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Happiness in Law and Policy: Two Empirical Studies

By

David Ennio DePianto

A dissertation submitted in partial satisfaction of the

requirements for the degree of

Doctor of Philosophy

in

Jurisprudence and Social Policy

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Robert D. Cooter, Chair  
Professor Robert MacCoun  
Professor Justin McCrary  
Professor Trond Petersen

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## Abstract

### Happiness in Law and Policy: Two Empirical Studies

by

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Doctor of Philosophy in Jurisprudence and Social Policy

University of California, Berkeley

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Comprising two independent empirical analyses, this dissertation leverages the data and methodology of the happiness research program to address issues in tort and employment discrimination. The first piece of the dissertation uses domain-specific measures of well-being – financial satisfaction and perceived relative income – to gain insight on potential differences in the way that individuals of different demographic groups assess their income. Insofar as it reflects or impacts the economic incentive structures facing workers of different demographic groups, the subjective assessment of income has far-reaching implications in a variety of civil rights contexts, where the expansion of economic opportunity among historically disadvantaged groups is a first-order goal. The results of the study indicate that different race/gender pairs do respond to income differently: for both financial satisfaction and perceived relative income, white females, black females and black males all have lower returns to personal income than do white males. White males, in other words, appear to reap more “bang for the buck” in terms of both of the outcome variables, even after a host of control variables are introduced. The results are germane to ongoing debates about claiming behavior, filing deadlines, and race/gender clustering in the employment context.

The second chapter employs survey data on subjective well-being and a battery of self-assessed health measures to estimate the hedonic impact of emotional health, as decoupled from its physical counterpart. The analysis is done with an eye toward tort law, which has historically drawn a distinction between physical and emotional harms, limiting recovery on the latter through various common law doctrines. After offering a cautious defense of the use of subjective well-being as a proxy for injury in the tort context, the paper shows that a range of potentially inactionable emotional conditions, including “stand alone” emotional conditions with no concomitant physical manifestations, exert a significant negative impact on subjective well-being. To the extent that subjective well-being, or happiness, captures something meaningful about what it means to be “made whole” as an aggrieved tort litigant, the results of this paper suggest that the limitations on recovery for stand-alone emotional harms may be misguided.

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## Chapter 1: Financial Satisfaction and Perceived Income Through a Demographic Lens: Do Different Race/Gender Pairs Reap Different Returns to Income?

### Introduction

Research on the subjective assessment of income has served, in various ways, to complicate the traditional economic understanding of the relationship between money and the quality of life – a view characterized by its emphasis on objective measures of financial status, such as absolute income, absolute wealth, or GDP per capita (Vera-Toscano et al., 2006; Arthaud-Day & Near, 2005; Easterlin, 1995). Contra this classical economic view, the relationship between money and individual well-being appears to be marked by relativity and inextricably intertwined with values, expectations, and demographic categories. The analysis of financial satisfaction and perceived income – two prominent correlates of well-being capturing subjective judgments about economic status – has, for example, provided evidence of the importance of age (Hsieh, 2000), gender (Danigelis & McIntosh, 2001), perceived health status (Vera-Toscano et al., 2006; Stoller & Stoller, 2003), education (Soo & Grable, 2004) employment status, marital status and religious participation (Hsieh, 2001) to the way that individuals assess their economic standing.

Building on existing studies of the interplay between demographic factors and the subjective assessment of income, this paper explores a set of questions with wide-ranging implications: to what extent do race and gender moderate (1) the relationship between personal income and financial satisfaction, and (2) the connection between personal income and perceived relative income? The analysis focuses on differences across four demographic (race/gender) groups: white males, black males, white females and black females. As discussed in Section 2, the study departs from the extant literature in a number of important respects. First, the analysis incorporates race, an underexamined demographic variable in the literature, into the analysis along with gender. Second, the analysis examines demographic differences in the perception of and satisfaction with income not as global, income-invariant gaps, but as differences in the slopes of income/financial satisfaction and income/perceived income gradients. As a result, the models presented below – unlike similar studies in which race and gender are treated separately from each other and from income – extend beyond the identification of “baseline” demographic differences to focus squarely on the marginal impact of income for different race/gender groups. Finally, the analysis decomposes total household income<sup>1</sup> into personal income and additional

<sup>1</sup> Both personal income and additional family income are represented in all of the analyses. However, due to the wide range of policy issues surrounding individual economic opportunity, and, by extension, individual economic incentives in the workplace, my analysis highlights demographic differences in the perception and subjective evaluation of *personal income*, as opposed to total family income. The variables used to track

household income, thus facilitating a richer discussion about the economic incentives faced by working individuals in different demographic groups.

The issues raised in this study have far-reaching implications for public policy and private decision-making alike. For instance, the link between personal income and financial satisfaction is crucial in a variety of civil rights contexts, where the expansion of economic opportunity among historically disadvantaged groups is a first-order goal. Moreover, a clear understanding of the relationship between personal income and perceived income is vital in particular policy domains, such as employment discrimination, in which the *perception* of disparity across racial and gender lines is a necessary precondition for corrective action in the form of legal redress, investment in human capital, or activism (Major & Kaiser, 2005; Felstiner et al., 1980-81). Unlike other studies of the economic incentives facing different demographic groups – many of which focus on prevailing wage-gaps, or differences in expected income across racial and gender categories, as the chief source of skewed economic incentives in the workplace (Altonji & Blank, 1999; Charny & Gulati, 1998) – this study asks whether personal income is subjectively evaluated in different ways by different race/gender groups. The results of this study thus provide a useful complement to laboratory studies on the subjective evaluation of income (discussed below) and provide insight into certain, often unexamined, assumptions about the impact of economic progress as it operates through a demographic lens.

The remainder of this paper is organized as follows: Section I provides a brief overview of the scholarship on financial satisfaction and perceived income. Section II provides an overview of the data and methods employed in the analysis. The findings regarding the impact of income on financial satisfaction and perceived relative income for the four examined race/gender combinations are presented in Section III (and the associated tables/figures). The results from Section III are discussed in Section IV, along with policy implications and avenues for future research.

The discussion in Section IV gives particular attention to the following question: are the observed demographic gaps, in both of the relationships described above, consistent with the notion that gender and race play a role in the formation of comparative benchmarks (reference groups) used by individuals to assess various aspects of their lives? In other words, do the data suggest that people tend to compare to people within their racial and/or gender category, and, if so, might the tendency to engage in ingroup comparison be dampened by the increased availability of outgroup comparison targets in the workplace? Although the present analysis is not specifically tailored to discern the mechanisms behind any observed demographic differences in the subjective assessment of income, the results presented in Section III, considered in tandem with related studies, are suggestive of a particular type of social comparison dynamic – one in which people tend to compare to people of their own race/gender categories unless and until their local environments offer more outgroup comparison targets.

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personal income and additional family income are discussed in more detail in Section 3.



## **I. Background – Financial Satisfaction and Perceived Income**

Financial satisfaction is a “sub-construct” of life-satisfaction and subjective well-being; a self-assessed measure of individuals' general contentment with, and/or freedom from worry about, their financial situations (Joo & Grable, 2004). The construct of perceived income is related to, but somewhat narrower than, financial satisfaction. Whereas the latter captures a global evaluation of individual or family finances, the former reflects subjective judgments about income relative to either a “subjective poverty line” (Litwin & Sapir, 2009), a (typically unobserved) comparison group (Davis & Smith, 2009; Vera-Toscano et al., 2006), or an aspirational level of income (Hazelrigg & Hardy, 1997; Wilkie et al., 2007). Financial satisfaction and perceived income have both been studied extensively in the area of gerontology and in the burgeoning empirical literature on well-being, where they are often used as predictor variables for other outcome measures. The two constructs have been found to predict, among other things, depression (St. John, Blandford, & Strain, 2006), global life-satisfaction (Easterlin, 2006), perceived health (Cairney, 2000) workplace productivity (Epstein & Ward, 2006) and mortality (Blazer, Sachs-Ericsson & Hybels, 2005).

Studies exploring the determinants of financial satisfaction and perceived income can be split along methodological lines, into two groups: analyses of survey data (similar to the present inquiry) and experimental or laboratory evidence from social psychologists. Results from the former methodological camp provide mixed evidence regarding the presence of demographic differences in the perception or evaluation of income, some studies finding no significant baseline effects of gender on perceived income (Vera-Toscano et al., 2006; Joo & Grable, 2004; Stoller & Stoller, 2003; Hazelrigg & Hardy, 1997), others showing no effects of race or gender on financial satisfaction (Hsieh, 2004; Hsieh, 2001), others finding some evidence of gender differences (Litwin & Sapir, 2009; Hansen et al., 2008; Chan, Ofstedal, & Hermalin, 2002; Desmarais & Curtis, 2001; Danigelis & McIntosh, 2001) and some finding evidence of racial differences (Zurlo, 2009). Moreover, even where demographic differences are found, the implications of such results for the population at large are unclear, as many of the above studies focused on specific sub-populations such as the elderly (Hansen et al., 2008; Hsieh, 2004; Hsieh, 2001; Danigelis & McIntosh, 2001).

A growing body of experimental evidence from the field of social psychology, however, shows consistent demographic differences in financial satisfaction, perceived income and related measures such as pay entitlement. The majority of such studies focus on gender differences, generally finding that women feel entitled to, and are satisfied with, less income than men (Bylsma & Major, 1992; Major & Konar, 1984; Desmarais & Curtis, 1997a, 1997b). Notwithstanding these findings, the gender gap in the subjective evaluation of income appears not to be a necessary or even particularly deeply-wired cognitive phenomenon; rather, it can be magnified or mitigated by experimental manipulations of comparison information. The observed gender gaps, for example, are larger in the absence of comparison standards and smaller (or nonexistent) when pay histories or explicit comparison incomes are made salient in the experimental context (Desmarais & Curtis, 1997a, 1997b; Bylsma & Major, 1992).

While some of the above studies provide evidence of baseline demographic differences in the subjective assessment of economic status, there appear to be few studies addressing the moderating impact of gender (see Danigelis & McIntosh, 2001 for an exception), and none considering the interaction of *race and gender*, on the relationship between income and either financial satisfaction or perceived income. The analysis presented in Section 4 seeks to fill this important gap.

## **II. Data and Methods**

### ***II.A. Data Source***

The data used in the following analyses are obtained from the General Social Survey (GSS) series – among the largest, longest-running, and richest public data sets available for research in the social sciences. The ongoing GSS series is nationally representative of the adult U.S. population, containing data on a broad range of demographic and attitudinal dimensions, including well-being, health, income, education, family composition and political ideology (Davis et al., 2009). The entire sample consists of approximately 51,000 observations – approximately 1500 for each year in which the surveys were administered, with roughly 170 black respondents for each survey period.<sup>2</sup> Only a fraction of the observations, however, were usable in the present analyses; after omitting observations without all of the necessary variables, the usable sub-samples for the pooled regressions contained approximately 13,000 observations and the usable observations for the race/gender specific regressions ranged from approximately 340 to 6,000 observations (the lowest number representing the number of working black females with answers to all of the relevant survey questions). While both of the outcome variables used are ordinal-level, ordinary least squares regressions are used to simplify the discussion of the results. Importantly, ordered probit estimates (not shown) yield results that are similar to the OLS regressions described below. For all of the regressions, the survey settings in STATA are used to adjust for the complex sampling design of the GSS.

### ***II.B. Dependent (Outcome) Variables***

The first of the two dependent variables, financial satisfaction, is measured by the GSS survey instrument SATFIN, which asks respondents the following question: “So far as you and your family are concerned, would you say that you are pretty well satisfied with your present financial situation, more or less satisfied, or not satisfied at all?” (Davis et al., 2009). Perceived relative income, the second outcome variable examined here, is gauged by responses to the GSS measure FINRELA: “Compared with American families in general, would you say your family income is far below average, below average, average, above average, or far above average?” (Davis et al., 2009).

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<sup>2</sup> Black respondents were oversampled in 1982 and 1987, and the analyses below use weights to adjust for the oversampling.

### *II.C. Independent Variables*

Income – a consistently strong correlate of financial satisfaction and perceived income – is included in all of the regressions, and serves as the basis for the aforementioned interaction terms. Income is disaggregated into two components, personal income and additional family income. The personal income measure employed in the regressions is the GSS variable CONRINC, and additional family income is represented by the difference between the GSS variable CONINC, reflecting total family income, and CONRINC.<sup>3</sup> Both income measures are inflation-adjusted to reflect 2000 dollars.

As discussed more in the following section, the pooled regressions contain three demographic dummies – white female, black female, black male – indicating the race and gender of the respondent. White males are the benchmark category in all of the analyses. The regressions also contain a corresponding set of three-way income interaction terms, obtained by multiplying each of the above race/gender dummies by the income variables. Other control variables are outlined in Table 1.

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<sup>3</sup> CONINC and CONRINC are GSS recodes of categorical income data: the original income categories were converted into six-digit numbers using mid-points for interior values and imputations for topcode values. Though the underlying data are categorical, the transformed data used in this analysis are treated as continuous. For details on the conversion, see (Hout, 2004).

**Table 1 – Variable List**

| Control Variables      | Description  | Notes  |
|------------------------|--|--|
| Year                   | Survey year  | Year is treated as a continuous variable; Survey years include 1972-1978, 1980, 1982-1991, 1993, and even years between 1994 and 2008.   |
| Time Period            | Time period dummy variable   | The time period dummies – used in some of the initial race/gender specific regressions, to compare with similar regressions containing a linear year variable – are groupings of consecutive years that cover approximately equal numbers of observations. For example, one time dummy represents years 1972-1975, another covering 1976-1980, and the rest covering similar clusters of years with approximately equal numbers of observations. Period dummies were used in lieu of year dummies because certain survey years contain very few usable observations for black females and black males. Because the use of the period dummies yields little difference in the results (vis-a-vis the specifications with the linear year term), Tables 2 & 4 only show the results with the linear year term. |
| Age/Age Squared        | Age of respondent in years   |  |
| Education              | Years of schooling completed                                       | 12=high school, 16=undergraduate degree, >16=graduate school   |
| Married                | Marital Status dummy variable                                      | Married = 1, Unmarried (divorced, separated, widowed, never married) = 0   |
| Children               | Number of children   |  |
| Predicted Income (PSU) | Predicted log income given primary sampling unit and year          | Predicted incomes were generated in two steps: (1) regressing individual income on primary sampling unit (SAMPCODE) and survey year, then (2) assigning a predicted income value to each respondent according to this simple estimate. The predicted incomes are intended only to provide a rough measure of the local standard of living in the various primary sampling units used by the GSS.   |
| Industry               | Dummy variable reflecting the industry in which respondent works   | The 13 values taken by the Industry variable reflect the 13 major industrial categories of the 1980 Census. An industry crosswalk was used to convert industry codes for the pre-1980 respondents. (Ruggle et al., 2010; online at <a href="http://usa.ipums.org/usa/volii/occ_ind.shtml">http://usa.ipums.org/usa/volii/occ_ind.shtml</a> ) The coefficients for the industry variables are not shown in the regression tables.   |
| Occupation             | Dummy variable reflecting the occupation in which respondent works | The 6 values taken by the Occupation variable reflect the 6 major occupational categories of the 1980 Census. An occupational crosswalk was used to convert occupation codes for the pre-1980 respondents. (Ruggles et al., 2010; online at <a href="http://usa.ipums.org/usa/volii/occ_ind.shtml">http://usa.ipums.org/usa/volii/occ_ind.shtml</a> ) The coefficients for the occupation variables are not shown in the regression tables.  |

### III. Results

#### *III.A. Financial Satisfaction Through a Demographic Lens*

Table 2 shows the results of eight different regressions: two different specifications applied separately to four race/gender sub-populations of working individuals (white males, black males, white females and black females). The first, third, fifth and seventh column of Table 2 reflect a regression of financial satisfaction on (log) personal income, (log) additional family income and survey year. The second, fourth, sixth and eighth columns of Table 2 show the results of a similar regression, with time period dummies used instead of a linear year term.<sup>4</sup>

As expected, the income variables bear positive and significant relationships with financial satisfaction (the sole exception being black females, for whom the personal income coefficient was not significant at the .10 level). Further, the top row in Table 2 shows what appear to be large demographic differences in the relationship between personal income and financial satisfaction. The personal income coefficient for white males is approximately twice the size of the personal income coefficient for black males and white females, and eight times the size of the (insignificant) coefficient for black females. The varying personal income/financial satisfaction gradients can be shown graphically to clarify the above point. Figure 1 shows the predicted levels of financial satisfaction for each demographic group across the personal income scale (the figure, it should be noted, reflects the bivariate relationship between personal income and financial satisfaction – no controls are included). Figure 1 thus illustrates the key feature of the results explained above: the steeper income gradients for white males, vis-a-vis the other three groups.

