



This document was downloaded from Vocational Economics Inc.
(www.vocecon.com). For more information

on this document, visit:

<http://www.vocecon.com/resources/challenges/cases/chcsvei.aspx>

**State of Indiana
Owen County Circuit Court**

Kristin N. McGonigal,)	
)	
Plaintiff,)	
)	Cause No. 60C01-0501-CT-008
vs.)	
)	
Lester R. Lucas and Cutler Logistics, Inc.,)	
)	
Defendants.)	

Affidavit of Edward P. Berlá, PhD

COMES NOW, Edward P. Berlá, PhD, being first duly sworn upon his oath states the following:

Defense has filed a motion to exclude my testimony, and, by association, the testimony of my associate Ronald E. Missun, PhD. As the motion centers around issues related almost solely to my testimony, this affidavit will be from me alone. This motion centers around the following key areas:

1. Reliability of the methodology
2. Validity/purpose of the data
3. Use of statistical averages
4. Life, Participation, Employment methodology
5. Daubert factors
6. Fit of the data with the facts of the case

Each of these points is refuted in the discussion that follows.

1. Introduction

Defense discusses IRE 702 to show that my opinion needs to be based on reliable principles and methods and that it must “fit” the facts of the case. I agree. The requirement of IRE 702 is in keeping with my assessment regarding Ms. McGonigal. This is true both in the context of understanding the evidence of disability and in determining the work-related impact of that disability.

What the defense seems to want is absolute knowledge of Ms. McGonigal’s future. This, of course, is not possible for anyone. In the absence of a crystal ball, it is necessary to estimate based on appropriate population statistics that are applied to the facts of Ms. McGonigal’s case. As Marcia Angell noted in *Science on Trial* (1997, p.115):

Affidavit of Edward P. Berlá, PhD

Courtroom trials are not about populations, they are about individuals. . . . We have no basis, at least in the current state of knowledge, for making a judgment about a particular woman. We therefore *must* appeal to epidemiological data – that is, studies of populations.

The United States Supreme Court addressed this very concern in *Jones and Laughlin Steel Corporation v. Howard E. Pfeifer* 462 U.S. 523 (1983), where they noted the impossibility of producing statistics that exactly match the plaintiff's future:

By its very nature the calculation of an award for lost earnings must be a rough approximation. Because the lost stream can never be predicted with complete confidence, any lump sum represents only a “rough and ready” effort to put the plaintiff in the position he would have been in had he not been injured.

The Court went on to deride attempts at coming up with such statistics:

We do not suggest that the trial judge should embark on a search for “delusive exactness.” It is perfectly obvious that the most detailed inquiry can at best produce an approximate result.

My education and experience provide me with specialized knowledge pertaining to the immediate and ongoing needs of persons with disability in finding and maintaining employment. In addition, data are available from the U.S. Census Bureau that pertain specifically to the earnings and worklife expectancy of persons with and without disability. These data are analyzed in various government publications and professional articles, demonstrating the impact of disability on earnings and employment (worklife). This combination of education, experience, and technical data enables me to assess the loss of lifetime earnings of Ms. McGonigal in a way that is beyond the realm of common knowledge.

2. Reliability of the Methodology

Defense contends that my opinion is not valid because it is based on unreliable methodology and on flawed government data. They state that the methodology is too general and that the opinion contains generalizations and averaging that make the opinion unreliable. These contentions make it clear that the defense does not understand the nature of a lost earnings analysis or the data upon which such analyses are based. In fact, the methodology I employed was explicitly addressed in a recent peer-reviewed article specifically addressing assessment of earning capacity (see Attachment A). The article discusses the assessment of annual earning capacity, worklife expectancy, and lifetime loss.

When I am retained as an expert witness for cases such as Ms. McGonigal's, I am asked to estimate the loss of earning capacity that plaintiffs will sustain over their lifetimes as a result of disability. As noted by the U.S. Supreme Court (see Introduction), this is not an exact calculation; at best, the estimate is a “rough approximation.” What is necessary in this case is that I consider specifics relating to Ms. McGonigal (e.g., age, education, work history, work-related limitations) in combination with relevant population statistics to derive the most reasonable estimate possible. This is what I have done in estimating her lost earnings.

Affidavit of Edward P. Berlá, PhD

As an expert witness in this case, I have been asked to assess Ms. McGonigal's loss of earning capacity resulting from a disability sustained in July 2003. In conducting this assessment, therefore, the most relevant issue is Ms. McGonigal's loss of lifetime earnings considering this disability. The most relevant data, then, must be those that specifically address this issue, those that measure the differences in earnings and employment between people with and without disability, referenced by gender and an education level consistent with Ms. McGonigal's. This is what I have done in this assessment. Doing this ensures that my analysis addresses the needs of the court.

3. Validity of the Data

In conducting the assessment regarding Ms. McGonigal's loss of lifetime earnings, I used data from two US Census Bureau surveys – the Current Population Survey (CPS) and the American Survey (ACS). This resulted in four separate analyses estimating her lifetime loss – two using CPS data (one in which she has no reduction in annual earning capacity, one in which she does) and two using ACS data (with the same two possibilities). In stating their criticisms, defense deals with the ACS only minimally—primarily in terms of potential problems with self-reported survey data. Since most all of the criticisms regarding the data are directed toward the CPS, the sections that follow will focus mostly on the CPS as well.

