how we value our lives beyond the concept of humans as mere economic machines, perhaps by showing examples of how we value our leisure time. To supplement testimony on the hedonic value of life, plaintiffs’ attorneys will want to present evidence regarding the specific characteristics of the victim, beyond the age, race and sex that are taken into account to estimate life expectancy. These would include qualities that a trier of fact may regard as uncommonly above average (that economists do not yet know how to take into account). They will want the jury to understand that some of the studies, for example those that measure the amount of money paid to risky occupations, may underestimate the value of life. The average person may be much less willing to be exposed to certain risks than those who accept such jobs. Plaintiffs’ attorneys can show that values are being placed on our lives in everyday situations by the government, industry, and other individuals. They may argue that the amounts spent on leisure activities only show the value of those activities over doing nothing or something uninteresting; these expenditures do not indicate the value over not living at all. The alternative to leisure is, perhaps, boredom, not death.

Defense attorneys will want to emphasize the rather broad range of life value results. They will want to question the accuracy of the studies. They will want to point out that not everybody installs smoke detectors and wears seatbelts and that studies that show life value based on such behavior do not represent all people. They will wish to emphasize personal characteristics of the victim that may reveal a reduced capacity to enjoy life, or that may reduce life expectancy. Defense attorneys can point out that hedonic value, while perhaps measured by government agencies, is not a component of gross national product. They may wish to show that calculating the value of life, using what we pay for leisure time, such as approximately \$3.00 per hour for movies, results in much lower estimates.

9.8 Summary

In this chapter we have examined an important and growing area of expert witness testimony. Hedonic damages are not new, but testimony regarding their value is new and controversial. The receptivity of the courts appears to be increasing and jurors’ awards have been clearly affected by this testimony. Further, courts are generally

broadening their interpretation of statutes to include hedonic losses, although some courts have restricted these losses to specific circumstances.

We have outlined three approaches to estimating the hedonic value of life and, using a sample case carried throughout this book, we showed the total economic loss, including elements of damages from earlier chapters. Important additional applications to injury, loss of relationship, and punitive damages were discussed. The implications for testimony were briefly noted.

We recognize that many issues were raised in this chapter regarding this new area of litigation support. Further development of the concepts and methodology will undoubtedly take place in the near future. We believe that during the last 20 years or so, the development of the analysis of hedonic damages in the academic literature has sufficiently advanced to be of great benefit to jurors.

The alternative of having jurors rely upon their own "intuition" in this complex area seems no longer fair to any of the parties. Intuition alone cannot assimilate the complex economic data. Sophisticated econometric analysis produces results far removed from the ordinary experience of practically all jurors. Thus this testimony is of great probative value. While conceptually complex, it can be presented in simple summary form.