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<sup>4</sup> See Table 1 for details regarding the time period dummies.

**Table 2**  
Race/Gender Specific OLS Regressions  
Dependent Variable: Financial Satisfaction (SATFIN)

| Variable                     | White Males           |          | Black Males |         | White Females |          | Black Females |          |
|------------------------------|-----------------------|----------|-------------|---------|---------------|----------|---------------|----------|
| Log Personal Income          | 0.167*** <sup>a</sup> | 0.166*** | 0.093**     | 0.095** | 0.079***      | 0.079*** | 0.023         | 0.021    |
|                              | 0.012                 | 0.012    | 0.036       | 0.035   | 0.010         | 0.010    | 0.038         | 0.038    |
| Log Additional Family Income | 0.119***              | 0.117*** | 0.081*      | 0.080*  | 0.210***      | 0.209*** | 0.142***      | 0.145*** |
|                              | 0.012                 | 0.012    | 0.034       | 0.033   | 0.010         | 0.010    | 0.030         | 0.030    |
| Year                         | -0.001                |          | -0.007*     |         | -0.001        |          | -0.000        |          |
|                              | 0.001                 |          | 0.004       |         | 0.001         |          | 0.003         |          |
| Time Period Dummies:         |                       |          |             |         |               |          |               |          |
| t2                           |                       | 0.018    |             | 0.199   |               | 0.004    |               | -0.068   |
|                              |                       | 0.045    |             | 0.195   |               | 0.042    |               | 0.153    |
| t3                           |                       | -0.028   |             | 0.045   |               | -0.056   |               | 0.099    |
|                              |                       | 0.047    |             | 0.204   |               | 0.039    |               | 0.157    |
| t4                           |                       | -0.019   |             | 0.125   |               | -0.024   |               | 0.011    |
|                              |                       | 0.046    |             | 0.208   |               | 0.041    |               | 0.155    |
| t5                           |                       | -0.102   |             | 0.000   |               | -0.100*  |               | 0.013    |
|                              |                       | 0.052    |             | 0.202   |               | 0.044    |               | 0.164    |
| t6                           |                       | -0.035   |             | 0.006   |               | -0.083*  |               | 0.008    |
|                              |                       | 0.050    |             | 0.200   |               | 0.041    |               | 0.167    |
| t7                           |                       | 0.006    |             | -0.062  |               | -0.013   |               | 0.036    |
|                              |                       | 0.048    |             | 0.195   |               | 0.040    |               | 0.157    |
| t8                           |                       | -0.027   |             | -0.026  |               | -0.030   |               | -0.043   |
|                              |                       | 0.054    |             | 0.210   |               | 0.048    |               | 0.156    |
| R-Squared                    | 0.068                 | 0.070    | 0.038       | 0.044   | 0.084         | 0.086    | 0.038         | 0.042    |
| N_sub                        | 5547                  | 5547     | 692         | 692     | 6135          | 6135     | 841           | 841      |

<sup>a</sup> legend: b/se (\* p<0.05; \*\* p<0.01; \*\*\* p<0.001)

Notes: t1-t8 are period dummies, each of which represents a cluster of consecutive years (or, in some cases, a single year). See Table 1 for details regarding the time period dummies.

Figure 1 – Personal Income and Financial Satisfaction (Fitted Lines)

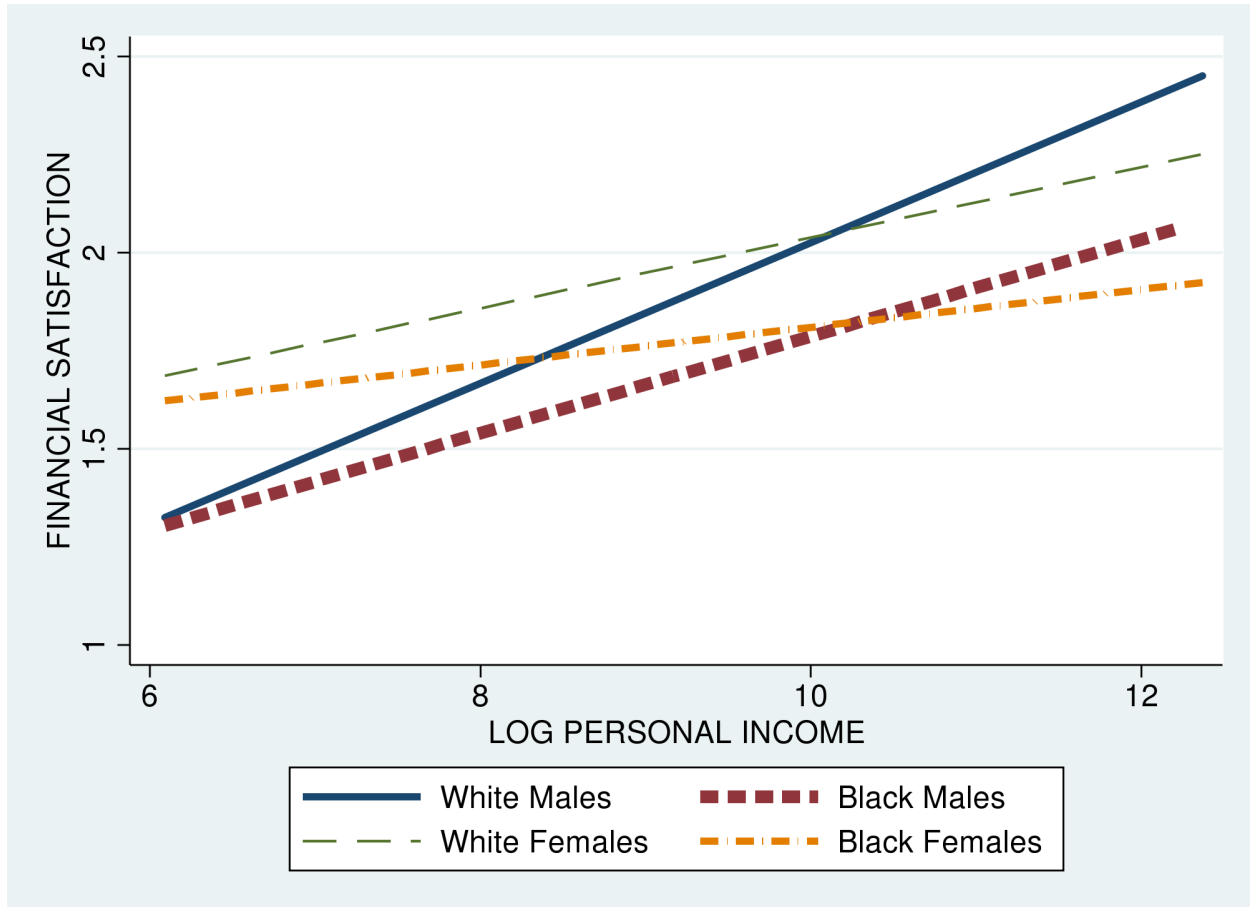


Table 3 presents the results of the pooled regressions, which include members of all four of the examined demographic groups. Pooling the demographic groups together allows us to determine whether the demographic (race/gender) differences observed in Table 2 – from the initial, race/gender specific regressions – are in fact significant. As in Table 2, all of the results presented in Table 3 have the (log) personal income and (log) additional family income variables. To discern differences in the income/financial satisfaction gradients across the demographic groups, though, dummy variables for three out of the four race/gender combinations and interactions between these demographic dummies and the income variables are included. The three-way (income/race/gender) interaction terms are of primary importance to the present inquiry, as they permit the slope of the income-financial satisfaction gradient to vary for each of the four demographic groups and, in so doing, address the central question of this analysis: whether different demographic groups reap different returns to income in terms of financial satisfaction (or, in the later regressions, perceived income).

Three different specifications are included in Table 3, each containing different sets of the controls described in the prior section. The first column replicates the results presented in Table 2, though all of the race/gender groups are included in a single regression. The second column adds a number of controls: age, age squared, marital status, number of children, education, predicted wage in primary sampling unit, and dummies for major industry and occupational category. Finally, the third column contains all of the control variables appearing in the second column plus those same control variables interacted with each of the demographic (race/gender) dummies.

The results indicate significant demographic differences in the relationship between financial satisfaction and personal income – as indicated by the significance of all three race/gender/personal income interaction terms, and their negative values – with white males reaping the largest returns-to-income. However, at lower ends of the observed income scale, white females and black females report higher financial satisfaction than white males. In other words, white males give the lowest subjective evaluations of their income at the bottom of the income distribution, and, due to the steeper income gradients associated with white males, report the highest subjective income evaluations towards the top of the income ladder. The demographic differences in the relationship between personal income and financial satisfaction persist even with the introduction of the aforementioned control variables.



**Table 3**  
Pooled Regressions (All Race/Gender Pairs Included)  
Dependent Variable: Financial Satisfaction (SATFIN)

| Variable                      | 1 (No Controls)                | 2 (Controls)       | 3 (Controls + Race/Gender Interactions) <sup>b</sup> |
|-------------------------------|--------------------------------|--------------------|--|
| Log Personal Income           | 0.167*** <sup>a</sup><br>0.012 | 0.188***<br>0.014  | 0.196***<br>0.015                                    |
| Log Additional Family Income  | 0.119***<br>0.012              | 0.111***<br>0.011  | 0.108***<br>0.011                                    |
| White Female                  | -0.073<br>0.216                | -0.102<br>0.215    | -0.059<br>0.226                                      |
| Black Female                  | 0.998**<br>0.436               | 1.076***<br>0.408  | 1.371***<br>0.456                                    |
| Black Male                    | 1.021*<br>0.520                | 1.014**<br>0.515   | 1.295**<br>0.567                                     |
| Personal Inc. X White Female  | -0.088***<br>0.016             | -0.108***<br>0.016 | -0.120***<br>0.018                                   |
| Personal Inc. X Black Female  | -0.144***<br>0.038             | -0.151***<br>0.037 | -0.131***<br>0.038                                   |
| Personal Inc. X Black Male    | -0.074**<br>0.037              | -0.080**<br>0.036  | -0.091**<br>0.039                                    |
| Additional Inc X White Female | 0.091***<br>0.015              | 0.117***<br>0.015  | 0.115***<br>0.016                                    |
| Additional Inc X Black Female | 0.023<br>0.033                 | 0.029<br>0.033     | 0.033<br>0.034                                       |
| Additional Inc X Black Male   | -0.037<br>0.037                | -0.038<br>0.038    | -0.033<br>0.037                                      |
| Year                          | -0.001<br>0.001                | -0.001<br>0.001    | -0.000<br>0.001                                      |
| Age                           |                                | -0.043***<br>0.003 | -0.042***<br>0.005                                   |
| Age Squared                   |                                | 0.001***<br>0.000  | 0.001***<br>0.000                                    |
| Education                     |                                | 0.005<br>0.003     | 0.005<br>0.003                                       |
| Married                       |                                | 0.018<br>0.016     | -0.020<br>0.027                                      |
| # of Children                 |                                | -0.042***<br>0.007 | -0.037***<br>0.010                                   |
| Predicted Income (PSU)        |                                | -0.115***<br>0.032 | -0.115***<br>0.032                                   |
| r <sup>2</sup>                | 0.082                          | 0.115              | 0.117  |
| N <sub>sub</sub>              | 13215                          | 12980              | 12980  |

<sup>a</sup> legend: b/se (\* p<0.05; \*\* p<0.01; \*\*\* p<0.001)

<sup>b</sup> Specification 3 (third column) contains all of the explanatory variables in Specification 2, plus interactions between the race/gender dummy variables and the following controls: year, age, age squared, education, marital status, and family size.

The control variables, furthermore, bear the expected relationships with financial satisfaction. Age and its square were both positive and significant as in prior studies (Vera-Toscano, et al., 2006; Hsieh, 2003), indicating a U-shaped relationship with financial satisfaction. Unmarried individuals, *ceteris paribus*, reported lower financial satisfaction than their married counterparts (Joo & Grable, 2004; Hsieh, 2001), and family size was negatively correlated with financial satisfaction (Vera-Toscano et al., 2006). Education – on which the evidence is mixed (compare Hsieh, 2001 with Vera-Toscano et al., 2006; Joo & Grable, 2004) – did not bear a significant relationship with financial satisfaction. The predicted (within PSU) income measure was significant and negative, perhaps suggesting a local comparison effect along the lines discussed in Luttmer (2005). The industry and occupational variables, not shown in the table, were both significant when considered as groups.

### ***III.B. Perceived (Relative) Income Through a Demographic Lens***

The entire procedure described above is repeated with perceived income as the dependent variable, rather than financial satisfaction.<sup>5</sup> The results are shown in Tables 4-5 and Figure 2. As with financial satisfaction, the results for perceived relative income reflect significant differences in the returns to personal income across the demographic groups, again with white males reaping the largest returns to personal income. The results for perceived income also echo those discussed above in another respect: female and black workers at the lower end of the personal income distribution report higher levels of financial satisfaction and perceive higher relative incomes than white males at the same income level, while female and black workers at the upper end of the income distribution report lower levels of perceived income than their white male counterparts in that portion of the income distribution.

Regarding the control variables, age and its square were significantly positively related to perceived income. Unlike the prior results (for financial satisfaction) education bore a significant positive relationship with perceived income, while predicted within-PSU income was insignificant. Marital status and family size were both significant in specification 2 – unmarried individuals and those with more children reporting lower perceived income – though neither reached significance in specification 3.

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<sup>5</sup> Though financial satisfaction and perceived relative income are not measuring precisely the same thing, the control variables used in the financial satisfaction section – which are meant to capture both economic needs and economic expectations – are equally appropriate for the analysis of perceived relative income.

**Table 4**  
Race/Gender Specific Regressions  
Dependent Variable: Perceived Relative Income

| Variable                     | White Males                    |                   | Black Males       |                   | White Females      |                    | Black Females     |                   |
|------------------------------|--------------------------------|-------------------|-------------------|-------------------|--------------------|--------------------|-------------------|-------------------|
| Log Personal Income          | 0.319*** <sup>a</sup><br>0.015 | 0.318***<br>0.015 | 0.201***<br>0.046 | 0.210***<br>0.044 | 0.172***<br>0.011  | 0.172***<br>0.011  | 0.143***<br>0.036 | 0.145***<br>0.035 |
| Log Additional Family Income | 0.209***<br>0.015              | 0.211***<br>0.015 | 0.156***<br>0.050 | 0.157***<br>0.049 | 0.333***<br>0.013  | 0.333***<br>0.013  | 0.238***<br>0.031 | 0.242***<br>0.030 |
| Year                         | -0.002<br>0.001                |                   | 0.004<br>0.004    |                   | -0.003***<br>0.001 |                    | 0.000<br>0.003    |                   |
| Time Period Dummies:         |                                |                   |                   |                   |                    |                    |                   |                   |
| t2                           |                                | 0.002<br>0.052    |                   | 0.139<br>0.156    |                    | -0.049<br>0.039    |                   | 0.211<br>0.146    |
| t3                           |                                | 0.044<br>0.051    |                   | 0.134<br>0.170    |                    | -0.042<br>0.041    |                   | 0.160<br>0.159    |
| t4                           |                                | 0.009<br>0.049    |                   | 0.373**<br>0.189  |                    | -0.066*<br>0.040   |                   | 0.071<br>0.148    |
| t5                           |                                | -0.027<br>0.051   |                   | 0.157<br>0.180    |                    | -0.097**<br>0.041  |                   | 0.143<br>0.155    |
| t6                           |                                | 0.026<br>0.052    |                   | 0.174<br>0.176    |                    | -0.085**<br>0.041  |                   | 0.028<br>0.148    |
| t7                           |                                | -0.013<br>0.052   |                   | 0.248<br>0.167    |                    | -0.076*<br>0.039   |                   | 0.132<br>0.145    |
| t8                           |                                | -0.079<br>0.059   |                   | 0.174<br>0.172    |                    | -0.132***<br>0.046 |                   | 0.189<br>0.154    |
| R-Squared                    | 0.188                          | 0.189             | 0.116             | 0.129             | 0.229              | 0.229              | 0.168             | 0.175             |
| N_sub                        | 5538                           | 5538              | 689               | 689               | 6121               | 6121               | 839               | 839               |

<sup>a</sup> legend: b/se (\* p<.1; \*\* p<.05; \*\*\* p<.01)

Notes: t1-t8 are period dummies, each of which represents a cluster of consecutive years (or, in some cases, a single year). The clusters that make up periods t1-t8 are chosen such that each period dummy covers approximately equal numbers of observations. See footnote 5 for further details.