3.1. Census Caveat

Defense contends that the Census Bureau website and particularly the presence of a paper entitled “Uses and Limitations of CPS Data on Work Disability”¹ discussing possible limitations of CPS work disability data precludes use of the data. As titled, the document does discuss uses and limitations of CPS data. As noted in the text, however, this is intended to be a caveat regarding the data, not a document precluding their use. As noted on page 3 of the paper, “data users have to look at the questions and the use to which they plan to put the data to determine the adequacy for the purpose at hand.” Therefore, the paper simply cautions the user to be aware of the impact of potential errors in the survey, a wise caution before using any survey data.

Similar caveats apply to any survey. In fact, the Bureau of Labor Statistics has an even stronger warning regarding the widely-used *Occupational Outlook Handbook* (OOH). This caveat states that the OOH should not be used to compute future lost earnings in adjudication proceedings. Despite this, many expert witnesses continue to see the earnings data as valuable and continue to use them, in combination with their experience and expertise, to calculate lost earnings. Just as we recommend with the CPS data, the user must understand the source and limitations of the data and adjust their use of it accordingly.

It is important for users to understand the potential imperfections in order to be able to use data most effectively. Understanding the issues can enable an expert to use CPS (or OOH) data as one element in calculating losses in individual cases. I am familiar with the CPS and ACS and am able to apply my education and experience to its appropriate use. A fuller discussion of

¹ www.census.gov/hhes/www/disability/cps/cpstablexplanation.pdf

Affidavit of Edward P. Berlá, PhD

specific points mentioned in the Census website document can be found in the other sections of this affidavit:

- Validity/Purpose of the Data in Section 3.2
- Self-Reported Disability in Section 3.4
- Validity of the First Disability Question in Section 3.5

3.2. Validity/Purpose of the Data

Defense contends that the CPS data are not valid for studying the employment experiences of people with a disability and that they were not intended to identify people with a disability.

The CPS survey is the primary source of employment data for persons in the United States, and the source of the government's monthly unemployment rates that are widely quoted by the media. In March of each year beginning in 1981, the CPS has been expanded to collect more information on income and employment. This supplement forms the basis for the rates of participation and employment used in the worklife expectancy calculations through expanded questions that specifically address work disability.

The contention that the CPS was not intended to identify work disability is clearly wrong. The Census Bureau began publishing data from the March Supplement in 1983 in a publication entitled *Labor Force Status and Other Characteristics of Persons with a Work Disability: 1982*. The beginning of the publication addresses the issue of measuring the experiences of persons with disability:

One of the issues that this country has tried to address through the Federal statistical system is the extent to which persons with a disability are able to participate in the labor force. Programs and policies have been established to discourage discrimination and encourage training and rehabilitation, but the success of these programs and policies cannot be measured without some type of statistical monitoring system. Statistics on persons with a disability are obtained from two sources: program statistics and household surveys. While the former source is critical for certain purposes, the basic unit in a statistical monitoring system must be household surveys. Only through household surveys is it possible to obtain estimates of the number of persons with a disability and learn how their situation changes over time.

Recent changes to the questionnaire used in the March Income Supplement to the Current Population Survey (CPS) make it possible for the March CPS to be used as a source of information on the labor force status and other characteristics of noninstitutional persons with a work disability. (p. 1)

In the 1989 publication *Labor Force Status and Other Characteristics of Persons With a Work Disability: 1981 to 1988*, the Census Bureau expands on the reasoning behind these questions:

According to Saad Nagi, a major figure in the development of survey data on persons with disabilities, a person has a disability if he or she has a limitation in the ability to perform one or more of the life activities expected of an individual within a social environment. The primary way this basic concept is operationalized in the March CPS is to ask whether any household member has a health problem or disability which prevents them from working or which limits the kind or amount of work they can do. (p. 1)

Affidavit of Edward P. Berlá, PhD

Beginning in 1995, the Census Bureau began annual updates to its website giving employment rates and earnings for people with and without work disability based on CPS data. These have continued since that time, despite the criticisms raised by defense supposedly precluding their use.

3.3. Heterogeneity

Defense contends that the population of those with a disability is so diverse that application to a particular individual is difficult to impossible.

Heterogeneity is a statistical term referring to the diversity of the population averaged to derive the disability statistics. I agree that the population of those with a specific impairment is quite diverse. However, it is incorrect to surmise that this precludes the use of a statistic drawn from this population.

I further believe that any statistic applied should be applied appropriately. In cases concerning the assessment of lost earnings and worklife, the expert should rely on medical reports verifying the impairment and apply the appropriate “vocational scrutiny” to assess the impact of the impairment, if any, on the individual’s ability to work. The critical vocational issue is whether a medically determinable permanent physical or mental impairment exists that limits or is likely to limit the individual in terms of the amount or kind of work he or she is capable of performing. Work disability data from the CPS regarding employment should be used only if the individual has a work disability, regardless of the severity of the impairment.

The solution for some critics of disability statistics is to use earnings and worklife statistics that are not specific to disability at all. It is clear that this is not a reasonable solution as it uses statistics from a much broader and more diverse population than the disability specific data. Most importantly, it ignores what is known about persons with a disability. They experience lower levels of earnings and employment and, hence, a reduction in worklife expectancy and lifetime expected earnings.

When predicting the height of a 5-year-old boy, should one use an average of all people or of 5-year-old boys? Similarly, when predicting the employment experience of, for instance, a female with a nonsevere work disability, should one use an average of all people or of females with a nonsevere work disability?

