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In Pursuing Happiness: Diary vs. General Ratings of US Subjective Well-Being

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**IN PURSUING HAPPINESS:
DIARY vs. GENERAL RATINGS OF US SUBJECTIVE
WELL-BEING**

(In which US respondents with varying demographic backgrounds rate the quality of their lives based on their general life vs. feelings during their daily activities.)

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ABSTRACT

The American Time-Use Survey (ATUS) has been conducted by the US Bureau of the Census for the Bureau of Labor Statistics since 2003 to collect data on how Americans spend their time. Earlier diary studies by academic survey firms had documented a closing of the “gender gap” in women’s doing the repetitive and time-consuming task of household chores. In 2010-13, the ATUS began supplementing these diary accounts with ratings on a Subjective Well-Being (SWB) index designed to capture how these respondents *momentarily* felt as they were engaged in their various diary activities. When two of these diary states, happy and sad, were combined into a HAPSAD measure, little consistent gender difference was found, but there remained dramatic SWB diary differences by *activity* that were shared by both men and women, with child play, arts, fitness, religious and social activities rated near the top of these ratings, while health/sick care and paid work activities (along with the housework activities dominated by women) were rated nearer the bottom.

ATUS 2012-13 respondents were also separately asked to rate their longer-term *general* quality of their lives on a 0-10 “ladder scale”, which showed a significant correlation ($r=.36$) with the diary HAPSAD ratings. Higher ratings on both this *general* scale and the *diary* HAPSAD ratings were found for healthy and married people, seniors, and the more affluent. Despite their greater time spent on the unpopular SWB-rated activity of housework, women scored slightly *higher* than men on both the ladder and diary scales after regression adjustment, which was also consistent with results from the general happiness question asked in the General Social Survey (GSS). Thus, with a few exceptions, these diary and general measures not only inter-correlated moderately, they pointed to much the same demographic groups as having higher SWB ratings.

BACKGROUND:

Over the last 50 years, American society has undergone a gradual gender revolution, one that may have begun to overshadow earlier societal differences and debates by other demographic factors, like race, age and class. A continuing question during this revolution is whether women are making gains by reducing their time spent in more routine, onerous and labor-intensive aspects of daily life, particularly those associated with maintaining their family and household. An important question in this debate concerns how much these gender inequalities are felt both generally and momentarily by women as they engage in these largely gender-segregated daily activities.

Time-diary Studies: Until recently, most measures of the time men and women spend in work, family and free time settings were based on general long-term survey *estimate questions*, like their estimated hours spent working or doing housework, rather than on the more detailed accounts of feelings while doing their daily activities. In time diaries, respondents are asked to sequentially detail all their activities “in real time” for the previous 24 hours. By thus accounting for all their time in time diaries, survey respondents may be less prone to encounter problems of memory loss, stereotyping, self-projection or double counting of time than when they make general estimates.

Thus, time diaries represent a major scientific advance in addressing these gender-imbalance questions over this last half century. Being more specific and “in the moment”, diaries should provide a simpler, more basic and more reliable assessment of the time both women and men spend on these core household care activities. US diary accounts of daily activities were first reported in national time-use studies conducted by academic research centers at the University of Michigan in 1965 and 1975 and at the University of Maryland since 1985 (e.g., Szalai 1972; Juster and Stafford 1985; Robinson and Godbey 1999; Bianchi et al. 2006). Moreover, these diary data have now been harmonized and archived internationally at the Centre for Time-Use Research (CTUR) at the University of Oxford (Gershuny et al. 2001; 2015), and these archived diary data have documented a largely silent revolution toward gender equity in performing household and family care tasks -- not only in the United States but in other Western countries as well. In the US, for example, men now report doing nearly 40% of house and family care, about double the roughly 20% reported in 1965 (Fisher et al. 2007; Sullivan, et al. 2015).

These efforts to quantify daily life and its inequality in the societal division of labor have been further updated and expanded since 2003, with the advent of the American Time-Use Survey (ATUS). The ATUS has been conducting daily time-diary studies, as collected from large national probability samples by the US Census Bureau to document how American family life is changing in real time, and this ongoing project has now accumulated diary data from more than 145,000 diary respondents aged 15 and older since 2003.