**Table 5**  
Pooled Regression (All Race/Gender Pairs Included)  
Dependent Variable: Perceived Relative Income (FINRELA)

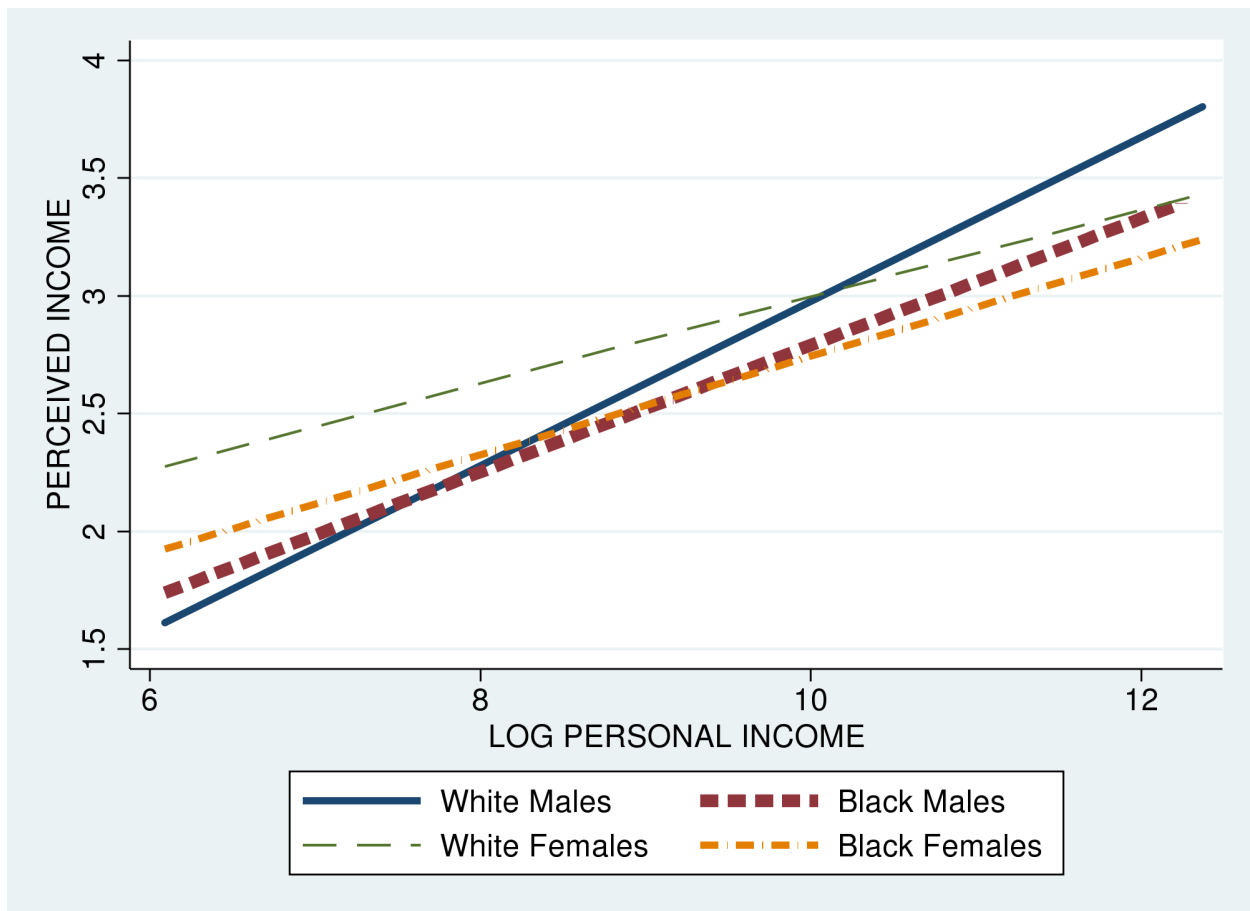
| Variable                            | 1 (No Controls)                | 2 (Controls)       | 3(Controls + Race/Gender Interactions) <sup>b</sup> |
|-------------------------------------|--------------------------------|--------------------|---|
| Log Personal Income                 | 0.319*** <sup>a</sup><br>0.015 | 0.271***<br>0.016  | 0.283***<br>0.017                                   |
| Log Additional Family Income        | 0.209***<br>0.015              | 0.191***<br>0.015  | 0.187***<br>0.016                                   |
| White Female                        | 0.163<br>0.248                 | 0.069<br>0.250     | -0.014<br>0.255                                     |
| Black Female                        | 1.210***<br>0.405              | 1.299***<br>0.401  | 1.600***<br>0.434                                   |
| Black Male                          | 1.434*<br>0.732                | 1.735**<br>0.712   | 1.902**<br>0.814                                    |
| Personal Inc. X White Female        | -0.147***<br>0.018             | -0.138***<br>0.017 | -0.153***<br>0.020                                  |
| Personal Inc. X Black Female        | -0.175***<br>0.037             | -0.161***<br>0.034 | -0.158***<br>0.044                                  |
| Personal Inc. X Black Male          | -0.117**<br>0.047              | -0.110**<br>0.046  | -0.110**<br>0.050                                   |
| Additional Inc X White Female       | 0.125***<br>0.021              | 0.123***<br>0.020  | 0.121***<br>0.021                                   |
| Additional Inc X Black Female       | 0.030<br>0.036                 | 0.013<br>0.038     | 0.014<br>0.039                                      |
| Additional Inc X Black Male         | -0.052<br>0.051                | -0.074<br>0.051    | -0.069<br>0.053                                     |
| Year                                | -0.002<br>0.001                | -0.004***<br>0.001 | -0.004***<br>0.001                                  |
| Age                                 |                                | -0.019***<br>0.003 | -0.025***<br>0.005                                  |
| Age Squared                         |                                | 0.000***<br>0.000  | 0.000***<br>0.000                                   |
| Education                           |                                | 0.037***<br>0.003  | 0.040***<br>0.005                                   |
| Married                             |                                | 0.042**<br>0.019   | -0.001<br>0.031                                     |
| # of Children                       |                                | -0.018***<br>0.006 | -0.008<br>0.010                                     |
| Predicted Income (PSU) <sup>c</sup> |                                | 0.030<br>0.031     | 0.031<br>0.031                                      |
| R-Squared                           | 0.212                          | 0.241              | 0.242   |
| N_sub                               | 13187                          | 12952              | 12952   |

<sup>a</sup> legend: b/se (\* p<0.05; \*\* p<0.01; \*\*\* p<0.001)

<sup>b</sup> Specification 3 (third column) contains all of the explanatory variables in Specification 2, plus interactions between the race/gender dummy variables and the following controls: year, age, age squared, education, marital status, and family size.

<sup>c</sup> Details regarding the predicted income variable are provided in Table 1.

Figure 2 – Personal Income and Perceived Income (Fitted Lines)



#### IV. Discussion

##### *IV.A. Clarifying the Results – Baseline Differences versus Slope/Gradient Differences*

The results obtained in the foregoing analysis reflect important differences in the way that individual economic advancement is experienced by different demographic groups. Specifically, this study suggests that changes in personal income impact white males – in terms of financial satisfaction and perceived relative income – to a larger degree than they do white females, black females, and black males. As mentioned earlier, other studies have reported different baseline levels of financial satisfaction and income perception between the genders and/or between black

and white respondents; that is, demographic gaps in social indicators *that remain static over the income distribution*. The results reported herein, however, suggest more than mere baseline differences in either of the examined outcome measures; rather, they reflect different marginal returns to personal income across race/gender pairs. Broadly speaking, this study reinforces the notion that individual characteristics such as race and gender cannot be easily disentangled from other correlates of financial satisfaction and perceived income. Rather, the impact of key correlates, such as income, should be viewed through a demographic lens.

The distinction between baseline, income-invariant, demographic differences in the subjective evaluation of income and demographic differences in the way that income impacts perceived income and financial satisfaction is crucial in understanding the economic incentive structures facing various groups. If we assume that financial satisfaction and perception of relative income are, if not exactly conscious motivators for personal economic advancement, at least nontrivial components of the incentive structure for the same, then white males appear to have additional economic incentives to earn more money, remain at work, and/or invest in human capital. Thus, along with the various structural barriers to economic advancement facing white women and black workers of both genders – barriers which typically leave these groups with less income than their white male counterparts – these demographic groups can also expect smaller increases in financial satisfaction and perceived relative income even when they do manage to earn as much as white males.

#### ***IV.B. What Might Explain the Observed Race/Gender Differences?***

The specific mechanisms behind the observed demographic differences are, of course, difficult to ascertain. One possible, if incomplete, explanation for the observed gaps involves the allocation of finances and domestic duties within families. For example, married women (black or white) might assess their income in different ways than men if they have less control over family finances – a household dynamic that would effectively leave them with less money, despite their reported personal incomes. Moreover, to the extent that women are performing the bulk of domestic and child-rearing duties and including this unpaid chunk of labor into their subjective evaluations of personal income, their returns on both of the outcome measures might conceivably be lower than that of males (similar income, in other words, for more *total* labor).

However, the observed demographic differences in both outcome measures remain even after marital status and family size are included as controls (and interacted with race/gender), suggesting that household bargaining and domestic duties are not, at least fully, driving the results. In addition, the demographic gaps in the income gradients are common to three race/gender pairs that have distinctly different life experiences. Household bargaining over domestic duties and/or allocation of resources is not, after all, a likely explanation for the observed gaps between black males and white males. In other words, household bargaining outcomes do not explain what appears to be a white-male versus non-white-male difference in the relationship between personal income and subjective evaluations of income.

Of course, the observed results do not likely reflect an inherent or essential feature in the examined race/gender pairs – there are simply too many factors at play to include and/or rule out as potential explanations. However, given the “white-male versus other” nature of the results, it seems plausible that the driving mechanisms behind the observed demographic differences (1) are sufficiently general as to cover the experiences of all three non-white-male groups and (2) vary with personal income in a way that leaves white males with lower levels of satisfaction and perceived income at lower ends of the income scale and higher levels of satisfaction and income perception at higher ends of the personal income distribution. What common mechanism might help explain the flatter income gradients for white females, black females and black males, relative to white males?

A plausible set of answers revolves around the work environments associated with different levels of personal income. Numerous studies confirm the commonsense observation that women and minorities are disproportionately represented in lower paying occupational sectors and, even within occupational categories and firms, tend to occupy the lower paying positions (Blau & Kahn, 2000; Macpherson & Hirsch, 1995, Altonji & Blank, 1999). A movement upwards in terms of personal income, then, would generally be accompanied by a change in the local comparison opportunities for women and minorities (by adding more white males to the environment). This feature of the workplace, combined with the notion that people compare themselves to similar others when evaluating various parts of their lives (Stutzer, 2004; Festinger, 1954; Bylsma & Major, 1994), fits with the observed findings: higher levels of financial satisfaction and perceived income for women and African Americans at the lower ends of the income distribution, where ingroup comparison is more likely due to occupational segregation, and lower levels of both outcome variables for women and African Americans at the upper end of the distribution, where more white males reside. Framed in terms of the “keeping up with the Joneses” cliché, if increased participation and integration into upper levels of the personal income distribution leads women and ethnic minorities to expand their (previously more gender and race-specific) group of “Joneses” to include white men, any economic gains experienced by such groups may be partially offset by the shifting cognitive target. Increases in personal income do yield increases in the standard of living for all groups – the income gradients for all of the examined demographic groups are, after all, positive – but such increases may be dampened for the three non-white-male groups.

The relevance of professional, financial, and educational peers to social comparison processes has been empirically supported in empirical studies of subjective well-being (Oswald & Clarke, 1996; McBride, 2001). Prior work on job satisfaction and gender also lends support to the idea that demographic categories play a role in the formation of comparison groups, yet remain somewhat fluid and responsive to circumstance. Andrew Clark’s study of job satisfaction among British workers, for example, found elevated levels of satisfaction among women, though the gender differential largely disappeared for “younger workers, higher-educated workers, those in professional or managerial positions, those whose mothers had a professional job, and those working at male-dominated workplaces” – groups which, according to Clark, “are all likely to have higher expectations about what their jobs should entail.” (see Clark, 1997). Faye Crosby’s

(1982) important study of working women in a small Massachusetts town also reveals what appears to be a similar dynamic. Many of the interviewees in that study were found to be “paradoxically content,” despite their relatively poor treatment as employees, because of their tendency to compare to other women when evaluating their work situations.

Experimental evidence regarding income expectation and entitlement, as discussed in Section 2, also provide some support for the notion that comparison information plays a crucial role in pay expectation and entitlement. A pair of studies by Bylsma and Major are particularly instructive. In one experimental study on pay entitlement, the authors found that “the amount students felt they were entitled to be paid, how well they thought they had performed (women only), and how satisfied they were with their pay were all influenced more by same-sex than cross-sex comparison information.” (Bylsma & Major, 1994). A second study, which used vignettes to elicit information regarding pay entitlement for men and women, found similar results, concluding “that for women and men to have similar feelings of entitlement with respect to pay, changes need to occur either with respect to structural factors in the workforce that limit women’s access to the same comparison standards that men are exposed to (e.g., sex segregation of jobs, lower pay to ‘women’s’ jobs) or with respect to the ways in which women and men are given feedback about their job performance.” (Bylsma & Major, 1992). In short, comparisons matter to the evaluation of income, and gender is among the contributing factor in the determination of comparison groups. There appears to be little experimental work on the impact of race on income evaluation, but the salience of race in other psychological processes seem to suggest that it, too, could plausibly play a role on framing income comparisons (Major, 1994).

The analysis does include controls for broad industry and occupational categories, which offer a potential, if indirect, route to gauge social comparison. Rather than tracking actual social comparison dynamics – which are unobservable in practice – industry and occupation categories reflect *opportunities* to engage in different types of comparisons. Industrial/occupational categories with more women, for instance, offer less chance for women to engage in outgroup or cross-gender comparison; industrial/occupational groupings that are predominantly black offer less opportunities for black workers to engage in outgroup or cross-race comparison. If industrial and/or occupational categories capture something meaningful about the ingroup and outgroup comparison opportunities of working individuals, then, we might expect the observed differences to diminish or disappear when such variables are included in the regressions.

As it turns out, the inclusion of such controls does not alter the observed differences in the subjective evaluation of income across race/gender pairs. To the extent that social comparison dynamics are driving the results, therefore, the broad industrial and occupational categories included in this analysis are not capturing differences in the comparison opportunities/practices of individuals. This result is not entirely surprising, though, given the presumably large variation in the gender and racial compositions of particular firms within, in addition to across, industrial and occupational categories. To fully control for local or “proximal” comparison opportunities (Major, 1994), therefore, one would need to take into account not only the demographic makeup of particular industries, but of firms, departments



within firms, and even, perhaps, the spatial distribution of different demographic groups within a given workplace.

Other potential explanations of the observed demographic differences – the proper treatment of which are beyond the scope of this article – include pressures to conform to white male norms and exposure to harassment. These phenomena, to be sure, exact a psychic toll on minority groups (Rospenda et al., 2005). Moreover, it is plausible that conformity pressures and harassment, or the perception of either, might change along the spectrum of personal income in such a way as to explain the demographic gaps observed in this analysis.

## **V. Conclusion**

Broadly speaking, the results presented in this paper reinforce the notion that subjective assessments of income are not a straightforward or uncomplicated function of objective economic outcomes. Rather, such assessments are the complex result of a variety of factors, including race and gender. Insofar as the observed demographic differences reflect diverging economic incentives on the part of the examined groups – to work, invest in human capital, or to redress workplace inequity in any number of ways – it is worthwhile to further investigate the underlying mechanisms.