Most forensic economists routinely project earnings and employment based upon education. Categorization by education results in averages from diverse populations. Imagine, for example, averages for persons with a baccalaureate degree. These degrees may range from Accounting to Mechanical Engineering to Social Work, or lead to occupations ranging from a CEO of a large corporation to a minister. Obviously, these occupations have a wide range of expected earnings. Yet, despite the diversity, this average is accepted and used by many economic and vocational experts, as it is the most appropriate predictor in many cases – such as a college freshman who had not yet determined an area of focus. Allowing use of a broad education average while not allowing a more narrowly defined disability-specific education average is a nonsensical double standard.

Affidavit of Edward P. Berlá, PhD

3.4. Self-Reported Disability

Defense contends that, since disability for those responding to the CPS and the ACS is self-reported and not independently verified, one cannot say with certainty that the work or physical disability data are accurate. Respondents could be influenced by other factors, such as current employment status.

What defense suggests in this position is a study that would be so enormous as to be impossible. Acquiring independent verification from the thousands of people interviewed would be very difficult, at best, and probably impossible. In those cases of persons identified as having physical or mental impairment, it would require an independent medical evaluation of the selected sample in order to resolve the issue of self-reporting error. All survey research of a macro nature relies on self-report, but the large sample size reduces, if not eliminates, the supposed problem regarding errors in self-reporting. Stern (1989; see Attachment B) tests for this problem by measuring labor force participation using self-reported disability. He finds that any potential bias is small and that “the standard disability measures are powerful and reasonably exogenous predictors of labor force participation” (p. 392).

The CPS relies upon answers from respondents to questions administered by trained Census personnel (self-reporting). As such, the criteria used by the Census Bureau to classify a respondent’s disability status depends upon

- the respondent’s ability to recognize the disability, and
- the truthfulness of the response

Critics speculate that one or both of these requirements are not met in enough cases as to skew the results. The CPS is the *primary* source of employment data for the United States. The entire survey is self-reported. Despite this, it is relied upon by researchers, economists, demographers, and other scientists across the world for measurements of employment, earnings, education status, age, and other characteristics of the US economy. The ACS, though much newer than the CPS, is also being used by independent researchers to study the same issues. Conducted by the US Census Bureau:

The American Community Survey is a new nationwide survey designed to provide communities a fresh look at how they are changing. It will replace the long form in future censuses and is a critical element in the Census Bureau’s reengineered 2010 census plan.²

The government does not require a CPA to verify the income reported, employers to verify employment status, or birth certificates to verify age. Yet, vocational and economic experts and social scientists in general routinely rely upon the resulting income, employment, and age statistics both in forensic and nonforensic settings. However, when it comes to the CPS and ACS questions on work and physical disability, challengers contend that respondents are incapable of or unwilling to give an accurate response. As with the heterogeneity issue, this is

² www.census.gov/acs/www/index.html.

Affidavit of Edward P. Berlá, PhD

a nonsensical double standard. Those who contend that self-reporting is a problem themselves routinely use such data specific to earnings, level of education, and age.

3.5. Validity of the First Disability Question

A key criterion in screening for work disability is this question from the Current Population Survey (CPS) survey:

(Do you/Does anyone in this household) have a health problem or disability which prevents (you/them) from working or which limits the kind or amount of work (you/they) can do?

Defense contends that this question is invalid because it is ambiguous and that people may knowingly or unknowingly respond incorrectly. This question, however, was based on work done by the Social Security Administration (McNeil, 2002; included in Attachment C) and is accepted as a valid one as shown by the fact that an almost identical question is used as the cornerstone in another major survey, the Survey of Income and Program Participation (SIPP), also conducted by the Census Bureau. Similar questions are asked in the National Health Interview Survey, conducted by the U.S. Census Bureau for the U.S. Department of Health and Human Services, and the Panel Study of Income Dynamics, conducted at the Survey Research Center, Institute for Social Research, University of Michigan.

Statistical analysis of CPS data (Gibson, 2001; included in Attachment C) demonstrates that 81% of those responding positively to this question also responded positively to one of the other six questions comprising the complete work disability definition.³ Of the remaining 19%, the overall rate of employment is .77 – in line with the overall Not Severely Disabled rate of .73, and well below the Not Disabled rate. If the question were as ambiguous as defense claims, one would not expect such consistency in responses specific to probability of employment.

3.6. Letter from Harvey Hamel

Defense refers to a 1994 letter written by Harvey Hamel, a senior supervisory economist at the Bureau of Labor Statistics, criticizing the disability data in the CPS. They offer his comments as further evidence that the CPS is invalid for the purposes of worklife expectancy computation.

However, defense confuses the issues. They focus the discussion exclusively on Dr. Hamel's criticism of the *monthly* survey, data that I did not use. They failed to recognize that the CPS disability-specific employment rates are derived from the March supplement, not the standard monthly survey. This is also the supplement, now known as the Annual Social and Economic Supplement, that the Census Bureau used in its *Labor Force Status and Other Characteristics of Persons With a Work Disability* publications discussed in Section 3.2.

³ The complete work disability definition can be found at:
<http://www.census.gov/hhes/www/disability/disabcps.html>

Affidavit of Edward P. Berlá, PhD

On the March supplement, Dr. Hamel notes that the data “. . . would not provide overall estimates of the disabled population or workforce.” This noted limitation is consistent with what is noted in *Labor Force Status and Other Characteristics of Persons With a Work Disability: 1981 to 1988* (U.S. Bureau of the Census 1989 p. 1):

CPS data are not the best source for prevalence estimates. Their importance lies in the fact that they provide a reasonably consistent set of timeseries data on the labor force activity and earnings status of persons with a work disability.