Subjective Time Measures: But what about the psychological consequences of these activity time changes? How do women and men differ in how they feel as they go about their daily round of activities? To aid in the interpretation of such diary accounts, more than 25,000 of these ATUS respondents in 2012-13 were also asked how they felt

as they were engaging in these activities, using a Subjective Well-Being (SWB) index of six items, as described in Krueger et al. (2009). The full range of responses to each of these six SWB ratings used by respondents ran from 6.0 for having the maximum of that state (like very happy or very sad) and 0.0 for feeling none (not at all) of that state. That now makes it possible to identify which daily activities bring Americans most positive feelings -- and those which seem to most negatively affect their momentary subjective well-being (SWB).

This article first examines the diary daily activities that produced the highest and lowest SWB diary ratings for women and men, and indicates which diary activities are most correlated with these shorter-term momentary diary measures of SWB. The subsequent section then reviews its SWB relations with key demographic predictors.

To put these momentary ratings into a larger life perspective, a separate and more general SWB measure was asked in the 2012-13 ATUS, namely the “ladder scale” developed by Cantril (1965), on which respondents rated the overall quality of their lives on a 0-10 psychological ladder, on which 10 represented their best possible life and 0 their worst possible life. The average score on this ladder scale was 7.1, meaning that ATUS respondents also rated their general life feelings in positive terms. As a further general comparative SWB measure, parallel data are presented from a general happiness question, as asked since 1972 in the General Social Survey (GSS). With its national cumulative sample of more than 35,000 respondents, the GSS has a reputation as the major monitor of US social change (e.g., Marsden 2013).

The article then examines the comparative relation of both the activity diary ratings and the two general SWB ratings (the ATUS ladder and the GSS happiness question) measure with nine basic demographic predictors of SWB, namely gender, age, race, education, income, marital status, children, employment status and health. How then do these factors relate to respondents’ momentary (diary) feelings vs. when they are asked to rate their general overall SWB on the ladder and the GSS question?

The wording of these three different SWB questions (the diary ratings in ATUS, the ATUS general ladder scale and the GSS happiness question) is shown in Appendix B, along with the health status question used as a main predictor variable of these three SWB measures in the next section.

RESULTS:

Diary Activity Ratings: Turning first to the five diary SWB ratings in the 2012-13 ATUS, it can first be seen in the first five columns of Table 1 that these psychological ratings (like the general ladder measure) are rather positive. Despite the opportunity respondents are provided to report any negative experiences they may have encountered in their diary, around 70% or more of ATUS respondents reported the minimum value of zero feelings of being sad or in pain, and more than half reported experiencing zero stress -- or as being at the top two categories (5 and 6) for feeling happy. Many more respondents do report themselves as being tired, but a third of ATUS respondents report

zero fatigue on that scale. Thus, relatively few respondents reported experiencing even mild discomfort from engaging in their daily round of activities. As in the earlier academic national diary studies asking similar SWB questions, then, the first positive finding is that most respondents do not describe their everyday lives in critical terms.

(TABLE 1 HERE)

This analysis then focuses on what appear to be the most appropriate of these five SWB feelings for comparative analysis. Table 2 first shows the item inter-correlations of the five usable items, after discarding the uncorrelated “meaningful” item. Second, it shows that these other five items are significantly related to each other, enough so that they could be considered a unidimensional scale. However, the problem is that four of the five items in Table 2 (sad, pain, tired and stress) are phrased in the negative. With women scoring higher on all four of them, women would score more negatively than men on any overall SWB measure of feelings about daily life activities. Moreover, three of these negative four refer more to behavior or activity than to pure emotion. The remaining two – sad and happy -- thus offer more to recommend them as an overall measure of feelings or affect. First, both refer specifically to purely emotional rather than behavioral states. Second, as virtual antonyms, one is positive and one is negative, offsetting what could lead to an unfortunate “positivity response-set” in how respondents describe their feelings (Krosnick 1992). Moreover, it can be seen in the last column of Table 2 that the two items correlate .85 and .76 with a combined HAPSAD scale. Developing this index, then, simply involved taking the average score on the ratings for happy (4.3) and subtracting it from the average for sad (0.6) to arrive at an average HAPSAD score of about 3.7.