Future research on this issue might thus investigate how micro-features of the workplace impact the subjective assessment of income and the recognition of disparity. For example, how do the racial and gender compositions of particular firms, and departments within firms, impact the assessment of income by different groups? Further, how does the race and gender clustering within physical workplace spaces – cubicles, floors, gathering areas within workplaces – impact financial satisfaction and the perception of income? The literature would also benefit from further inquiry into the connection between subjective assessments of income and the tendency to recognize and/or pursue claims of discrimination. For example, does low financial satisfaction relate in any systematic way with the likelihood of filing a workplace grievance or lawsuit? Do individuals who tend to perceive lower incomes have a greater chance of attributing this perception to discrimination? In order to fully understand race and gender wage-gaps – a commonly used barometer of discrimination in the workplace and in society at large – we must understand the full set of economic incentives, pecuniary and otherwise, facing different demographic groups. Research on the above topics will bring us further towards this goal.

## Chapter 2: The Hedonic Impact of “Stand-Alone” Emotional Harms – An Analysis of Survey Data

### Introduction

Empirical research on subjective well-being – or “happiness research,” as it is commonly called<sup>6</sup> – is not a particularly new field of study.<sup>7</sup> However, a recent resurgence of interest in subjective well-being has drawn a fresh batch of commentators and practitioners into its wake: empirically-minded legal scholars. Early adopters in the legal academy have offered insights on a range of issues, from the import of happiness research to civil damage awards,<sup>8</sup> to the impact of crime on our lives,<sup>9</sup> to the potentially sweeping implications of a hedonic version of cost-benefit analysis.<sup>10</sup> Given the rising interest in the data and methodology underlying such studies, the increasing sophistication with which they are executed, and the cultural resonance of happiness *qua* element of human flourishing – as evidenced by the ongoing treatment of the subject in the mainstream media<sup>11</sup> – the current scholarly offerings on the subject appear to be the mere tip of the iceberg.

This paper employs survey data on subjective well-being (“SWB”) and a battery of self-assessed health measures to estimate the hedonic impact of emotional health, as decoupled from

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<sup>6</sup> Following the convention of some (but not all) scholars in this area, I use the terms “happiness” and “subjective well-being” interchangeably, to refer to the various types of survey-based measures employed in these analyses. Though this usage does indicate a belief that the latter term can serve as a useful proxy for the former, more expansive term, it is not my intent to assert or defend the complete synonymy of the terms. The distinction between various measures of well-being, and their ability to capture the elusive, contested concept of happiness, is discussed further in Section \_\_\_\_.

<sup>7</sup> Contemporary social science journals have been engaged in the study of well-being for around 30 years, the first notable piece being Richard Easterlin's seminal 1974 article examining the relationship between money and well-being. See Easterlin, Richard A., *Does Economic Growth Improve the Human Lot? Some Empirical Evidence*. In: Paul A. David and Melvin W. Reder (eds) *Nations and Households in Economic Growth: Essays in Honor of Moses Abramowitz*. New York: Academic Press: 89-125 (1974). Philosophical reflections on happiness, of course, date back to the Ancients.

<sup>8</sup> See, e.g., Cass R. Sunstein, *Illusory Losses*, 37 J.L. STUD. S157 (2008); Peter A. Ubel & George Loewenstein, *Pain and Suffering Awards: They Shouldn't Be (Just) About Pain and Suffering*, 37 J.L. STUD. S195 (2008); Rick Swedloff & Peter H. Huang, *Tort Damages and the New Science of Happiness*, 85 Ind. L.J. 553 (2009).

<sup>9</sup> See Mark A. Cohen, *The Effect of Crime on Life Satisfaction*, 37 J.L. STUD. S325 (2008).

<sup>10</sup> See John Bronsteen, Christopher J. Buccafusco & Jonathan S. Masur, *Welfare as Happiness*, 98 Georgetown L. Journal 1583 (2010); Eric Posner & Matthew Adler, *Happiness Research and Cost-Benefit Analysis*, 37 J.L. STUD. S253 (2008).

<sup>11</sup> See, e.g., Leonhardt, David, *He's Happier, She's Less So*, New York Times, September 26, 2007; Caplan, Jeremy, *Getting Serious About Happiness*, Time Magazine, April 2007; NEWSWEEK, Sept. 16, 2002; The New Science of Happiness, TIME, Jan. 17, 2005; USA WEEKEND, Mar. 9, 2003; and U.S. NEWS & WORLD REPORT, Sept. 3, 2001.

its physical counterpart. The disaggregation of global health into physical and emotional components is done with a parochial eye toward tort law, which has historically drawn a distinction between physical and emotional harms, limiting recovery on the latter through various common law doctrines. While the law of torts has made significant strides towards inclusion, the distinction persists; recovery for emotional harms is still limited in scale and scope, and tied, in various ways, to physical harm. The emotional/physical distinction is often defended on practical grounds, by reference to the nebulous nature of mental injuries, the inability of courts to effectively distinguish genuine and serious emotional harms from fraudulent ones, and the difficulty in valuing such injuries. Underlying such arguments, however, is an enduring suspicion – often, but not always, implicit – about the (un)importance of emotional tranquility to our lives. Thus, the distinction persists despite challenges from the other side of the debate, who view it as anachronistic,<sup>12</sup> unfair,<sup>13</sup> and discriminatory.<sup>14</sup>

The remainder of the paper is organized as follows. Section I outlines the rules of recovery for emotional harms in tort, as compared to physical injuries. Throughout the paper, the terms "mental" and "emotional" are used interchangeably and in a colloquial sense, to refer to a broad category of health states or conditions that are commonly (if incorrectly) understood to be distinct from physical phenomena. This negative definition of “mental” and “emotional” – which covers anxiety, inability to concentrate, depression, anguish, grief, psychosis, humiliation, fright, shock and/or other negative emotions distinct from physical pain<sup>15</sup> – is a legal, rather than a medical, one.<sup>16</sup> Moreover, this usage tracks the particular survey instruments used in the analysis, which are discussed in detail in Section III.

Section II provides background on the burgeoning empirical literature on subjective well-being (“SWB”), including an overview of findings on the SWB/health connection and a discussion of the extant legal applications of empirical research on SWB. Also included in Section I is a discussion of the usefulness of SWB (or, more specifically, diminutions in SWB) as a proxy for harm in the tort context. Without endorsing the view that recovery in tort should be completely determined by hedonic considerations, I argue that subjective well-being – with its broad conceptual reach and its (mostly intuitive) correlations with several important quality-of-life measures – captures something meaningful about what makes us “whole,” both as aggrieved litigants and as individuals in general.

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<sup>12</sup> See Betsy Grey, *Neuroscience and Emotional Harm in Tort Law: Rethinking the American Approach to Free-Standing Emotional Distress Claims*, (Nov. 4, 2009). Available at SSRN: <http://ssrn.com/abstract=1499989>.

<sup>13</sup> See Nancy Levit, *Ethereal Torts*, 61 *Geo. Wash. L.Rev.* 136, 141 (1992)

<sup>14</sup> See Martha Chamallas, *The Architecture of Bias: Deep Structures in Tort Law*, 146 *U. Pa. L. Rev.* 463 (1998).

<sup>15</sup> See, e.g., *GTE Southwest, Inc. v. Bruce*, 998 S.W.2d 605 (1999) (“Emotional distress includes all highly unpleasant mental reactions such as embarrassment, fright, horror, grief, shame, humiliation, and worry.”); *Campos v. Ysleta Gen. Hosp., Inc.*, 836 S.W.2d 791 (Tex. App., El Paso 1992) (“emotional distress is generally defined as painful emotions such as grief, severe disappointment, indignation, wounded pride, shame, despair, or public humiliation”).

<sup>16</sup> See RESTATEMENT (THIRD) OF TORTS: Liab. Physical Harm 8 SC NT (T.D. No. 5, 2007) (defining “physical impairment of the human body” as “physical injury, illness, disease and death” and noting that “this definition of physical harm is meant to preserve the ordinary distinction between physical harm and emotional disturbance.”).

Section III outlines the Data and Methods employed in the core analyses of the paper. The study comprises three sets of regression analyses, each of which capture emotional health in different ways (via different survey instruments) in an effort to gauge its impact on SWB. Each of the three regression sets, further, contains two distinct models that decouple the hedonic impact of physical and emotional health through alternative means: one variation in which physical and emotional health are both included among the variables (to capture and distill their respective impacts on well-being) and another variation performed on survey subpopulations that are free of physical health issues. The latter model is of particular import to the law of torts, as it approximates the hedonic impact of so-called “stand-alone” or “non-parasitic” emotional harms: emotional harms not occasioned or accompanied by physical symptoms. Such claims, as discussed in greater detail below (Section I), are treated with particular suspicion in the tort context.

Section IV presents the results, which suggest that emotional harms – even those free of concomitant physical manifestations or symptoms – exert a significant impact on SWB. In fact, the emotional health variables uniformly bore stronger connections to SWB than their similarly-worded and similarly-scaled counterparts regarding physical health. To convey a rough sense of the impact of emotional health on subjective well-being I include monetary equivalents (compensating differentials) for various degrees of change in emotional health.

Section V takes stock of the various limitations of the analysis, explaining how such limitations might color the interpretation of the findings and impact their utility vis-a-vis tort law. A question of fundamental importance is addressed at the outset of the section: are emotional harms and subjective well-being so conceptually similar as to make the analysis question-begging? I argue that, while the concepts of emotional health and SWB are related (and sometimes conflated), they are sufficiently distinct to make the analysis meaningful. The issue of external validity is also raised in Section V, in light of the fact that this analysis seeks to bring emotional health data from outside the tort context to bear upon the judicial treatment of emotional injuries within tort. Finally, the broad framing of the emotional health survey questions – a framing that reveals little about the specific (clinical) nature of the emotional problems that underlie survey responses – is addressed.

Ultimately, the current inquiry is not intended to provide a definitive conclusion about the judicial treatment of emotional distress generally, nor is the analysis aimed at generating precise (dollar) estimates of the impact of specific types of emotional harm; the methodology is too blunt for such purposes and, in any event, the results do not speak directly to some of the practical concerns often raised with regard to emotional injuries. Rather, the current inquiry is an effort to test whether a range of potentially inactionable emotional harms (including stand-alone harms) impact well-being in a significant way.

## I. Legal Background – Physical and Emotional Harm in Tort

The distinction between physical and emotional harm, and the relative devaluation of the latter, has deep historical roots in tort law.<sup>17</sup> The evolution of the law in this area begins, in the early 20<sup>th</sup> Century, with a categorical denial of recovery for stand-alone emotional injuries.<sup>18</sup> Shifting incrementally in the direction of inclusion, courts began to allow recovery for mental/emotional injuries arising from (or concomitant with) physical injuries. The tethering of such harms – so-called “parasitic” mental harms – to physical injuries was seen as both a practical tool for limiting claims and as a value judgment about the importance of emotional tranquility to life:

The fear of imaginary injuries and fictitious suits, the belief in self-responsibility for mental well-being, the difficulty of monetarily valuing emotional harms, the lack of tools and standards for measurement of emotional ills, and the nascent state of the behavioral sciences all combined to preclude recovery for emotional suffering. Yet even at this juncture in history, an unarticulated basis for rejecting claims of emotional distress was probably the relative devaluation of emotional injuries compared to physical injuries.<sup>19</sup>

By mid-20<sup>th</sup> Century, the requirement of a physical injury was relaxed for intentionally inflicted emotional distress (IIED), only to be replaced with a series of different limitations on recovery. Courts initially required, as a precondition for IIED recovery, either a physical manifestation of the emotional disturbance or a “physical impact” associated with the tortious

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<sup>17</sup> An exhaustive legal history of the mental/physical distinction is beyond the scope of this paper. For a comprehensive treatment of the topic, see Nancy Levit, *Ethereal Torts*, 61 Geo. Wash. L.Rev. 136, 141 (1992) and John Kircher, *The Four Faces of Tort Law: Liability for Emotional Harm*, 90 MARQ. L. REV. 789 (2007) (offering an exhaustive analysis of the treatment of mental and physical harm in tort, including 50 state surveys of the law).

<sup>18</sup> The case of *Lynch v. Knight*, 11 Eng. Rep. 854 (H.L. 1861) is frequently cited for the proposition that pure emotional disturbance – mental harm not accompanied by physical injury – is not a legally cognizable harm. For cases echoing this sentiment, see, e.g., *Monteleone v. Co-Operative Transit Co.*, 128 W.Va. 340, 36 S.E.2d 475 (1945) (“There can be no recovery in tort for an emotional and mental trouble alone without ascertainable physical injuries”) *overruled by* *Heldreth v. Marrs*, 188 W.Va. 481, 425 S.E.2d 157 (W.Va. Dec. 14, 1992); *Int'l & G.N.R. Co. v. Sammon*, 35 Tex.Civ.App. 96, 79 S.W. 854 (1904) (“A distinction must be observed between those cases which establish what is called the “Texas rule,” which allows damages for mental anguish on breach of contract, and those which deny recovery for mental anguish in cases of tort unaccompanied by physical injury”); *Spade v. Lynn & Boston R.R. Co.*, 168 Mass. 285, 47 N.E. 88, 89 (1897) (“there can be no recovery for fright, terror, alarm, anxiety, or distress of mind, if these are unaccompanied by some physical injury; and, if this rule is to stand, we think it should also be held that there can be no recovery for such physical injuries as may be caused solely by such mental disturbance, where there is no injury to the person from without.”), *overruled by* *Dziokonski v. Babineau*, 375 Mass. 555, 380 N.E.2d 1295 (1978).

<sup>19</sup> Nancy Levit, *Ethereal Torts*, 61 Geo. Wash. L.Rev. 136, 141 (1992).

behavior.<sup>20</sup> The physical impact/manifestation requirements then gave way to a different set of limiting factors: a requirement of “extreme and outrageous” conduct on the part of the defendant and a plaintiff-side threshold requirement allowing recovery only for “severe” emotional disturbance. Both requirements are drawn so as to limit emotional distress claims. Regarding the former requirement, liability is found only “where the conduct has been so outrageous in character, and so extreme in degree, as to go beyond all possible bounds of decency, and to be regarded as atrocious and utterly intolerable in a civilized community,” such that “the recitation of the facts to an average member of the community would arouse his resentment against the actor, and lead him to exclaim, Outrageous!”<sup>21</sup> Harassment and improper termination by an employer,<sup>22</sup> issuance of a false positive HIV test during a third trimester of pregnancy,<sup>23</sup> disturbance of a relative's grave (exposing the deceased to plain view)<sup>24</sup>, and failure to clearly warn an employee of “substantial amounts of asbestos” in a confined work site,<sup>25</sup> for example, have been deemed insufficiently outrageous to satisfy the former requirement.” One New York court uses prior dispositions of IIED claims to describe the exacting standards for outrageousness: “of the intentional infliction of emotional distress claims considered by this Court, every one has failed because the alleged conduct was not sufficiently outrageous.”<sup>26</sup>

Regarding the former “severity” requirement, the law requires an emotional response “so severe that no reasonable person could be expected to endure it.”<sup>27</sup> Emotional harms entailing “nightmares, difficulty sleeping, extreme loss of self-esteem and depression, requiring additional psychological treatment and counseling”<sup>28</sup> (and similar permutations of symptoms)<sup>29</sup> have failed to rise to the requisite level of severity.

The twin requirements of “extreme and outrageous” conduct and “severe” emotional distress are interpreted so as to effectively nullify what is commonly known as the “eggshell

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<sup>20</sup> See, e.g., *State Rubbish Collectors Ass'n v. Siliznoff*, 38 Cal.2d 330, 240 P.2d 282 (CAL. 1952) (“Recovery is allowed where physical injury results from intentionally subjecting plaintiff to serious mental distress”); *Emden v. Vitz*, 88 Cal.App.2d 313, 198 P.2d 696 (Cal.App. 2 Dist. 1948) (“if the primal cause of this [physical] injury is tortious, it is immaterial whether it is direct, as by a blow, or indirect, through some action upon the mind”).

<sup>21</sup> *Stancuna V. Schaffer*, 122 Conn.App. 484, 998 A.2d 1221 (Conn. App. 2010) citing *Little v. Yale University*, 92 Conn.App. 232, 239-40, 884 A.2d 427 (2005).

<sup>22</sup> See *Palmer v. Ark. Council on Econ. Educ.*, 40 S.W.3d 784, 791-92 (Ark. 2001).

