

A Note on the Loss of Household Services in Cases of Permanent Partial Disability

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Some economists and rehabilitation experts have voiced concerns regarding the article entitled, “The Impact of Disability on Household Services: Evidence from the American Time Use Survey” published in 2014 in this journal. Crouse (2014) was an exploratory study, and improvements and critiques of the method were expected and welcomed. Some unpublished research has adjusted for the impact of weekend oversampling on the analysis of the ability to perform household services. Contributions such as these are appreciated, however, there are some myths that must also be addressed. This note serves to respond to some of the criticisms and dispel the associated myths.

Four central objections to the methodology that the authors have noted are that:

1. Absent an injury, an individual would perform household services equal to that of a statistically average person of particular demographics.
2. An expert considers the replacement cost of household services but references no vocational opinion that the individual has a decreased ability to perform household services.
3. The article does not consider “temporary” or “transitory” disability, as some experts have termed.
4. The statistical analysis based on the American Time Use Survey (ATUS) data is flawed, and overestimates the impact of a disability on household service activities.

Crouse (2014) does not suggest blindly applying statistical data without interviewing the individual and discussing with the individual their limitations. In terms of the first objection to the statistical methodology, we have seen an expert claim that: “Generalization from the statistically average male in the pre-incident and post-incident calculations, absent evidence that plaintiff is statistically average, is nothing more than speculation and cannot be considered a reasonable predictor of the individual’s pre-incident and/or post-incident performance of household services.” While it is true that the estimate of the total value of household services would be the same, it is not true that the loss would be the same as different people may have more or less severe injuries, lose more or less of their ability to perform household services, re-

quire more or less outside help to replace the loss in household services, often work at a slower pace, or work with greater or lesser pain and discomfort. The expert should explore some of these considerations with the individual. Thus, the application of statistical data from the ATUS is *not* the same as being applied to any individual of the same age, gender, and employment characteristics. Furthermore, estimates of loss in personal injury cases almost always involve statistical averages. Economists and vocational experts routinely utilize worklife and life expectancies based on gender, age, and education. Professional judgment is always required when applying averages to individuals.

There is a fundamental problem with the second objection. Assume a 43-year old employed female is injured. Enlisting the aid of a vocational expert to determine the impact of an injury on specific household chores is not required as it would offer little guidance to determine her loss of household services when she is 55, unemployed, and no longer doing the same things that she did when she was 43. If one suggests to ask the vocational expert to opine as to how her injury would impact the sorts of things she might do at age 55, that would require assuming that she would be doing the things that a statistically average female of age 55 would be doing, and we are back to using statistical averages.

The third objection has no merit because the household services analysis as discussed in Crouse (2014) only applies to cases of permanent partial disability where there is a medical predicate that has been established. It is not the role of the economist to adjust statistics for the impact of “transitory” or “temporary” disability. Only a medical doctor should opine as to whether a disability is transitory or temporary.

The fourth critique is absurd because the only reduction that the article discusses is the “hours” reduction. It does not consider productivity which is where the bulk of the loss most likely lies. The statistical analysis in Crouse (2014) provides only a lower bound for the loss of household services in cases of permanent partial disability. If medical procedures are expected to mitigate the effects of the disability, the associated pain, and the productivity of the individual, then the loss could be lower than what is indicated in the arti-

cle since we do not consider “transitory” disability. The analysis in Crouse (2014) applies to cases of permanent partial disability.

Many experts levying the fourth criticism are failing to consider some crucial aspects of the ATUS survey data. The ATUS asks respondents to record the amount of time spent, daily, on various activities. The activities are categorized as household activities and caring for children, as well as asking respondents about any type of disability they may have. The ATUS survey does not ask some crucial questions that may make the statistical analysis more complete. For example, the survey does not ask if:

1. The respondent with a disability continues to do household work, but with pain or discomfort,
2. The respondent with a disability must now rely on other family members to assist them in performing household work, or
3. The person with a disability works more slowly, and takes more time to complete household chores.

As an example, let’s assume that an individual with no disability works 5 hours daily around the house, one hour on each different chore. That person now is permanently injured, and the following hourly chores are now as indicated in Table 1.

As illustrated in Table 1, the American Time Use Survey would report a loss of one hour from pre-injury as chore #4 now takes twice as long and this is reflected in the hours expended post-injury. But, the loss is clearly 3.5 hours as the individual is not able to perform chores 1, 2, and 3 and takes twice as long with chore 4.

Thus, a statistical analysis from the ATUS data represents the lowest estimate of loss assuming that three conditions do not exist: (1) the respondent with a disability continues to do household work, but with pain or discomfort, (2) the respondent with a disability must now rely on other family members to assist them in performing household work, and (3) the person with a disability works more slowly, and takes more time to complete household chores.

It is very rare for conditions 1, 2, and 3 to all be absent. In order to get a better estimate than the lowest possible value obtained by the ATUS, one must inquire of the individual with a disability whether any of the conditions 1, 2, or 3 are present. If so, one must ask how many hours per day the person with a disability would need outside help so that it does not have to be done by family members, in pain and discomfort, or take longer to do.

These questions are not asked in the ATUS, but are important. This is why it is important to ask the individual with a disability about these factors. Furthermore, if these questions were asked there is no imaginable way that the injured and disabled respondents would indicate that the disability resulted in a situation where *fewer* family members did household work as a result of the disability or that there is now *less* pain and discomfort in doing household work as a result of the disability or that it now takes *less* time as a result of the disability. That is, there is no conceivable way that an injury can cause the person with a disability to become more efficient in household work.

Since these questions are not asked in the ATUS, the R-squared in the equations are low. However, the F-values are very high, indicating a reduction in minutes per day that is statistically significant. The reduction in minutes per day is statistically significant, but the coefficient on the disability variable does not capture the *full* effect of the disability: the effect of household members shouldering some of the burden, the effect of pain and discomfort, and the effect of chores that take longer to do. That is, the coefficient on the reduction in minutes per day that is used is, by definition, the lowest possible estimate.

The estimate of value for a person with no disability, except in extreme cases, places a cap on the estimate of loss. This figure is derived from Dollar Value of a Day (2015). This statistical method not only places a cap on damages but can produce a lower bound as well in cases of permanent partial disability.

Table 1
Illustration of Underestimation of Loss in Applying ATUS data

Chore	Description	Pre	Post
Chore #1	Assisted by a household member	1	0
Chore #2	Individual with a disability cannot do the chore at all; it is not done	1	0
Chore #3	Individual with a disability does the work, but in pain and discomfort	1	1
Chore #4	Individual with a disability does the work, but it takes twice as long	1	2
Chore #5	Individual with a disability does the work with no complications	1	1

References

Crouse, Joseph T. (2014). The impact of disability on household services: Evidence from the American Time Use Survey. *The Rehabilitation Professional*, 22(4), 217–222.

Expectancy Data. 2015 (and earlier annual editions). *Dollar Value of a Day: 2014 Dollar Valuation*. Shawnee Mission, KS.

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