Note that this caveat for use of the data is that the CPS should not be used to measure the size (prevalence) of the disabled population. Hamel notes that this arises from the fact that the CPS does not attempt to measure persons with a non-work disability. My analysis does not use the CPS for prevalence measures, but for descriptive statistics of the work-disabled population, a population in which Ms. McGonigal belongs. Thus, the caveat does not limit the worklife expectancy estimates.

3.7. Skoog and Toppino Article

In 1999, the *Journal of Forensic Economics* published an article by Skoog and Toppino, criticizing *The New Worklife Expectancy Tables*. These tables use the same methodology to compute worklife expectancy that I employed in my analysis regarding Ms. McGonigal. It is interesting to note that despite defense counsels’ obvious studious readership of the *Journal of Forensic Economics*, they seemed to have missed other published articles that support use of the disability data contained in the CPS.

A list of articles pertaining to the worklife expectancy and its underlying methodology is attached (Attachments C and D). Two of these articles (Gibson and Tierney, 2000 and Gibson, 2001) specifically contradict all of the criticisms contained in the Skoog and Toppino article. In the interest of saving the Court’s time, these arguments will not be repeated here, except as noted in the previous sections.

John McNeil, former Special Assistant on Disability Statistics with the Census Bureau, authored an article (included in Attachment C), which specifically refutes some of the key points in the Skoog and Toppino article. His article points out errors made by Skoog and Toppino when referring to research he performed while at Census. In addition, he signed an affidavit stating he sees no reason why the CPS data for work disability cannot be used in the manner applied by Vocational Econometrics, Inc (McNeil, 2001; see Attachment E).

Herman Miller, economic consultant and former chief of the Population Division of the Census Bureau, has also supported use of the CPS in measuring the employment impact of disability. In an affidavit signed in August 2001 (see Attachment F), he states that the CPS data are “the most appropriate source for studying the employment experiences of people with a work disability. In my opinion, *The New Worklife Expectancy Tables* published by Vocational Econometrics, Inc. make appropriate and accurate use of these data.”

Affidavit of Edward P. Berlá, PhD

3.8. CPS use by Other Researchers⁴

Contrary to defense implication, the CPS is a valuable source that is relied on for disability studies. The CPS survey is the primary source of employment data for persons in the United States, and the source of the government's monthly unemployment rates that are widely quoted by the media. In addition, various independent researchers use CPS data in research on the employment experiences of persons with a work disability.

In a presentation before the National Association of Forensic Economics (NAFE) in November 2000, John McNeil (2000), a special assistant for disability statistics for the U.S. Census Bureau, now retired, reaffirmed the application of CPS data for the study of persons with a work disability. As part of the presentation, he produced a study entitled "Employment and Earnings of Individuals 18 to 64 by Disability Status: Data from the March 2000 Current Population Survey." The study explores the participation and employment rates for persons with work disability using the same data used in *The New Worklife Expectancy Tables*. He also authored an article further supporting use of CPS data for studying worklife issues for people with a work disability (McNeil, 2002).

Other private research funded by the government also use CPS data to study employment patterns of the U.S. population. A research economist at the Federal Reserve Bank of Atlanta recently published an article dealing with the rate of part-time work among people with work disability (Hotchkiss, 2004). Burkhauser, Daly, and Houtenville (2001) used data from the March supplement of the CPS to compare the employment experience of people with and without disability during the 1990s business cycle. This paper was originally published through the Rehabilitation Research and Training Center (RRTC) for Economic Research on Employment Policy for People with Disability at Cornell University. The Cornell RRTC⁵ has also published several other papers using CPS data on persons with a work disability. These include multiple papers (e.g., three by Houtenville in 2000) that studied the prevalence, employment rates, and household income of people with disability, as well as a paper by Burkhauser, Houtenville, and Wittenburg (2003) that compared the employment trends of persons with work limitations using the CPS and two other government surveys.

The extensive use of the CPS data for research on employment issues and the similar findings from other disability data provides corroborative evidence of the validity of the CPS data. Independent researchers from various institutions and with various purposes would not all use the CPS data unless the data are meaningful.

4. Life, Participation, Employment Methodology

Defense criticizes the Life, Participation, Employment (LPE) methodology that I use to develop Ms. McGonigal's worklife expectancy estimate. They state that the US Bureau of Labor Statistics abandoned the methodology and that it denies the possibility for an individual to move from one disability state to another.

⁴ Studies noted in this section are contained in Attachment G.

⁵ www.ilr.cornell.edu/ped/dep/dep_pubs.html?cat_id=7

Affidavit of Edward P. Berlá, PhD

No one method is universally accepted as “the” way to calculate worklife expectancy. The LPE method has not been abandoned by forensic experts as a method for calculating worklife expectancy. The LPE method has been written up in at least one forensic journal (Albrecht, 1991; Payne and Piette, 2000; included in Attachment D). It was also included in a publication by Richards and Abele (1999; included in Attachment D) discussing various acceptable methods for calculating worklife expectancy.