<sup>23</sup> See *Johnson v. Methodist Hosp.*, 226 S.W.3d 525, 2006 WL 3628906 (Tex. Civ. App. 2006)

<sup>24</sup> See *Jaynes v. Strong-Thorne Mortuary, Inc.*, 124 N.M. 613, 954 P.2d 45 (N.M. 1997).

<sup>25</sup> See *Thomas v. BSE Indus. Contractors, Inc.*, 624 So.2d 1041 (1993).

<sup>26</sup> See *Howell v. New York Post* 81 N.Y.2d 115, 612 N.E.2d 699 (1993).

<sup>27</sup> *Jones v. Warner*, 301 Ga.App. 39, 686 S.E.2d 835 (Ga. App. 2009); *McCarty v. Montgomery*, 290 S.W.3d 525 (Tex. App.-Eastland 2009); *Hurst v. Cook*, 981 So.2d 1143 (Ala. Civ. App. 2007) quoting *Thomas v. BSE Indus. Contractors, Inc.*, 624 So.2d 1041, 1043-44 (Ala. 1993); *Tarr v. Ciasulli*, 181 N.J. 70, 83-84, 853 A.2d 921(2004) quoting *Buckley v. Tenton Saving Fund Soc'y*, 111 N.J. 355, 366, 544 A.2d 857 (1988); *Travis v. Alcon Labs., Inc.*, 202 W.Va. 369, 504 S.E.2d 419 (1998);

<sup>28</sup> *Harris v. Kreutzer* 271 Va. 188, 624 S.E.2d 24 (Va. 2006).

<sup>29</sup> See *Russo v. White* 241 Va. 23, 400 S.E.2d 160 (Va. 1991)(nervousness, sleeplessness, stress, withdrawal from activities, and inability to concentrate not sufficiently severe, absent a showing that plaintiff sought medical attention); *Farrar v. Bracamondes*, 332 F.Supp.2d 1126, (N.D.Ill. 2004) (“Stress, nervousness, anxiety, and sleeplessness that do not require any medical treatment are not severe emotional distress”).

skull” or “thin skull” rule in the context of emotional harm.<sup>30</sup> That is, while the defendant “takes the plaintiff as he/she found him/her” in the case of physical harms, an individual predisposed to emotional harm “may not recover if an *ordinary person* would not have suffered serious emotional disturbance” from the negligent activity at issue.<sup>31</sup> The requirement of “extreme and outrageous” conduct and the “severe distress” threshold remain good law in nearly every state to this day.<sup>32</sup>

The trajectory of the law with respect to negligently inflicted emotional distress (NIED) is similar to, if somewhat slower than, that of IIED. Early 20<sup>th</sup> century cases denied recovery for non-parasitic emotional harms arising from negligent behavior.<sup>33</sup> As with IIED, the physical injury rule led, first, to a the marginally more permissive rule that allowed recovery for emotional distress where such distress was occasioned by a physical impact or manifested itself physically.<sup>34</sup> A majority of states currently require either a physical impact or manifestation as a precondition for (non-bystander) NIED claims,<sup>35</sup> in order to “remove an emotional distress claim from the realm of speculation”<sup>36</sup> or, equivalently, “to ensure that the emotional injury is sufficiently serious to be afforded legal protection.”<sup>37</sup>

In certain instances, the physical impact requirement has been abandoned altogether: individuals suffering from serious emotional harm can sometimes recover absent an actual physical impact if (1) the behavior of the tortfeasor placed them at “immediate risk of physical harm” and (2) a close relative is physically injured by the defendant's negligent behavior.<sup>38</sup> A small number of states follow the this so-called “zone of danger” rule or a close variant (including, in some cases, additional requirements such as physical manifestation of emotional distress).<sup>39</sup> A growing majority of states now follow an even more permissive rule with respect to NIED – the Dillon rule, articulated by the Supreme Court of California in *Dillon v. Legg*.<sup>40</sup> *Dillon* substitutes the relatively rigid “zone of danger” or “risk of immediate harm” requirements with a flexible set of considerations, including the nature of the relationship between the emotionally disturbed plaintiff and the physically injured party, the physical proximity of the plaintiff to the underlying accident, and the nexus between the witnessing of the accident and the emotional disturbance at issue. At the time of this writing, more than half of the states follow a

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<sup>30</sup> See J. Stanley McQuade, *The Eggshell Skull Rule and Related Problems in Recovery for Mental Harm in the Law of Torts*, 24 Campbell L. Rev. 1 (2001).

<sup>31</sup> Restatement (Third) of Torts: Liab. Physical Harm § 46(i).

<sup>32</sup> See Kircher, *supra* note 11.

<sup>33</sup> See, e.g., *McCardle v. George B. Peck Dry Goods Co.*, 191 Mo.App. 263, 177 S.W. 1095 (Mo.App. 1915) (“The rule of law, in this respect, may be stated in this way: If the negligent act causes fright and terror, but not bodily injury, there is no liability, though bodily injury should result from the fright. But, if the negligence causes physical injury and fright, there is liability for both”) *overruled by Bass v. Nooney Co.*, 646 S.W.2d 765 (Mo., 1983). See generally Kircher, *supra* note 11.

<sup>34</sup> See Kircher, *supra* note 11.

<sup>35</sup> See *id.*

<sup>36</sup> *Hawes v. Germantown Mut. Ins. Co.*, 103 Wis.2d 524, 309 N.W.2d 356, Wis.App., 1981.

<sup>37</sup> *O'Donnell v. HCA Health Services of New Hampshire, Inc.*, 152 N.H. 608, 883 A.2d 319 N.H., 2005.

<sup>38</sup> See *id.*

<sup>39</sup> See *id.*

<sup>40</sup> 68 Cal.2d 728 (1968).

rule based on *Dillon*.<sup>41</sup> In sum, the law has greatly expanded the range of circumstances under which individuals can recover for emotional injuries.

Notwithstanding such strides, however, emotional injuries remain “in large part, tied to either physical impacts, physical manifestations of injury, or other proxies for emotional distress.”<sup>42</sup> Moreover, suspicion about the importance of mental health to our lives – as opposed to the various practical arguments against greater recovery for mental harms – appears not to have faded. The following characterization of (stand-alone or non-parasitic) mental harms in the second Restatement is still cited by courts today<sup>43</sup> despite the presence of an updated version:

“emotional disturbance which is not so severe and serious as to have physical consequences is normally in the realm of the trivial, and so falls within the maxim that the law does not concern itself with trifles. It is likely to be so temporary, so evanescent, and so relatively harmless and unimportant, that the task of compensating for it would unduly burden the courts and the defendants”<sup>44</sup>

The Restatement (Third) of Torts is far less dismissive of emotional harms than its predecessor, yet still favors physical health over emotional tranquility, calling the former “the core problem of modern tort law.”<sup>45</sup> Recent cases cast a similarly jaundiced eye on stand-alone emotional injuries, which are labeled as “everyday,”<sup>46</sup> “usually trivial,”<sup>47</sup> “often transient”<sup>48</sup> and “a part of the price of living among people.”<sup>49</sup> The Supreme Court of Hawaii has echoes such sentiments, cautioning against more expansive definitions of emotional distress which might “curry...neurotic patterns in the population.”<sup>50</sup>

The blanket marginalization of mental harms vis-a-vis their physical counterparts is especially stark given the lax requirements concerning the magnitude of physical injury, or “impact,” often required to authenticate emotional trauma: “[physical] contact, however slight,

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<sup>41</sup> See Kircher, *supra* note 11.

<sup>42</sup> See Levit, *supra* note 11.

<sup>43</sup> See, e.g., *Ware ex rel. Ware v. ANW Special Educ. Co-op.* No. 603, 39 Kan.App.2d 397, 180 P.3d 610 (Kan.App., 2008) (citing Restatement (Second) of Tort Section 436A, comment b, pp. 461-62.)

<sup>44</sup> Restatement (Second) of Tort Section 436A, comment b, pp. 461-62.

<sup>45</sup> Restatement (Third) of Torts: Liab. Physical Harm § 4 (2005).

<sup>46</sup> *Thomas v. Brewer's Food Mart, Inc.*, 219 P.3d 1243 (Kan.App.,2009).

<sup>47</sup> *Reynolds v. Highland Manor, Inc.*, 24 Kan.App.2d 859, 954 P.2d 11 (Kan.App.,1998). See also Richard N Pearson, *Liability to Bystanders for Negligently Inflicted Emotional Harm – A Comment on the Nature of Arbitrary Rules*, 35 U.Fla.L.Rev. 477, 480 (“most cases of negligently inflicted emotional harm would be trivial.”).

<sup>48</sup> *Soucek v. Banham*, 503 N.W.2d 153 (Minn.App.,1993).

<sup>49</sup> *Renville v. Fredrickson*, 324 Mont. 86, 101 P.3d 773 (Mont.,2004.) (quoting Restatement (Second) of Torts, Section 436(a).

<sup>50</sup> *Rodrigues v. State*, 472 P.2d 509, 520 (Haw. 1970).



trifling, or trivial”<sup>51</sup> and “bodily injuries, even though trivial or minor in character”<sup>52</sup> are considered sufficient to support a cause of action for emotional distress. In the eyes of the law, therefore, the smallest quantum of physical injury is inherently more real and reliable than any number of emotional harms.

The devaluation of emotional harms vis-a-vis physical injuries extends even beyond the courtroom: damages for physical injuries are excludable from taxable income while those arising from emotional distress are not.<sup>53</sup> The differential treatment of physical and emotional harms in the Internal Revenue Code implies that awards for emotional distress are windfall gains rather than restorative transfers. In the words of one commentator, the distinction made by I.R.C. Section 104(a)(2) “suggests a fundamental distrust on the part of Congress in the reality of emotional distress.”<sup>54</sup>

The relative devaluation of mental harms in tort endures despite a number of challenges, from several different angles, to the distinction. The argument that emotional harms are singularly difficult to estimate appears somewhat disingenuous given the wide variation in awards for (similar types of) physical injuries.<sup>55</sup> The concern over false claims, and the related claim that emotional harms are endogenous to legal rules on recovery,<sup>56</sup> appear to minimize the effectiveness of forensic psychologists in identifying “malingering” (faking or exaggerating) among mental health claimants<sup>57</sup> and the complementary role of jurors in the detection of same. Moreover, such arguments elide the fact that physical injuries, too, are susceptible to the problem of malingering.<sup>58</sup> The notion that mental harms are somehow trivial is at odds with

<sup>51</sup> *Deutsch v. Shein*, 597 S.W.2d 141, 146 (1980).

<sup>52</sup> *Brown v. Philadelphia College of Osteopathic Medicine*, 674 A.2d 1130, 1135-1136 (1996).

<sup>53</sup> See 26 U.S.C.A. § 104(a)(2), I.R.C. § 104 (a)(2) (“emotional distress shall not be treated as a physical injury or physical sickness”).

<sup>54</sup> J. Martin Burke & Michael K. Friel, *Getting Physical: Excluding Personal Injury Awards Under the New Section 104(A)(2)*, 58 Mont. L. Rev. 167, 184 (1997).

<sup>55</sup> Richard Abel, *General Damages are Incoherent, Incalculable, Incommensurable, and Inegalitarian (But Otherwise a Great Idea)*, 55 DePaul L. Rev. 253 (2006); Joseph H. King, Jr., *Pain and Suffering, Noneconomic Damages, and the Goals of Tort Law*, 57 S.M.U. L.Rev. 163 (2004); Mark Geistfeld, *Placing a Price on Pain and Suffering: A Method for Helping Juries Determine Tort Damages for Nonmonetary Injuries*, 83 Cal. L.Rev. 773, 786 (1995); Randall R. Bovbjerg, Frank A. Sloan & James F. Blumstein, *Public Policy: Valuing Life and Limb in Tort: Scheduling “Pain and Suffering,”* 83 N.W. U. L.R. 908 (1989).

<sup>56</sup> See Restatement (Third) of Torts: Liab. Physical Harm 8 SC NT (T.D. No. 5, 2007)(“giving legal credence to and permitting recovery for emotional disturbance may increase its severity”).

<sup>57</sup> See Mittenberg et al., *Identification of Malingered Head Injury on the Wechsler Adult Intelligence Scale*, *The Clinical Neuropsychologist*, Vol. 15, No.4, pp.440-445 (2001)(“A variety of methods are available to detect malingering in cases of head trauma”); Bury & Bagby, *The Detection of Feigned Uncoached and Coached Posttraumatic Stress Disorder with the MMPI-2 in a Sample of Workplace Accident Victims* (noting that several different psychological tests “demonstrated effectiveness in detecting faked PTSD”).

<sup>58</sup> See, e.g., Kevin Bianchini, *Diagnosing Cognitive Malingering in Patients with Work-Related Pain: Four Cases*, *Journal of Forensic Neuropsychology*, Vol. 4, Issue 1, 65 (2004)(discussing malingering in cases of physical pain); John E. Meyers & Anh Diep, *Assessment of Malingering in Chronic Pain Patients Using Neuropsychological Tests*, *Applied Neuropsychology*, Vol. 7, No. 3, 133 -139 (2000)(finding evidence of malingering in chronic pain claimants); Wiley Mittenberg et al., *Base Rates of Malingering and Symptom Exaggeration* (presenting results of a doctor survey on probable malingering, the results of which indicate lower base rates of malingering for depressive and anxiety disorders than for physical pain and mild head injury).

wide swaths of research that demonstrate the impact of poor mental health on everyday life<sup>59</sup> and the role of mental states in the etiology of various types of illnesses,<sup>60</sup> many of which manifest long after the initial emotional harm (not to mention the relevant statutes of limitation). Finally, a number of commentators have argued persuasively that the various limitations on recovery for emotional harms bear a disproportionate impact on women.<sup>61</sup>

## II. The Empirical Study of Well-Being – A Brief Primer

SWB research generally proceeds through the gathering of survey data on various aspects of people's lives and examining the statistical interplay between self-assessed well-being and its putative correlates. By asking people to assess and report their own levels of well-being, such studies replace the standard “objective” economic measure of well-being – consumption behavior or revealed preferences – with more direct, subjective measures. The purview of SWB research extends beyond the realm of basic economic indicia, exploring the impact of demographic, attitudinal, social and political categories on well-being. Prior work, for example, has sought to identify the relationship between SWB and such diverse phenomena as household income,<sup>62</sup> race,<sup>63</sup> gender,<sup>64</sup> marital status,<sup>65</sup> television viewing,<sup>66</sup> aspects of governance,<sup>67</sup>

<sup>59</sup> See, e.g., Robert L. Dupont et al., *Economic Costs of Anxiety Disorders*, Depression and Anxiety, Vol. 2 Issue 4, pp. 167-72 (1998); W. Eugene Broadhead et al., *Depression, Disability Days, and Days Lost from Work in a Prospective Epidemiologic Survey*, 264 JAMA 2524 (1990); Matthew J. Edlund, *The Economics of Anxiety*, 8 Psychiatric Med. 15 (1990).

<sup>60</sup> See Linda G. Russek et al., *The Harvard Mastery of Stress Study 35-Year Follow-up: Prognostic Significance of Patterns of Psychophysiological Arousal and Adaptation*, 52 Psychosomatic Med. 271, 278 (1990); John L. Coulehan et al., *Medical Comorbidity of Major Depressive Disorder in a Primary Medical Practice*, 150 Archives Internal Med. 2363 (1990).

<sup>61</sup> See Robert J. Rhee, *A principled Solution for Negligent Infliction of Emotional Distress Claims*, 36 Ariz. St. L.J. 805, 842 (2004); Martha Chamallas, *Removing Emotional Harm from the Core of Tort Law*, 54 Vand. L. Rev. 751, 752 (2001); Martha Chamallas, *The Architecture of Bias: Deep Structures in Tort Law*, 146 Pa.L.Rev. 463, 498 (1998) (“women have taken on the lion's share of emotional work in our society”); Lucinda M. Finley, *Female Trouble: The Implications of Tort Reform for Women*, 64 Tenn. L. Rev. 847, 860 (1997).

<sup>62</sup> See, e.g., Stevenson, Betsey & Justin Wolfers, “*Economic Growth and Happiness: Reassessing the Easterlin Paradox*,” *Brookings Papers on Economic Activity*, Spring 2008, 1-87 (Lead article); Clark, A.E., Frijters, P. and Shields, M. (2006). “*Income and Happiness: Evidence, Explanations and Economic Implications*”. PSE Discussion Paper No.2006-24; Diener, E. and R. Biswas-Diener: 2002, ‘*Will money increase subjective wellbeing?*’ *Social Indicators Research* 57, pp. 119–169; Easterlin, Richard A. (2001) *Income and Happiness: Towards a Unified Theory*, *Economic Journal* 111 (473): 467

<sup>63</sup> See Burton, R.P.D., B. Rushing, C. Ritter and A. Rakocy, *Roles, Race and Subjective Well-Being: A longitudinal Analysis of Elderly Men*, *Social Indicators Research* 28, pp. 137–156 (1993).