(TABLE 2 HERE)

Separate analyses show that this two-item antonym scale correlates very highly (.79) with a longer (but more negatively-worded) five-item scale, so that suggests one is not losing much interpretative power in terms of their correlations with activities, demographics or other factors. This is reinforced by a separate and more detailed analysis of the five-item scale, in which women do score lower overall, but with much the same activity enjoyment differences as in Table 3.

Diary Differences by Activity:

One convenient feature of this simple happy-sad index is that it minimizes any overall gender difference apparent across the full five items. Both men and women average 3.7 on the happy-sad scale. That may allow one to highlight any “pure” gender difference, that is, one that occurs *for the same activity*. Analyses by activity in Table 3 show that only a few activities are significantly different by gender at less than the .01 probability level, and that is mainly for women’s lower rating of household planning, car repairing and organization and help with children’s homework and for men’s lower rating of home decorating and refueling.

Table 3 identifies the specific diary activities that do bring about significant *activity* differences in the HAPSAD SWB ratings. Table 3 first ranks the main diary activities in terms of their associated HAPSAD ratings, with “purer” free time activities noted in boldface and with its overall HAPSAD average of 3.7 in place. It can be seen that all eight of the most positively (presumably most enjoyable) activities rate above the 4.0 rating for both women and men in the first column of Table 3 fall into the pure free-time category (or have a strong leisure component). That includes attending arts events (4.9), going for walks (4.5), being at religious services (4.4), socializing (4.4, with even higher ratings for social occasions that involve parties), working out (4.2) and playing games (4.1). The other two favorites in HAPSAD terms may be seen as more obligatory, but they also involve a strong leisure component – namely, playing with children, which is at the very top of the scale at 5.3, and walking/exercising dogs or other pets (4.2).

(TABLE 3 HERE)

The next set of seven most highly rated activities, in contrast, all involve various domestic obligations or endeavors, such as eating and drinking (4.0), home decorating (4.0), garden and outdoor care (4.0), meal preparation (3.9), non-grocery shopping for durable and other goods (3.9), other types of pet care (3.8) and helping children with their homework (3.8).

The following set covers a mix of free and more obligatory activities, ones that rate about 3.8, or just above the overall average rating of 3.7. These include listening to the radio or recordings, making telephone calls to friends and other non-family members, storing household goods, phone calls to family members, and reading for pleasure.

While all travel activity (at 3.7) is rated at about that of overall activity SWB average of 3.7, such travel for most free-time activities can rate well above average, especially if they connect these trips to popular free time activities, like playing with children, attending religious services or participating in other social activities. Conversely, travel can rate well below average, if the purpose of that trip involves such unpopular activities as housework, commuting to work (and especially job searches) and obtaining sick/health care.

Trips to lower SWB-rated activities: Below the 3.7 overall average are several free-time activities as ranked by HAPSAD in Table 3, such as relaxing (3.6), watching TV (3.5), communicating via email (3.5), as well as other computer use (3.5). Also just below average are the HAPSAD ratings for household planning (3.6), attending educational classes (3.6, which is still much higher than the even less popular schoolwork outside of class), outdoor cleaning (3.5) and car repairs (3.5).

Even lower diary SWB ratings are found for the various domestic chores of washing the dishes after meals (3.4), doing the laundry (3.2), other indoor house cleaning (3.3) and handling postal mail (3.1). Surprisingly, in this unpopular cluster as well are the various activities related to the central life concern of one’s paid work (3.4). Indeed, the only activities ratings less popular than paid work are the five at the very bottom of the

list – buying gas (2.8), paying household bills and finances (2.6), schoolwork related to classes (2.5), receiving health/sick care (1.8) and looking for a job (1.3).

As noted above, then, there are surprisingly few differences between men and women evident in these ratings, most notably involved in doing various household chores. Women do rate paying the household bills and helping children with their homework lower than men, but men give lower ratings than for women when refueling the car, decorating the home and going for a walk. Otherwise, gender seems to play a rather minor role in rating the SWB of most activities.

Before turning to the types of demographic respondents in Table 4 who gave the highest and lowest ratings on the Table 3 HAPSAD measure, it seems important to emphasize perhaps the most striking rating in Table 3 -- namely the very low ratings for paid work. Its low overall rating at 3.4 puts it at the same level as most household duties, which are usually afforded minimal social status in terms of central daily activities (but with the absolutely lowest rating that respondents assigned to searching for work (1.3)). The low diary SWB rating for paid work is not a conclusion that one would expect based on the steady survey literature on job satisfaction in the US workforce (e.g., Smith 2007).