The employment rates from the LPE method can be used on a year-by-year basis, which allows for proper discounting. In addition, the method allows the user to cut off the calculation at a desired age (e.g., full Social Security retirement age) to account for individual differences in career patterns or goals. The vast majority of experts cannot adjust the Markov worklife figures to consider these issues, partly because they have never been published, and partly because, even if published, they would be difficult to use.

Defense further criticizes the LPE method because it does not factor in the possibility of future disability. Though this contention is true, it misses a crucial point that needs to be considered. Gibson (1998; included in Attachment C) noted:

A disabled person faces a risk of further disabling injuries at least as high as a nondisabled person’s risk of an initial injury. Use of *The WLE Tables* is primarily intended for forensic settings where *the change* in a person’s worklife from nondisabled to disabled is the primary concern. Study of the nondisabled worklife alone (in cases of partial disability) has little value without a corresponding disabled worklife. (p. 267)

In essence, just because a person has sustained one disability does not mean that the chance for another disability has suddenly disappeared. In fact, depending on the nature of the disability, chance of further injury could be even more likely (e.g., chance of falling due to knee instability). To factor the possibility of future disability on one side of the equation and not the other would be inequitable.

Finally, *Culver v. Slater Boat Company* (722 F.2d 114, 5th Circuit, 1983) notes that there are some possibilities we simply do not factor in our computations:

Arriving at a reasonable estimate of anyone’s financial future involves estimates of a whole spectrum of factors. We commonly exclude many relevant factors from consideration on the basis that they are so speculative that they cannot accurately be determined. For example, we consider only work-life expectancy and do not take into account the possibility that a worker will change to work that is more pleasurable but pays less. When considering the loss suffered as a result of the death of a wage-earner, we do not consider the likelihood that a widowed spouse may remarry. Nor do we take into account the stability of an already accomplished remarriage, or the age, appearance or personality of the surviving spouse.

5. Daubert / Kumho Factors

Defense uses US Supreme Court's decision in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* (509 U.S. 579, 113 S.Ct. 2876, 1993) and notes that an expert's testimony must be reliable. I agree. Defense demonstrates its lack of understanding of extensive scientific research on the issues faced by persons with disability, however, in stating that my testimony fails on this level. The purpose of my testimony in this case is to assess the effect of the July 2003 injury on Ms. McGonigal's *lifetime* ability to work and earn money. Applying my training and experience, I considered personal and medical evidence and statistical findings in estimating this lifetime effect. In doing this, I have considered a full range of possible influences on Ms. McGonigal's future.

With regard to reliability, the Court held that scientific evidence must be "grounded in the methods and procedures of science." *Daubert* provides four flexible factors to determine if the evidence so qualifies: testing, peer review and publication, error rates, and general acceptance in the relevant community. As updated by *Kumho Tire Company v. Carmichael* (526 U.S. 137, 1999), the Court stressed that not all factors may apply with every case, especially in the social sciences. The trial court is left as the gatekeeper using the factors as *flexible* guidelines to assure the expert employs the same level of intellectual rigor as he or she would outside the courtroom when working in the relevant discipline. The applicability of each of the four factors is discussed below.

5.1. Testing

The scientific testing criteria is directed more toward the "hard" sciences (e.g. engineering) than toward vocational and economic testimony, since such testimony is concerned with the future experience of people, which can never be tested or known with absolute certainty. Data from the CPS and the ACS, however, are produced and extensively tested by the U.S. Census Bureau and the U.S. Bureau of Labor Statistics. The probabilities of life are drawn from the life tables from the U.S. Department of Health and Human Services, National Center for Health Statistics, which produces and extensively tests the tables.

5.2. Peer Review

Defense places great weight on peer-reviewed articles that criticize my use of US Census Bureau disability data. They fail to mention that articles favorable to worklife expectancy, the methodology used to develop worklife expectancy, and the government data used all are supported by other peer-reviewed articles of a forensic or non-forensic nature. Peer-reviewed journals frequently publish articles espousing opposing viewpoints, providing an outlet for professional discussion; they are not necessarily the universally accepted ideas/methods in the field.

Worklife tables and the CPS data used to measure employment rates of persons with a work disability are the subject of multiple articles. The bibliography is a partial listing of these articles and includes listings of articles pertaining to the worklife tables themselves (see Attachment C), the methodology underlying The Tables (see Attachment D), and the use of CPS data by government and nonforensic researchers (see Attachment G and Section 3.8). The

Affidavit of Edward P. Berlá, PhD

bibliographies show that the worklife tables have been reviewed in professional journals and that the CPS disability data have been used by researchers for both forensic and nonforensic purposes.

Defense expert, Dr. Launey, criticizes the worklife expectancy method I used, saying that the commercial aspect of the worklife tables discourages others from testing or replicating the data. Vocational Economics, Inc. website,⁶ however, has for years made freely available a description of the method used to develop worklife expectancies and provided the specific data elements pulled from the US Census Bureau databases and the US Department of Health and Human Services' Life Table publications. Both government departments⁷ make the data freely available for downloading to individual computers. Anyone with database programming knowledge is free to use the data and develop disability-related statistics on their own.