<sup>64</sup> See Betsey Stevenson & Justin Wolfers, *The Paradox of Declining Female Happiness*, *American Economic Journal: Economic Policy*, 1:2, 190–225 (2009).

<sup>65</sup> See Alois Stutzer & Bruno Frey, *Does marriage make people happy, or do happy people get married?*, *The Journal of Socio-Economics* 35, 326–347 (2006).

<sup>66</sup> See Bruno S. Frey, Christine Benesch, Alois Stutzer, *Does Watching TV Make us Happy?*, 28 *Journal of Economic Psychology* 283 (2007).

<sup>67</sup> See Bruno S. Frey, B. & Alois Stutzer, *Happiness, Economy and Institutions*, *The Economic Journal* Volume 110, Issue 466, pp. 918-938 (2000).

bereavement,<sup>68</sup> crime,<sup>69</sup> religious participation,<sup>70</sup> educational attainment,<sup>71</sup> inflation, unemployment,<sup>72</sup> sexual activity<sup>73</sup> and even internet access.<sup>74</sup>

Well-being is commonly elicited through simple, “single-item” survey questions, such as “Taken all together, how would you say things are these days – would you say that you are very happy, pretty happy or not too happy?”<sup>75</sup> or “All things considered, how satisfied are you with your life as a whole these days?”<sup>76</sup> Other methods of acquiring data on well-being include the “experience sampling method” (ESM) and “day reconstruction method” (DRM), both of which rely on repeated reports of well-being over time. Using pagers to signal to, or “beep,” study participants at various times throughout the study interval, ESM research allows for real-time assessments of well-being, recorded soon after (or contemporaneously with) various life events.<sup>77</sup> DRM, as the full name suggests, calls for daily reflections on well-being. Moment-by-moment measures of SWB, it should be noted, bear strong correlations with single-item measures of SWB.<sup>78</sup>

Measures of subjective well-being, importantly, exhibit a number of favorable psychometric properties. The reliability, or stability of subjective well-being measures over time, has been established by test-retest studies,<sup>79</sup> and alternative framings of SWB tend to converge

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<sup>68</sup> See Andrew J. Oswald & Nattavudh Powdthavee, *Death, Happiness, and the Calculation of Compensatory Damages*, 37 J. L. STUD. S217 (2008).

<sup>69</sup> See Mark A. Cohen, *The Effect of Crime on Life Satisfaction*, 37 J. Leg. Stud. S325 (2008).

<sup>70</sup> See Christopher G. Ellison, *Religious Involvement and Subjective Well-Being*, *Journal of Health and Social Behavior*, Vol. 32, No. 1, pp. 80-99 (1991).

<sup>71</sup> See Alex C. Michalos, *Education, Happiness and Well Being*, *Social Indicators Research*, Vol. 87, No. 3, pp. 347-66 (2008).

<sup>72</sup> See Rafael Di Tella, Robert J. MacCulloch & Andrew J. Oswald, *Preferences over Inflation and Unemployment: Evidence from Surveys of Happiness*, *The American Economic Review*, Vol. 91, no.1, pp. 335-341 (2001).

<sup>73</sup> See David G. Blanchflower & Andrew J. Oswald, *Money, Sex, and Happiness: an Empirical Study*, *The Scandinavian Journal of Economics* Vol. 106, Issue 3, pp. 393-416 (2004).

<sup>74</sup> See Elizabeth Sparrow, *The Information Dividend: Why IT Makes You “Happier,”* Study Prepared for BCS, The Chartered Institute for IT by Trajectory Partnership (Sept., 2010).

<sup>75</sup> Davis, James Allan and Smith, Tom W. General social surveys, 1972-2006 [machine-readable data file] /Principal Investigator, James A. Davis; Director and Co-Principal Investigator, Tom W. Smith; Co-Principal Investigator, Peter V. Marsden; Sponsored by National Science Foundation. – NORC ed. – Chicago: National Opinion Research Center [producer]; Storrs, CT: The Roper Center for Public Opinion Research, University of Connecticut [distributor] (2009).

<sup>76</sup> Inglehart, Ronald, et. al., *World Values Surveys and European Values Surveys, 1981-1984, 1990-1993, 1995-1997*, Ann Arbor, MI: Institute for Social Research; Inter- University Consortium for Political and Social Research (2000).

<sup>77</sup> See Christie Napa Scollon, Chu Kim-Prieto & Ed Diener, *Experience Sampling: Promises and Pitfalls, Strengths and Weaknesses*, *Journal of Happiness Studies*, Vol. 4, No. 1, pp. 5-34 (2003). It should be noted that experience sampling falls under the umbrella of “ecological momentary assessment” – a set of research tools that involves “repeated sampling of subjects’ current behaviors and experiences in real time, in subjects’ natural environments.” See Saul Shiffman et al., *Ecological Momentary Assessment*, *Annual Review of Clinical Psychology*, Vol. 4: 1-32 (2008).

<sup>78</sup> See Michael Eid & Ed Diener, *Global Judgments of Subjective Well-Being: Situational Variability and Long-Term Stability*, 65 SOC. INDICATORS RES. 245, 262-68 (2004).

<sup>79</sup> See Alan B. Krueger & David A. Schkade, *The reliability of subjective well-being measures*, *Journal of Public Economics*, Vol. 92, Issues 8-9, pp. 1833-45 (2008); Michael Eid & Ed Diener, *Global Judgments of Subjective*

with each other.<sup>80</sup> Moreover, the validity of subjective well-being constructs is supported by their alignment with third-party assessments of well-being (family and friends of the primary respondent)<sup>81</sup> and physical markers of well-being such as heart rate, blood pressure,<sup>82</sup> and “Duchenne” smiles.<sup>83</sup> Measures of subjective well-being also respond in expected ways with important life events – positive income shocks and marriage, for instance, have been shown to correspond with higher reported levels of well-being.

## ***II.A. Limitations of SWB Research***

Notwithstanding their favorable qualities, survey measures of well-being – particularly single item measures of the type used in the current analysis – are susceptible to various types of bias: they can be influenced by seemingly trivial events that precede the administration of surveys, are sensitive to the ordering of questions, and are culturally-mediated in a variety of ways, rendering comparison across countries problematic.<sup>84</sup> Additionally, single-item measures may be subject to social desirability effects and vulnerable to “peak-end” valuation, or a tendency to recall the last and most intense aspects of an event, rather than the entire experience thereof.<sup>85</sup> More fundamentally, SWB measures force respondents to reduce complex and varied feelings about life into a single number. These limitations have led many to question the validity of single-item SWB measures, particularly when they are offered as straightforward measures of happiness or as a perfect proxy for economic conceptions of utility or human welfare.<sup>86</sup>

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*Well-Being: Situational Variability and Long-Term Stability*, Social Indicators Research 65, no. 3: 245–77 (2004); Schimmack, U. et al., *Life Satisfaction is a momentary Judgment and a Stable Personality Characteristic: The Use of Chronically Accessible and Stable Sources*, Journal of Personality, 70, 345-384 (2002); Fordyce, M., *A review of Research on Happiness Measures: A sixty Second index of Happiness and Mental Health*. Social Indicators Research, 20, 355-381 (1988).

<sup>80</sup> See Ed Diener, *Assessing Well-Being: Progress and Opportunities*, Social Indicators Research Series Vol. 39, pp. 25-65 (2009).

<sup>81</sup> See Ed Sandvik et al., *Subjective Well-Being: The Convergence and Stability of Self-Report and Non-Self-Report Measures*, Journal of Personality, 61(3), 317-342 (1993); William Pavot & Ed Diener, *The Affective and Cognitive Context of Self-Reported Measures of Subjective Well-Being*, Social Indicators Research, Vol. 28, No.1, pp. 1-20 (1993); Paul T. Costa & Robert R. McCrae, *Personality in Adulthood: A Six-Year Longitudinal Study of Self-Reports and Spouse Ratings on the NEO Personality Inventory*, Journal of Personality and Social Psychology, Vol. 54, pp. 853-63 (1988).

<sup>82</sup> Jonathan Shedler, Martin Mayman, & Melvin Manis, *The Illusion of Mental Health*, American Psychologist, 48(11), 1117-1131 (1993).

<sup>83</sup> See Ekman, P. et al., *The Duchenne Smile: Emotional Expression and Brain Physiology, II*, Journal of Personality and Social Psychology, 58, 342-353 (1990). But see Eva G. Krumhuber & Anthony S.R. Mansted, *Can Duchenne Smiles be Feigned? New Evidence on Felt and False Smiles*, 9 Emotion 807 (2009) (challenging the validity of Duchenne smiles as indicators of positive emotion).

<sup>84</sup> See Norbert Schwarz & Fritz Strack, *Evaluating One's Life: A Judgment Model of Subjective Well-Being*, in SUBJECTIVE WELL-BEING 27 (Fritz Strack et al. eds., 1991).

<sup>85</sup> Time spent on childcare and work, for example, impact single-item measures of well-being more consistently than they do repeated measures such as DRM and ESM, perhaps because “[r]espondents who answer abstract evaluative questions about activities are likely to be reminded that both work and childcare are desirable aspects of their life.” Daniel Kahneman & Alan B. Krueger, *Developments in the Measurement of Subjective Well-Being*, Journal of Economic Perspectives, Vol. 20, No. 1, pp. 3-24 (2006).

The limitations of the single-item SWB measures are not, however, fatal. Split-sample surveys aid in the identification of ordering effects. Further, “[t]he idiosyncratic effects of recent, irrelevant events are likely to average out in representative population samples,”<sup>87</sup> thus alleviating the concern about their distortionary impact on global life evaluations. Retrospective evaluations of SWB, moreover, have been shown to predict subsequent behavior in a number of domains, providing further support for their validity.<sup>88</sup> More importantly for this analysis, the cognitive/evaluative component of single-item SWB responses – a feature that is part and parcel of the “judgment and memory”<sup>89</sup> effects described above – may actually be a boon in cases where an enduring sense of well-being, rather than an unfiltered measure of “hedonic flow,” is required. The relationship between single-item SWB measures and the operative concept of harm in the tort context is discussed further in Section II.C.

## ***II.B. Health and Subjective Well-Being***

The relationship between subjective well-being (SWB) and self-assessed health is well-established in the literature. Often touted as the “strongest predictor of subjective well-being” during adulthood,<sup>90</sup> perceived health is a function of both objective health status – physician-rated health<sup>91</sup> mortality,<sup>92</sup> functional decline,<sup>93</sup> and health care utilization<sup>94</sup> all being robust correlates – and affective orientation. Self-assessed health, in other words, is partially determined by actual health and partially determined by individual tendencies to see things in

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<sup>86</sup> Martha Nussbaum's recent commentary on the empirical study of well-being, for example, characterizes SWB measures as blunt instruments that “bully” respondents into a reductive exercise: “people are simply told that they are to aggregate experiences of many different kinds into a single whole, and the authority of the questioner is put behind that aggregation.” Nussbaum goes on to note that SWB fails to account for “bad pleasures” and “good pains.” Martha C. Nussbaum, *Who is the Happy Warrior? Philosophy Poses Questions to Psychology*, 37 *J. Leg. Stud.* 81, 86-99 (2008).

<sup>87</sup> Kahneman & Krueger, *supra* note 81, at 7.

<sup>88</sup> *See id.*, at 7 (noting that job satisfaction is a strong predictor of employee turnover).

<sup>89</sup> *Id.*, at 9.

<sup>90</sup> Morris A. Okun & Linda K. George, *Physician and Self-Ratings of Health, Neuroticism and Subjective Well-Being Among Men and Women*, *Personality and Individual Differences*, Vol. 5, Issue 5, pp. 533-39 (1984).

<sup>91</sup> *See* Noreen Goldman, Dana A. Gleib & Ming-Cheng Chang, *The Role of Clinical Risk Factors in Understanding Self-Rated Health*, *Annals of Epidemiol.*, Vol. 14, Issue 1, pp. 49-57 (2004); Sonja M. Hunt et al., *A Quantitative Approach to Perceived Health Status: A Validation Study*, *J. Epid. Comm. Health* 34, pp. 281-86 (1980).

<sup>92</sup> *See* B. Burstrom & P. Fredlund, *Self Rated Health: Is It as Good a Predictor of Subsequent Mortality among Adults in Lower as well as Higher Social Classes?*, *J. Epidem. Comm. Health*, 55(11), pp. 836-840 (2001); Daniel L. McGee, Youlian Liao, Guichan Cao & Richard S. Cooper, *Self-reported Health Status and Mortality in a Multiethnic US Cohort*, *Am. J. Epidem.*, Vol. 149, pp. 41-6 (1999); E.L. Idler & Y. Benyamini, *Self-rated Health and Mortality: A Review of Twenty-Seven Community Studies*, *J. Health Soc. Behav.* 38 (1997); J.M. Mossey and E. Shapiro, *Self-rated Health: a Predictor of Mortality among the Elderly*. *Am. J. Public Health* 72(8)(1982).

<sup>93</sup> *See* C. Jagger, N.A. Spiers & M. Clarke, *Factors Associated with Decline in Function, Institutionalization and Mortality of Elderly People*. *Age & Ageing* 22(3), pp. 190-97 (1993); G.A. Kaplan et al., *Factors Associated with Change in Physical Functioning in the Elderly: a Six-year Prospective Study*, *J. Aging and Health* 5 (1993).

<sup>94</sup> *See* Miilunpalo S., et al., *Self-rated health status as a health measure: The predictive value of self-reported health status on the use of physician services and on mortality in the working-age population*, *J. Clin. Epidem.* 50(5), pp. 517-28 (1997); Hunt et al., *supra* note 87.

either a positive or negative light.<sup>95</sup> The two components of self-assessed health correspond to two different frameworks for analyzing SWB: so-called “bottom-up” theories, in which life events and circumstances combine determine SWB at the level of experience, and “top-down” theories, which emphasize the role of genetics and personality in the determination of SWB.<sup>96</sup>

Much of the extant research on the health/SWB connection, however, employs measures that subsume both emotional and physical health.<sup>97</sup> The utility of studies using such “global” health measures is thus limited in two ways. First, to the extent that self-assessed health, alone, is used as a proxy for physical health, the model is likely to overestimate the relationship between health and well-being.<sup>98</sup> Secondly, without a corresponding marker of emotional health, the results are useful only to policy domains in which the physical/emotional distinction is of no great moment. Where the distinction between physical and emotional health does matter – as it does in the law of torts – separate measures of physical and emotional health are required.

### *II.C. Subjective Well-Being and Civil Damages*

Research on SWB offers a unique opportunity to circumvent conventional economic analyses of damages and supplement the *ad hoc* valuation methods currently used in courts.<sup>99</sup> Accordingly, a number of recent papers bring empirical results from the SWB literature to bear on the issue of non-economic civil damages. Whereas economic analyses seek to construct a hypothetical demand curve around injury (or risk) avoidance by examining consumption

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<sup>95</sup> See Okun, *supra* note 86; Goldman, *supra* note 87. Further, the stigma (or perceived stigma) associated with mental health issues and treatment could potentially lead individuals to distort their answers to survey questions regarding their emotional health. In the healthcare context, for example, individuals sometimes remain silent about mental health conditions, avoid or discontinue treatment, and engage in harmful “self-prejudice.” See, e.g., Patrick Corrigan, *How Stigma Interferes with Mental Health Care*, *American Psychologist*, Vol. 59, No. 7, 614-625 (2004); Jo Anne Sirey et al., *Perceived Stigma as a Predictor of Treatment Discontinuation in Young and Older Outpatients with Depression*, *Am. J. Psych.* 158: 479-481 (2001). However, in the context of an anonymous survey, respondents have less reason to distort their answers to avoid stigma. Moreover, the correlation between self-assessed health and various objective measures of health, as discussed above, suggests that they are reliable.

<sup>96</sup> See, e.g., Headey, B., R. Veenhoven & A. Wearing, *Top-down Versus Bottom-Up Theories of Subjective Well-Being*, *Social Indicators Research* 24, pp. 81–100 (1991).

<sup>97</sup> See, e.g., Angus Deaton, *Income, Health and Well-Being around the World: Evidence from the Gallup World Poll*, *Journal of Economic Perspectives* Vol. 22, no. 2: 53–72 (2008); Carol Graham, *Happiness and Health: Lessons—And Questions—For Public Policy*, *Health Affairs* Vol. 27, no. 1: 72–87 (2008); Espen Roysamb et al., *Happiness and Health: Environmental and Genetic Contributions to the Relationship Between Subjective Well-Being, Perceived Health, and Somatic Illness*, *Journal of Personality and Social Psychology*, Vol. 85, No.6, pp. 1136-46 (2003); Joop Hartog & Hessel Oosterbeek, *Health, Wealth and Happiness: Why pursue a Higher Education?*, Tinbergen Institute Discussion Papers 97-034/3, Tinbergen Institute (1997). But see, Alex C. Michalos, Bruno D. Zumbo & Anita Hubley, *Health and the Quality of Life*, *Social Indicators Research* Vol. 51, No.3, pp. 245-86 (2000) (including both emotional health and physical health variables in the analysis).

<sup>98</sup> See Okun, *supra* note 86.

<sup>99</sup> See, e.g., Richard Abel, *General Damages are Incoherent, Incalculable, Incommensurable, and Inegalitarian (But Otherwise a Great Idea)*, 55 *DePaul L. Rev.* 253 (2006); Joseph H. King, Jr., *Pain and Suffering, Noneconomic Damages, and the Goals of Tort Law*, 57 *S.M.U. L.Rev.* 163 (2004).

behavior,<sup>100</sup> the hedonic method proceeds by examining at the diminution in well-being that typically accompanies various categories of injuries or life circumstances. The underlying question thus becomes: to what extent are diminutions in individual well-being the appropriate metric to identify injuries and estimate (non-economic) damage awards? In other words, does making an injured party “whole” – the guiding principle for estimating damages in many civil contexts – mean restoring the injured party to some pre-injury hedonic level or hedonic *status quo ante*?<sup>101</sup>

There are a several reasons to think that SWB is a useful tool for informing the patchwork of rules used to determine damages in tort, even if one (reasonably) concludes that hedonic responses to injuries are not the sole criterion for identifying and/or quantifying damage awards. Two key features of SWB that stand out are its simplicity and its broad conceptual reach. SWB, as measured by single-item survey measures, is a global evaluation of one's life – an aggregation of positive affect, negative affect and goal-fulfillment, filtered and weighted through a subjective lens that reflects one's own values. Indeed, it is difficult to imagine a single measure that better captures human functioning and flourishing, which may be why the concept has enjoyed such resonance through time. Indeed, SWB still resonates today:

[P]eople the world over think SWB is very important. In a survey of college students from 17 countries, Diener found that happiness and life satisfaction were both rated well above neutral on importance (and more important than money) in every country, although there was also variation among cultures. Furthermore, respondents from all samples indicated that they thought about happiness from time to time. Thus, even those from relatively

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<sup>100</sup> In cases where injuries can be remedied through the replacement of a fungible (or nearly fungible) good, market value provides a clear indicator of the extent of the injury. In the context of injuries to irreplaceable or non-market goods – life, limb, emotional tranquility, and general enjoyment of life – economics can provide only limited answers. Contingent value studies estimate the value of non-market goods through the use of surveys, posing various hypothetical scenarios to individuals and asking them to provide an amount of money that they would pay/accept to avoid/assume a hypothetical risk, such as polluted air. The resulting values are called, respectively, willingness-to-pay (WTP) values and willingness-to-accept (WTA) values. Another econometric technique used to estimate the (implicit) value of life and limb uses consumption behavior in real market settings rather than survey data. One version of this technique employs compensating wage differentials, or differences in wage rates associated with different levels of workplace risk, to evaluate implicit values of the losses associated with such risk. Where the risk in question is the risk of death, the resulting value is called the “value of a statistical life” or VSL. VSL estimates and those estimated by way of contingent value studies, it should be noted, are used primarily in the regulatory context, as opposed to trials.

<sup>101</sup> While the adoption of the term “hedonic damages” by a number of courts might have hastened the application of happiness research to this area of study, the application of happiness research to damage issues is, independently of the judicial usage of the term, a natural extension of the economic analysis of damages. Moreover, the application of happiness research to civil damage awards extends beyond the scope of what are commonly called “hedonic damages.”

unhappy societies value happiness to some extent.<sup>102</sup> (internal citations omitted).

Moreover, subjective well-being also moves in expected ways with many items on so-called “objective-lists” – philosophical inventories of fundamental human freedoms and/or entitlements without which “no society can lay claim to basic justice.”<sup>103</sup> One such list, offered by prominent philosopher Martha Nussbaum *as an alternative to SWB survey measures*, includes health, access to education, political and material autonomy, and the ability to enjoy recreation and social activities.<sup>104</sup> That all of the above items are positively correlated with SWB<sup>105</sup> is evidence of its usefulness, if not as a conclusive measure of human functioning writ large, then at least as an efficient tool to capture quality of life in certain judicial contexts, where changes in the quality of life – injuries – must often be reduced to a single (dollar) figure.

Recognizing the potential of SWB as a meaningful, if imperfect, proxy for the quality of life, legal commentators have begun to apply SWB research in the tort context. Sunstein's recent piece on the issue is illustrative. Noting the tendency of individuals to overestimate the adverse impact of many physical problems and, further, the fact that “[t]hose who face such problems experience unexpectedly little in the way of hedonic loss,” Sunstein suggests that courts should draw a line between “harms that impose enduring losses, such as chronic pain” and “harms that do not, such as losses of fingers and toes.”<sup>106</sup> While Professor Sunstein is clear that not all injuries are to be defined hedonically – he carves out an exception for loss of capability – his argument ultimately rests on the importance of well-being to our conception of injuries. The enduring hedonic losses associated with unemployment<sup>107</sup> – losses above and beyond those associated with lost wages – have also been invoked by proponents of broader recovery rules in the employment discrimination context.<sup>108</sup>

Other commentators are less sanguine about the use of hedonic measures to identify injuries in tort, particularly where such measures are posited as a replacement for, rather than a complement to, existing notions of harm:

[P]eople care about many things that are not purely hedonic, such as meaning, capabilities, and range of feeling and experience. If

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<sup>102</sup> Ed Diener, *Assessing Well-Being: The Collected Works of Ed Diener* (2009) citing Ed Diener & E.M. Suh, *Culture and Subjective Well-Being* (2000).

<sup>103</sup> See Nussbaum, *supra* note 82 at S105

<sup>104</sup> See *id.* at S110-111.

<sup>105</sup> See *supra*, notes 58-70.

<sup>106</sup> Sunstein, *supra* note 3 at 2, 9-10.

<sup>107</sup> See Andreas Knabe & Steffen Rätzel, *Scarring or Scaring? The Psychological Impact of Past Unemployment and Future Unemployment Risk*, (CESIFO, Working Paper No. 2457, 2008); Richard E. Lucas et al., *Unemployment Alters the Set-Point for Life Satisfaction*, 15 PSYCHOL. SCI. 8 (2004); Andrew E. Clark et al., *Scarring: the Psychological Impact of Past Unemployment*, 68 ECONOMICA 221 (2001); Wiji Arulamalam et al., *Unemployment Scarring*, 111 ECON. J. 577 (2001).

<sup>108</sup> See Scott A. Moss & Peter H. Huang, *How the New Economics Can Improve Discrimination Law, and How Economics Can Survive the Demise of the ‘Rational Actor,’* 51 Wm. & Mary L. Rev. 183 (2009).



this is the case, it would be seriously misguided to ignore the expressed distaste of all three groups for the health conditions in question and to base valuations of noneconomic damages on a notion of well-being that is far narrower than that adopted by individuals themselves.<sup>109</sup>

Similarly, Swedloff and Huang push back against the “growing revolution” of SWB research in legal academe, echoing the above concerns and noting, further, that many of the findings in the literature, such as adaptation, are not as robust and well-understood as they seem.<sup>110</sup> Further challenging Sunstein's conclusions, Swedloff and Huang argue that juries might already be compensating for the fading psychological impact of injuries.<sup>111</sup>

Ultimately, much of the resistance to the incorporation of SWB research into tort law appears to stem from a fear that hedonic responses, if accepted as a workable proxy for harm, will supplant other considerations entirely and, perhaps, be used to limit certain types of recovery. Insofar as the instant analysis seeks neither to define damages in strictly hedonic terms nor to limit damages of a certain type, the above concerns may be allayed. Nonetheless, the import of the findings presented below depends, as in the Sunstein piece, on whether hedonic states ultimately “matter” in the context of tort damages.

### **III. Data and Methods**

The data used in the following analyses are obtained from the General Social Survey (GSS) series. The ongoing GSS series is nationally representative of the adult U.S. population, containing data on a broad range of demographic and attitudinal dimensions, including well-being, health, income, education, family composition, health and political ideology.<sup>112</sup> The entire sample consists of approximately 51,000 observations – approximately 1500 for each year in which the surveys were administered, (black respondents were oversampled in 1982 and 1987, and the analyses below use weights to adjust for the oversampling). Only a fraction of the observations, however, were usable in the present analyses; after omitting observations without all of the necessary variables, the usable sub-samples ranged from 910 to 2592 observations.

#### ***III.A. Key Variables***

Subjective well being, the dependent variable in all of the analyses, is measured on a 1-3 scale based on the following GSS survey instrument: “Taken all together, how would you say

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<sup>109</sup> Ubel & Lowenstein, *supra* note 3, at S197.

<sup>110</sup> Swedloff & Huang, *supra* note 3, at 554

<sup>111</sup> Swedloff & Huang, *supra* note 3, at 580.

<sup>112</sup> See Davis & Smith, *supra* note 47.

things are these days – would you say that you are very happy, pretty happy, or not too happy?”  
<sup>113</sup> The independent variables used to capture mental health – "MNTLHLTH," "DIDLESSE," "CRELESSE" and "DISABLD5," – pose the following questions, respectively, to GSS survey respondents:

MNTLHLTH: “Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?”

DIDLESSE: During the past 4 weeks, have you had any of the following problems with your work or other daily activities as a result of any emotional problems (such as feeling depressed or anxious)? Accomplished less than you would like?

CRELESSE: During the past 4 weeks, have you had any of the following problems with your work or other daily activities as a result of any emotional problems (such as feeling depressed or anxious)? Didn't do work or other activities as carefully as usual?  
<sup>114</sup>

The analogous physical health survey instruments – used in some, but not all, of the regression models – pose the following questions to respondents:

PHYSHLTH: Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?

DIDLESSP: During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health? Accomplished less than you would like?<sup>115</sup>

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<sup>113</sup> *Id.* The SWB variable used in the current analysis, it should be noted, is a recoded version of the GSS variable “HAPPY.” In the original version of HAPPY, higher levels of SWB correspond to lower response scores; in the recode, higher response values reflect higher levels of SWB.

<sup>114</sup> *Id.*

<sup>115</sup> *Id.*

LIMITEDP: During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health? Were limited in the kind of work or other activities?<sup>116</sup>

Each of the three mental health variables appears in four different ordinary least squares<sup>117</sup> regressions: two of which contain the analogous (similarly-worded and scaled) physical health variables, and two “stand-alone” specifications that do not contain the analogous physical health variables, but are performed on survey subpopulations that report no physical problems. Within these two categories – the “stand alone” regressions and the regressions that account for both physical and emotional health – two different sets of control variables are tested (resulting in the four regressions for each emotional health variable). The control variables, all of which bear consistent and significant connections with SWB in prior work, include marital status, age, race and gender.<sup>118</sup>

Income, as one of the most consistent and strong correlates of SWB,<sup>119</sup> is also included in the analysis. The inclusion of income – more specifically, (log) household income – is particularly important in light of its likely correlation with both reported physical and mental health. As previously mentioned, though the physical and mental health variables used in the current analysis are intended to shed light on the impact of various injuries that might arise in tort cases, the actual health limitations reflected in the data are not necessarily the result of tortious behavior. In fact, the data reveal little about the etiology or subsequent treatment of the conditions. Insofar as individuals with higher incomes are better able to treat or mitigate the effects of health conditions, the omission of income would bias the coefficients on the mental health variables. Moreover, vis-a-vis low-income individuals and/or families, those of greater economic means are generally exposed to less risk and better educated about health conditions. Thus, given the goal of this inquiry – to measure the impact of emotional harms on well-being, *given the fact that they occur and given the fact that some individuals may already be treating them* – income should be included among the variables. The inclusion of income also allows for the calculation of monetary equivalents for changes in emotional health. The problems associated with applying this type of data to the tort context is discussed below, in Section V.B. For all of the regressions, I use the survey (“SVY”) settings in STATA to adjust for the complex sampling design of the GSS.

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<sup>116</sup> *Id.*

<sup>117</sup> Importantly, ordered probit estimates – the form typically chosen for ordinal-level dependent variables – yield essentially the same results as the OLS regressions described below.

<sup>118</sup> *See supra*, notes 58-70.

<sup>119</sup> *See* Stevenson & Wolfers, *supra* note 58.

## IV. Results

Table 1 presents the results of the regressions that capture emotional health with the MNTLHLTH variable. MNTLHLTH is significant at the 99% ( $p=.01$ ) level in all four of the regressions, and the magnitude of the coefficient is similar across the standard regressions accounting for physical health (columns A and B) and the stand-alone models (columns C and D), suggesting that the MNTLHLTH variable is not capturing the emotional effects of physical conditions to a significant extent. PHYSHLTH is significant at the 95% ( $p=.05$ ) level in one of the first two regressions, and not significant at the 90% ( $p=.10$ ) level in the second. Where present, further, the coefficient for PHYSHLTH is an order of magnitude smaller than that of MNTLHLTH. In the standard specification, each day of poor emotional health corresponds to a diminution in SWB of approximately 0.2 units; a decrease commensurate with a 0.36% decrease in family income. Each day of stand-alone poor emotional health – without physical problems – corresponds to a diminution in SWB by 0.017 units; a decrease in SWB commensurate with a .32% decrease in family income.

**Table 1 – OLS Regression Results**

Dependent Variable: Subjective Well Being

Independent Variables of Interest: “MNTLHLTH” (# of days in past month that mental health was “not good”)

| Variable      | Standard Regressions: |                     | “Stand-Alone” Regressions: |                    |
|---------------|-----------------------|---------------------|----------------------------|--------------------|
|               | A: Limited Controls   | B: Full Controls    | C: Limited Controls        | D: Full Controls   |
| MNTLHLTH      | -0.021***<br>0.002    | -0.020 ***<br>0.002 | -0.018***<br>0.003         | -0.017***<br>0.003 |
| PHYSHLTH      | -0.005***<br>0.002    | -0.003<br>0.002     |                            |                    |
| Age           | -0.005<br>0.006       | -0.024***<br>0.006  | -0.005<br>0.007            | -0.027***<br>0.007 |
| Age Squared   | 0.000<br>0.000        | 0.000***<br>0.000   | 0.000<br>0.000             | 0.000***<br>0.000  |
| Female        | -0.014<br>0.028       | 0.036<br>0.029      | -0.011<br>0.035            | 0.025<br>0.037     |
| Black         | -0.157***<br>0.045    | -0.064<br>0.043     | -0.134**<br>0.052          | -0.011<br>0.046    |
| 2006          | -0.014<br>0.031       | -0.024<br>0.032     | -0.038<br>0.037            | -0.030<br>0.037    |
| Log HH Income |                       | 0.055***<br>0.019   |                            | 0.053**<br>0.024   |
| Widowed       |                       | -0.341***<br>0.076  |                            | -0.346***<br>0.093 |
| Divorced      |                       | -0.274***<br>0.038  |                            | -0.242***<br>0.048 |
| Separated     |                       | -0.413***<br>0.075  |                            | -0.359***<br>0.110 |
| Never Married |                       | -0.289***<br>0.039  |                            | -0.315***<br>0.051 |
| N             | 2592                  | 2236                | 48837                      | 48575              |
| N (subpop)    |                       |                     | 1736                       | 1474               |

legend: b/se (\* $p<.05$ ; \*\* $p<.01$ ; \*\*\* $p<.001$ )

Notes: Stand-Alone regressions (Columns C & D) were performed on respondents who indicated, via the PHYSHLTH variable, that they experienced no bad days of physical health in the past month. “2006” is a dummy variable indicating the year the survey was administered; the reference category is the year 2004. The reference category for the marital status dummies is “married.”