5.3. Rate of Error

This criterion is primarily intended to apply to the "hard" sciences in conjunction with the testing performed there (e.g., reliability of a bolt securing a heavy sheet of metal). With regard to standards for controlling the technique's operation, the LPE methodology used to develop the worklife expectancies was developed by Brookshire and Cobb (1983). It was further refined by Brookshire, Cobb, and Gamboa (1987) to adjust for work disability, and is one of multiple widely accepted methods to compute worklife expectancies discussed in *Life and Worklife Expectancies* (Richards & Abele 1999).⁸

5.4. General Acceptance

Defense criticizes the methodology used to derive worklife expectancy, saying that it is not generally accepted. The type of analysis conducted in this case is requested in order to assist the trier of fact in deriving a fair award. Unlike such fields as engineering and medicine, the product provided to the courts by vocational economic experts is only needed in litigation. Damages are not calculated unless damages are sought.

Forecasting a plaintiff's future earnings stream is not an exact science. There is no single step in the loss computation process that enjoys universal acceptance in the relevant community. As such, it is predictable that experts will disagree on the method for computing lost earnings. This is true of defining earning capacity, computing worklife expectancy, projecting earnings growth, and determining discount rates. As noted in the introduction, the U.S. Supreme Court recognized the inexact nature of assessments for lost earnings in its 1983 decision in *Jones and Laughlin Steel v. Pfeifer*.

However, there is wide acceptance of use of the CPS data to define work disability. In addition, a 1999 publication by Richards and Abele, *Life and Worklife Expectancies*, looks at

⁶ <http://www.vocecon.com/technical/Data/wldata.htm>

⁷ CPS Data: <http://www.bls.census.gov/ferretftp.htm#cpsmarch>

ACS Data: <http://www.census.gov/acs/www/Products/PUMS/index.htm>

Life Tables: <http://www.cdc.gov/nchs/products/pubs/pubd/lftbls/life/1966.htm>

⁸ These publications are included in Attachment D.

Affidavit of Edward P. Berlá, PhD

several generally accepted ways of computing a statistical worklife, including the method used in my assessment of Ms. McGonigal's loss.

The methodology used to develop worklife expectancy was developed by Michael Brookshire and William Cobb and was further refined by Brookshire, Cobb, and Anthony Gamboa. In a 1991 article in the *Journal of Legal Economics*, Gary Albrecht applied this methodology to assessments of earnings for partially disabled individuals (see Attachment D). The opinions expressed by users of the worklife tables are consistent with this methodology.

The methodology used to develop worklife expectancies in this case has been the subject of many articles, lending credence to its overall acceptance.

6. Fit of the Opinion to the Facts of the Case

Defense notes that my application of the methodology and data must fit the facts of the case. I agree. They object to my analysis because they feel I did not make enough use of the Ms. McGonigal's work history. They fail to understand how employment information is used in a typical vocational economic assessment. The sections below will describe the nature of such a lost earnings assessment and how my analysis fits with the facts regarding Ms. McGonigal.

6.1. Nature of a Lost Earnings Assessment

In conducting an assessment of loss of lifetime earnings, an expert needs to consider a variety of factors, some of which are age, education, previous work experience, work-related limitations, and the lifetime effects of these limitations on ability to work and earn money. When conducting the assessment, it is essential that the expert take important vocational factors into consideration.

Post-injury, for instance, the estimate of earning capacity and worklife expectancy must consider the effect of the impairment on *lifetime* ability to work and earn money. The presence of a permanent, partial disability is widely known to affect both earnings and worklife expectancy. This finding is documented in results from various surveys, including the Decennial Census, Current Population Survey (CPS), American Community Survey (ACS), and Survey of Income and Program Participation (SIPP) from the Census Bureau;⁹ the National Health Interview Survey (NHIS) from the National Center for Health Statistics;¹⁰ and the *N.O.D./Harris Survey of Americans With Disabilities*.¹¹ The disability effect is the cause of such events as the passage of the well-known Americans with Disabilities Act (ADA),¹² the

⁹ Data from the decennial Census, CPS, ACS, and SIPP can be found on the Census Bureau website at <http://www.census.gov/hhes/www/disability/disability.html>

¹⁰ One example is a study by Stapleton, et al. (1997) that accesses data from the NHIS. <http://aspe.hhs.gov/daltcp/reports/eshccclit.htm>

¹¹ <http://www.nod.org>

¹² <http://www.usdoj.gov/crt/ada/adahom1.htm>

Affidavit of Edward P. Berlá, PhD

existence of the Department of Labor's Office of Disability Employment Policy,¹³ and the practice of rehabilitation counseling, just to name a few.

For the purpose of assessing loss of earnings for Ms. McGonigal, I have used data from the US Census Bureau's Current Population Survey (CPS) and American Community Survey (ACS). The CPS is the longest running disability survey and is the primary source of employment data for persons in the United States, the source of the government's monthly unemployment rates that are widely quoted by the media. The ACS is the largest disability survey and is collected monthly. The Census Bureau plans to use the ACS to replace the long form of the 2010 Decennial Census.

Private research using the CPS (Yelin, 1996; and Yelin and Trupin, 1997 – included in Attachment G; Gibson, 2000 and 2001, included in Attachment C) has shown that employed persons with a work disability are more likely to become unemployed than persons without a work disability. If unemployed, they are less likely to find employment. These differences become more profound with age.

Even if persons with a work disability find employment conducive to their disabilities, they face ongoing struggles to cope with their disabilities. These struggles may intensify with age, continuously making it more difficult to compete with their counterparts without disability (Gibson, 2000 and 2001, see Attachment C; also see U.S. Census Bureau website¹⁴). The impairments will place the individual at a disadvantage in the labor market compared to those without disability, and likely cause the person to have a harder time finding and/or maintaining comparable employment.