Respondents whose emotional conditions led them to accomplish “less than they would have liked” in the 4 weeks preceding the survey experienced between a 0.371 and 0.414 decrease in SWB, depending on the specification. The monetary equivalents for DIDLESSE are 8.06% and 6.63%. That is, answering “yes” to the DIDLESSE question is associated with the same drop in SWB as an 8.06% decrease in family income, or 6.63% for the stand-alone specification. Answering “yes” on DIDLESSP – accomplishing less due to physical problems – corresponds to a 2.65% drop in family income. Both DIDLESSE and DIDLESSP (where present) were significant at the 99% (p=.01) level.

**Table 2 – OLS Regression Results**

Dependent Variable: Subjective Well Being

Independent Variables of Interest: “DIDLESSE” (emotional condition impaired work, daily activities)

| Variable      | Standard Regressions: |                    | “Stand-Alone” Regressions: |                     |
|---------------|-----------------------|--------------------|----------------------------|---------------------|
|               | A: Limited Controls   | B: Full Controls   | C: Limited Controls        | D: Full Controls    |
| DIDLESSE      | -0.414***<br>0.047    | -0.371***<br>0.056 | -0.390 ***<br>0.061        | -0.378 ***<br>0.063 |
| DIDLESSP      | -0.129***<br>0.038    | -0.122***<br>0.036 |                            |                     |
| Age           | 0.011**<br>0.005      | -0.001<br>0.006    | 0.014**<br>0.006           | 0.001<br>0.008      |
| Age Squared   | -0.000*<br>0.000      | 0.000<br>0.000     | -0.000*<br>0.000           | 0.000<br>0.000      |
| Female        | 0.055<br>0.036        | 0.046<br>0.036     | 0.042<br>0.038             | 0.050<br>0.041      |
| Black         | -0.240***<br>0.051    | -0.176***<br>0.052 | -0.227***<br>0.060         | -0.165**<br>0.066   |
| Log HH Income |                       | 0.046*<br>0.024    |                            | 0.057**<br>0.026    |
| Widowed       |                       | -0.167**<br>0.068  |                            | -0.077<br>0.096     |
| Divorced      |                       | -0.166***<br>0.050 |                            | -0.173***<br>0.056  |
| Separated     |                       | -0.307***<br>0.110 |                            | -0.275**<br>0.131   |
| Never Married |                       | -0.205***<br>0.052 |                            | -0.140**<br>0.056   |
| N             | 1378                  | 1196               | 49384                      | 49250               |
| N (subpop)    |                       |                    | 1044                       | 910                 |

legend: b/se (\*p<.05; \*\*p<.01; \*\*\*p<.001)

Notes: Stand-Alone regressions (Columns C & D) were performed on respondents who indicated, via the DIDLESSP variable, that they experienced no bad days of physical health in the past 4 weeks. The reference category for the marital status dummies is “married.”

Being limited in “work or other activities” due to emotional health (over the 4 weeks preceding the survey) impacts SWB negatively, to the tune of .222 hedonic units (.185 stand-alone). The inability to do “work or other activities as carefully as usual” in light of physical problems is associated with a 0.140 drop in SWB. The monetary equivalents for CRELESSE and LIMITEDP are, respectively, 4.18% (3.24% for stand-alone) and 2.64% of family income. CRELESSE was significant at the 99% (p=.01) level in all four of the specifications.

**Table 3 – OLS Regression Results**

Dependent Variable: Subjective Well-Being

Independent Variables of Interest: “CRELESSE” (less attention on work and/or less careful work due to emotions)

| Variable      | Standard Regressions: |                    | “Stand-Alone” Regressions: |                    |
|---------------|-----------------------|--------------------|----------------------------|--------------------|
|               | A: Limited Controls   | B: Full Controls   | C: Limited Controls        | D: Full Controls   |
| CRELESSE      | -0.256***<br>0.058    | -0.222***<br>0.054 | -0.196**<br>0.081          | -0.185**<br>0.079  |
| LIMITEDP      | -0.171***<br>0.044    | -0.140***<br>0.045 |                            |                    |
| Age           | 0.012**<br>0.005      | -0.001<br>0.006    | 0.016***<br>0.006          | 0.005<br>0.008     |
| Age Squared   | -0.000**<br>0.000     | 0.000<br>0.000     | -0.000**<br>0.000          | -0.000<br>0.000    |
| Female        | 0.041<br>0.035        | 0.038<br>0.037     | 0.046<br>0.036             | 0.055<br>0.039     |
| Black         | -0.233***<br>0.053    | -0.156***<br>0.054 | -0.259***<br>0.067         | -0.184***<br>0.070 |
| Log HH Income |                       | 0.053**<br>0.025   |                            | 0.057**<br>0.027   |
| Widowed       |                       | -0.197***<br>0.069 |                            | -0.099<br>0.108    |
| Divorced      |                       | -0.186***<br>0.050 |                            | -0.188***<br>0.054 |
| Separated     |                       | -0.338***<br>0.107 |                            | -0.314***<br>0.117 |
| Never Married |                       | -0.211***<br>0.054 |                            | -0.145**<br>0.056  |
| N             | 1374                  | 1194               | 49381                      | 49242              |
| N (subpop)    |                       |                    | 1067                       | 928                |

legend: b/se (\*p&lt;.05; \*\*p&lt;.01; \*\*\*p&lt;.001)

Notes: Stand-Alone regressions (Columns C &amp; D) were performed on respondents who indicated, via the LIMITEDP variable, that they experienced no bad days of physical health in the past 4 weeks. The reference category for the marital status dummies is “married.”

## V. Discussion

The three above analyses suggest that emotional health conditions – even those free of concomitant physical manifestation or symptoms – impact SWB to a significant extent. In fact, in all of the regressions accounting for both physical and mental health (through the various sets of similarly-worded and similarly-scaled health measures), the latter uniformly bore stronger connections to SWB than the former. The similarity between the hedonic impact of emotional health in the stand-alone regressions and the standard (non-stand-alone) regressions, further, suggests that the presence of physical symptoms or limitations does not impact the severity of emotional problems to an appreciable extent. While perhaps unremarkable on their face, the results gain significance when viewed through the lens of tort law. That is, many of emotional harms found to have a significant impact on SWB in the instant inquiry would be subject to dismissal in court, carrying an implicit damage valuation of zero. The following sub-sections address the limitations of the analysis, both in general and as applied to the tort context.

### *V.A. The Distinction Between SWB and the Emotional Health*

Given the conceptual similarity between subjective well-being and emotional health, the following question warrants serious attention: are mental harms – as defined in the survey instruments MNTLHLTH, DIDLESSE, and CRELESSE – so closely related to SWB as to make the current inquiry question-begging? A full response to this question<sup>120</sup> merits a closer look at the construct of well-being and the language of the three mental health questions used in the analysis. MNTLHLTH asks survey respondents to tally the number of days in which their mental health, “including stress, depression, and problems with emotions,” was “not good.” DIDLESSE and CRELESSE both inquire about “emotional problems (such as feeling depressed or anxious)” that limit daily activities. While the precise conceptual bounds of terms such as “emotional problems,” and “mental health” and are not self-defining – nor is a more precise definition provided for the respondents – the questions appear to confine themselves to experienced emotions, moods, and/or affect rather than higher-order evaluative judgments about individual flourishing.

The content of the mental health survey questions used in this analysis can be contrasted with that of SWB. The characterization of SWB by Ed Diener – a prolific writer on the subject and a pioneer in the field – reflects its broad conceptual reach: subjective well-being “include[s] people's emotional reactions to events, their moods, and judgments they form about their life satisfaction, fulfillment, and satisfaction with domains such as marriage and work.”<sup>121</sup> It (SWB) “is the evaluation and declarations that individuals make about the quality of their lives that are based on the review, weighting, and summation of the quality of experiences, accomplishments, relationships, and other culturally relevant and valued ways of functioning in life.”<sup>122</sup> In short, SWB measures of the type employed herein are inextricably bound up with aspirations and values in a way that emotions, *simpliciter*, are not.<sup>123</sup> Moreover, even if the mental health questions used herein can be reasonably interpreted as inquiries about negative affect, there is evidence that positive affect and negative affect are not simple opposites of each other, to be

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<sup>120</sup> The quickest answer to the question is statistical in nature. If the various measures of mental health are and the construct of SWB are, in fact, identical, they would bear correlations that approach unity, rendering other aspects of life insignificant in determining SWB. In fact, however, the correlations between SWB and the emotional health variables used in this analysis bear far more modest correlations, ranging from 0.2 to 0.3.

<sup>121</sup> Ed Diener et al., *Personality, Culture and Subjective Well-Being: Emotional and Cognitive Evaluations of Life*, Annual Review of Psychology, Vol. 54: 403-425 (2003).

<sup>122</sup> Cory L.M. Keyes, *Mental Health in Adolescence: Is America's Youth Flourishing?*, Annual Journal of Orthopsychiatry, Vol. 76, No. 3, 395-402 (2006).

<sup>123</sup> To the extent that repeated measures of SWB, such as ESM and DRM, more closely capture moment-by-moment affective experience without also capturing the cognitive/reflective component of SWB, such items would be harder to distinguish from the emotional health measures used herein.

summed in a simple manner;<sup>124</sup> rather they are independent features of a “circumplex” of affect.<sup>125</sup> Thus, under accepted definitions of SWB, it is quite distinguishable from the types of mental health conditions covered by MNTLHLTH, DIDLESSE, and CRELESSE.

## ***V.B. Applicability of Results to the Tort Context***

### *V.B.1. Broad/Vague Survey Questions – What Conclusions Can We Draw?*

As mentioned earlier, the emotional health variables used in this analysis reveal little about the specific nature of the emotional conditions that underlie any particular numerical survey response. Rather, the questions are framed broadly, requiring the respondents to impose their own interpretations on the questions in order to arrive at a response. In answering the MNTLHLTH question, for example, each respondent makes her own decision about whether or not a given condition (or group of different conditions) merits inclusion in the tally of days in which her "mental health [was] not good."<sup>126</sup> To varying extents, this problem applies to all three sets of mental health variables used in this analysis. The CRELESSE and DIDLESSE variables, which frame emotional health in functional rather than clinical terms, afford a considerable amount of interpretive freedom to respondents in distinguishing between *de minimis* stresses and those that hinder regular functioning enough to warrant reporting them. As a result, each numerical survey response reflects a distribution of health issues, both in terms of their medical/clinical characterization and in terms of severity. The broad framing of the emotional health questions would thus effectively preclude any attempt to generate precise damage awards for specific emotional health issues.<sup>127</sup>

However, the more modest goal of this inquiry is to test whether emotional harms – including instances of stand-alone emotional distress – impact SWB at all. Recall that claims based on emotional distress *of any severity* would be barred in a variety of circumstances: (1) in jurisdictions that deny NIED claims altogether, if the harm is the result of negligence; (2) in IIED

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<sup>124</sup> See Ed Diener & Robert A. Emmons, *The Independence of Positive and Negative Affect*, *Journal of Personality and Social Psychology* Vol. 47, Issue 5, pp. 1105-17 (1984). This conclusion is not entirely free of controversy – see, e.g., Boris Egloff, *The Independence of Positive and Negative Affect Depends on the Affect Measure*, *Personality and Individual Differences* Vol. 25, Issue 6, pp. 1101-09 (1998). However, since SWB has a cognitive/evaluative component in addition to the affective component(s), the distinction between SWB and the emotional health variables used herein can still be maintained.

<sup>125</sup> See, e.g., Lisa F. Barrett & James A. Russell, *The Structure of Current Affect: Controversies and Emerging Consensus*, *Current Directions in Psychological Science*, Vol. 8, Issue 1, pp. 10-14 (1999).

<sup>126</sup> See Smith, *supra* note 71.

<sup>127</sup> With more detailed information about the underlying emotional conditions, one could compare damage awards issued in court cases with (survey-based) monetary equivalents for similar conditions. Such a comparison would indicate whether certain types of injuries are overvalued or undervalued in court, at least in terms of their impact on SWB. Unfortunately, the range of health conditions covered and the level of generality at which the health questions are framed in the GSS – and in similar data sets which include SWB questions – make it difficult to map such survey responses onto tort verdicts in any coherent way.



cases where the malfeasance is not of a sufficiently egregious nature, regardless of the severity of the resulting emotional harm (3) in jurisdictions that require a physical impact or manifestation, regardless of the severity of the emotional disturbance.<sup>128</sup> Thus, although the nature of the GSS survey questions obscures the precise nature and severity of the emotional harms that underlie the survey responses, such aspects are not of paramount importance given the limited goals of this inquiry.

### *V.B.2. External Validity*

The use of survey data from outside the tort context to bear upon issues within tort raises issues of external validity. To some extent, this analysis revolves around the notion that “harms are harms,” whether they are due to the tortious behavior of another or not. However, psychological studies suggest that this is not the case: causal attribution concerning the etiology of health conditions impacts both the experienced severity of the condition as well as the coping/adaptation process.<sup>129</sup> Individuals who blame others for their health conditions, in other words, tend to have worse symptoms and recover more slowly. Thus, to the extent that some (or most) of the emotional health conditions experienced by the survey populations used in the instant inquiry were not the result of tortious behavior (or otherwise not the fault of others), the figures presented in Tables 1-3 are likely conservative.<sup>130</sup> Again, were the goals of this inquiry to precisely determine monetary equivalents for specific health conditions caused by tortious behavior, the use of survey data from outside the tort context would be inappropriate. In the context of this analysis, however, the conservative nature of the estimates actually bolsters the claims. That is, if emotional harms, many (or most) of which are likely not the result of tortious behavior, bear a significant negative impact on SWB, then emotional damages sustained at the hands of a tortfeasor would – per the above findings on causal attribution – presumably bear an even greater impact on SWB.

Of course, the relevance of the results still hinges, crucially, on one's belief in the importance of hedonic states. Ultimately, those inclined to think of legally cognizable injuries in (partially) hedonic terms and/or those convinced that survey measures of well-being capture something meaningful about the quality of life will place more stock in the findings. Moreover, the results presented herein are not directly responsive to the many practical arguments often used to defend the physical/emotional distinction in tort, including the problem of malingering among mental health claimants. To the extent that such practical arguments serve as pretext for a more fundamental suspicion about the importance of emotional health, however, the results

<sup>128</sup> See Section I, *supra*, and accompanying notes.

<sup>129</sup> See Charlotte van Oyen Witvliet, Thomas E Ludwig & Kelly L. Vander Laan, *Granting Forgiveness or Harboring Grudges: Implications for Emotion, Physiology, and Health*, *Psychological Science* Vol. 12, No. 2, pp. 117-123 (2001); Glenn Affleck et. al., *Causal Attribution, Perceived Benefits, and Morbidity after a Heart Attack: An 8-year Study*, *Journal of Consulting and Clinical Psychology*, Vol 55(1), pp. 29-35 (1987); Shelley E. Taylor, *Attributions, Beliefs About Control, and Adjustment to Breast Cancer*. *Journal of Personality and Social Psychology* Vol. 46, No.3, pp. 489-502 (1984).

<sup>130</sup> The estimates, it should be noted, might also be conservative for another reason: because they are not motivated by financial gain (external incentives for recovery), respondents have less of a reason to exaggerate their conditions/limitations.

suggest that the current treatment of emotional harms in tort are misguided. Further, if malingering can be curbed through vigorous cross-examination and expert testimony, the rules of tort have little reason to disfavor emotional harms, as a category, by subjecting them to harsher standards. Rather, the jury (or judge) should be allowed to assess the merits of each case – in terms of the severity/genuineness of injury – on an equal footing, regardless of the category of injury.

## **VI. Conclusion**

Notwithstanding significant strides towards what might be called “mental health parity” in tort law, the treatment of physical injuries remains privileged. Using survey data on subjective well-being, this paper shows that a range of emotional harms that might be subject to dismissal in courts – including stand-alone claims of emotional distress – bear a significant impact on SWB. To the extent that the unequal treatment of physical and emotional harms is based not upon practical concerns but upon the belief that mental health is less important to the quality of life – and to what makes us “whole,” as aggrieved litigants and as human beings – the findings presented here challenge the distinctions currently drawn in tort.

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