In their motion, defense states that I always find a loss of lifetime earnings for plaintiffs. This is not true. It is my experience that attorneys go through a screening process to determine whether or not to hire an expert witness for a given case. As discussed in my deposition (e.g., page 33-4), it is common for me to discuss cases with attorneys before they retain me. As a result of these discussions, for example, I have told plaintiff attorneys that I did not believe there was a loss of earnings in certain cases. As a result, as common sense would dictate, I am not retained on those cases.

My assessment of the impact of injury on Ms. McGonigal's loss of future earnings is based on facts known regarding the employment experience of real people meeting the definition of disability. Based on Ms. McGonigal's status at the time of my analysis in June 2005, I determined that she was like an individual with a nonsevere work disability and with a physical disability, as defined by the Census Bureau. In this way, I applied to her only those statistics that are for people similar to her.

¹³ <http://www.dol.gov/odep>

¹⁴ <http://www.census.gov/hhes/www/disability/disabcps.html>

Affidavit of Edward P. Berlá, PhD

6.2. Use of Statistical Averages

Defense argues that my analysis is inappropriate because it did not consider any information specific to Ms. McGonigal, but instead restricted the analysis to variables that encompass broad groups of persons, using the average statistics from these large populations.

The consternation seems to stem from a need for a very precise formula to apply these population statistics to an individual plaintiff. Averages from various populations have long been accepted as a means for prediction – life expectancy, earnings, and others. No statistic, no matter how fine-tuned, can provide an exact predictor of an individual's future. This is as true of worklife expectancies as it is of various measures of annual earnings and growth and discount rates. The expert must use available statistics about populations and mold them to meet the specifics of the case. As discussed in Section 1, the U.S. Supreme Court recognized this uncertainty several years ago, in their decision in *Jones and Laughlin Steel v. Pfeifer* (1983).

Defense objects, in short, to the fact that the statistics are derived from an average for female high school graduates. They feel the groups used are too broadly defined. They offer no alternative measures that meet their specific criteria. There are none.

Economists, actuaries, insurance companies, and gambling establishments use population averages when making rational bets on human outcomes. The basic belief is that in the absence of more specific and precise information, the best predictors of outcomes are statistical averages or relative frequencies. Following this, disability data do not have to be segregated by type, severity, or duration of disability in order to be reliable or meaningful.

Even if segregated data existed, their use would be limited at best. Persons with the same diagnosis and the same length of time since injury can have significantly different experiences in terms of their experience in the workplace, especially when education level is factored in. Consider an example of two men with identical hand injuries resulting in reduced grip strength and limited range of motion. This injury would have an enormous impact on a carpenter, who would likely need to leave his employment. For an English professor, however, the effect may be minimal.

What the criticism does point to, however, is the fact that statistics of all sorts must be used responsibly and applied by persons familiar with the world of work and career development theory. When assessing persons with disability, the user should be familiar with the effects of impairment on ability to work and earn money as well as the experiences of persons with disability in the labor market. I have the knowledge and experience necessary for performing such a calculation.

More specifically, defense contends that my methodology is unreliable because it relies on four, flawed variables—sex, age, education, and disability status. These issues will be addressed separately.

Affidavit of Edward P. Berlá, PhD

6.2.1. Sex

Defense objects to my limiting the statistics used for Ms. McGonigal's case to female statistics in that this limits my calculations to only one-half of the working population. Since Ms. McGonigal is a female, use of female statistics are certainly most appropriate. It is common knowledge that men and women have different patterns of work and earnings.

This objection is also quite odd in that it directly contradicts the defense's desire for my opinions to fit the facts of the case. On one hand, they are asking me to be very specific, and on the other hand, to be very generic and to consider all working people, regardless of how well the data for those people fit Ms. McGonigal.

6.2.2. Age

In their Motion, defense states that my assessment "statistically encompasses all 24 year old females" without noting whether they feel this is a positive or negative factor. The statement is not exactly correct. My analysis does consider 24-year-old females, but only those similar to Ms. McGonigal in terms of education and disability status. In addition, in order to estimate Ms. McGonigal's *lifetime* loss of earnings, I have also considered the work experiences of females through the age of 89 who are similar to her in educational attainment and disability status. I did this in order to make the assessment more appropriate to Ms. McGonigal and more useful to the trier of fact when determining her lifetime loss.

6.2.3. Education

Defense objects to my use of worklife expectancy data for female high school graduates, noting that the data do not take academic performance into account. While the government data do not factor in such things as grades or standardized test scores, it is not reasonable to conclude that this makes the data unusable. It is appropriate to use general population statistics in estimating Ms. McGonigal's lifetime loss as things other than academic performance—other life choices, for example—can influence earnings and work patterns.

When estimating a young individual's *lifetime* capacity to earn money, average figures are generally most appropriate. In Ms. McGonigal's case, a proxy using statistics for people like her (female high school graduates, with/without disability) is the most reasonable choice. Given her young age, there is no basis for veering her away from the averages for female high school graduates in terms of general work experience and estimated worklife expectancy.

6.2.4. Disability Status

Defense objects to my use of the U.S. Census Bureau's work disability categories from the CPS (They do not mention the ACS when discussing these objections). Their objection stems from the fact that there are only two categories and that the categories are not impairment specific.

In the field of statistics and actuarial sciences, probabilities are derived by determining the average of a statistical cohort, that is, the average performance of those persons most like the person being predicted. In conducting my analysis, I determined that Ms. McGonigal was most like an individual with a nonsevere disability, as defined by the Census Bureau in the CPS. In

Affidavit of Edward P. Berlá, PhD

doing this, I excluded from consideration all of those people whose disabilities are severe or prevent them from working altogether. In this way, I applied to Ms. McGonigal only those statistics that are for people similar to her—those who have a work disability but are still able to work. This enables a more proper analysis of the lifetime effects of her work disability.

In addition to this use of CPS data, contrary to defense contention, I have used data from the Census Bureau's ACS survey. These data deal specifically with physical disability and can be used to study the effect of such a disability on earnings and employment. In using this second survey, I have applied a variety of data relevant to Ms. McGonigal's situation in order to estimate the lifetime effect of her disability on earnings. It is important to note that looking at Ms. McGonigal's situation from two different perspectives (work and physical disability data) results in similar estimates of her lifetime earnings loss.

6.3. Ms. McGonigal

In deciding the most appropriate measure of earning capacity, it is necessary to consider many factors, such as age, education, and work history. Defense objects to my use of statistical averages to estimate Ms. McGonigal's worklife expectancy. When estimating an individual's *lifetime* capacity to work and earn money, average figures are generally most appropriate, especially for younger individuals. Ms. McGonigal's age (24 at the time of analysis) makes the use of statistical averages especially appropriate for her. Use of such averages is discussed further in Section 6.2.

As an expert, I was asked to assess Ms. McGonigal's *lifetime* loss as a result of injury, not just the loss that occurred during the short period of time since injury. Ms. McGonigal is still young and has many years ahead of her that the injury and resulting limitations will impact.

In assessing Ms. McGonigal's post-injury earning capacity and worklife expectancy, I considered the effects of her injuries and the impact that these limitations are likely to have on her capacity to work and earn money in the future. Based on the experiences of real people with disability in combination with Ms. McGonigal's limitations, it is probable that the impact of her injuries will make it more difficult for her to find and maintain employment. Therefore, the most relevant estimates of Ms. McGonigal's earning capacity and worklife expectancy must consider this critical change. The fact that Ms. McGonigal remains employed does not negate the possibility of a lifetime loss of earnings.

In conducting my assessment, I considered the range of very real events that Ms. McGonigal could experience in the future. This includes retaining her level of annual earning capacity, though as an individual with a disability in terms of worklife expectancy, and experiencing a reduction in annual earning capacity based on disability. Based on her actual experience in the future, her loss of lifetime earnings can be expected to fall somewhere within the range presented in my report.

6.4. Medical Support

Defense objects to the portrayal of Ms. McGonigal as disabled, stating that there is no medical support for this conclusion. This is incorrect. In my years of experience in performing lost

Affidavit of Edward P. Berlá, PhD

earnings analyses, it is common to find different doctors with different opinions regarding the same individual's injuries and their resulting impairments. This case is no exception.

In conducting such an analysis, it is necessary to look at the full picture, not only what the doctors opine, but also what the individuals have to say about themselves and the effect of the impairments on their day-to-day activities and ability to work. That is what I have done in assessing Ms. McGonigal's loss.

Since my initial report in 2005, I have had the opportunity to read additional medical information. This includes the deposition of Vincent Hume, MD, on November 3, 2006. On page 21, he notes his assessment of Ms. McGonigal as of April 2006 to be "myofascial muscle strain, basically neck pain, ligamentous strain, and sleep dysfunction." During subsequent appointments, he noted moderate to severe pain behaviors and that she had severe tenderness in the upper shoulder/neck area. In addition, on pages 36 and 37, he states that he considers her pain to be a chronic pain and that her

prognosis would be poor. If she had any improvement, it would be minimal or it would take a long – extremely long time for her to get any minimal improvement.

In addition, I have reviewed the deposition of Steven A. Rupert, DO, on November 9, 2006. On pages 42 and 43, after noting that he felt Ms. McGonigal had chronic pain, he states

typically individuals that I see are usually better by the time they leave me in three to four months. Because of her tear that we noticed in her facet joint capsule, these individuals usually have chronic long-term pain. They have good and bad days, depends on what they do and how much they do.

These and other medical records reviewed are consistent with the statements made to me by Ms. McGonigal in my interview with her in May of 2005. During that interview, she noted a variety of problems, some of which are pain and difficulties with prolonged sitting, standing, and walking; repetitive bending; climbing; heavy lifting, heavy household chores; and picking up and playing with children.

I have no reason to believe that Ms. McGonigal was being anything other than truthful. This is supported by the report of Jeffrey W. Gray, PhD, in April 2005. His evaluation included administration of the Minnesota Multiphasic Personality Inventory (MMPI) and Beck Depression Inventory which showed her to be within normal limits and without symptom magnification. In his report, he notes

Indeed, both her MMPI and Beck Depression Inventory were well within normal limits. Her responses to the MMPI were consistent with those individuals who tend to deny clear cut psychopathology. There is certainly nothing in these data that suggested any type of functional contribution to her pain situation.

The totality of this information supports my assessment of Ms. McGonigal as an individual with a disability that can be expected to affect her ability to work and earn money during her lifetime.

Affidavit of Edward P. Berlá, PhD

FURTHER, THE AFFIANT SAYETH NAUGHT.

Edward P. Berlá, PhD
Vocational Economic Analyst

Subscribed and sworn to before me, a notary public, in this ____ of March 2007.

Notary Public

My Commission Expires _____