Further noteworthy again is the lack of differences by gender in the last two columns on the right hand side of Table 3. These 0.1 to 0.3 differences pale in comparison to those by activity, which vary from 1.3 for job searching to 5.3 for playing with children. Perhaps most importantly, they do not point to women feeling dramatically less positive about doing household chores than men. Indeed, it can be seen that women actually report a little higher SWB than men while doing laundry, cleaning house, and doing grocery and other shopping. Mothers do report less SWB than fathers when playing with or monitoring children, but child play still remains among women's most favorite activities. Women also report feeling more content when taking classes and doing related schoolwork, and that may explain why their academic performance has outpaced men's. One prominent activity women do seem to dread more than men is household planning and organization, one of the few significant gender differences in Table 3.

Overall, then, women may remain stuck with having to do most of the routine, repetitive and least enjoyable daily activities on the right part in Table 3, but they don't seem to object to these activities more than men do. It may still come as small comfort that men's ratings of paid work are no higher than women's ratings of most home and family duties. Thus, one reason behind women's not being slightly higher on the HAPSAD ratings is because they take on more of the unpopular housework activities.

Demographic Predictors of Diary vs. General SWB Ratings:

As noted above, more than 25,000 ATUS respondents in 2012-13 were also asked to rate their overall SWB of their lives on a 0-10 "ladder scale", on which 10 represented their best possible life and 0 their worst possible life, with an average ladder rating of 7.1. Correlations between the ladder and both the happy (.031) and sad (-0.27) ratings are lower than their relation ($r=.36$) with the HAPSAD combined rating. This indicates there is a significant relation between the diary and general ratings, such that

people higher on the ladder scale reported higher diary ratings, and vice-versa. There is no way to separate which of these takes precedent, but one should not be surprised then to find both diary and general scores having similar demographic predictors in Tables 4-6.

Tables 4-6 display the differences on each of our three QOL measures by the background predictors of gender, age, race, education, income, marriage, children, employment and health. These tables show the differences first at the bivariate level (simply as found without the presence of other predictors) in the first column, and then after regression adjustment for the other predictors in the second (right-hand) column. Since there are many differences in the demographic composition of the US (by age, family structure, employment, etc.) of the population, it is possible that many of the differences in Tables 4-6 could be due to differences by these demographic factors and not to differences in that factor per se. For that reason, the ATUS data were subjected to a multiple regression program to control for these demographic factors. The regression program Multiple Classification Analysis (MCA) was developed for survey data like the ATUS by survey methodologists Andrews et al. (1972), and it has the advantage of showing the differences in ratings before and after adjustment for each of these grouped predictors of SWB (like those age 25-34, college graduates, etc.).

The demographic predictors included in this MCA adjustment thus take into account each respondent's other demographic background, meaning that the adjusted figures in Table 4 adjust for these other demographic differences. For example, differences by educational level could be due to higher income levels that might allow respondents to afford to engage in more expensive activities. Thus, the needed adjustment for that overlap is shown in the MCA-adjusted column of Tables 4-6, in order to highlight the most significant changes after this regression adjustment.

In general, then, only if the MCA-unadjusted differences in Table 4 are confirmed after MCA adjustment can one be sure they are not simply a result of the population being older, better educated, less employed and the like. These tables are presented in Table 4 for predicting the Table 3 HAPSAD diary measure, in Table 5 for the general ladder scale and in Table 6 for the GSS happiness question. Because of the far higher correlation of these items with the respondents' health, these MCA regressions are repeated in Appendix A, Tables 4a, 5a, and 6a for the remaining eight demographic predictors after health.

HAPSAD Diary Activity Scale: Table 4 shows that these adjusted HAPSAD diary scores relate significantly to most of these nine demographic predictors. The strongest relation is found for the respondent's health (BETA=.25), with those in excellent health scoring 4.7 (or .63 above the HAPSAD average of 3.78) and those in poor health 2.0 points below average, for an overall difference of 2.6 points. The next major predictor in Table 4 is marital status (BETA=.07), with married people scoring up to 0.31 points higher on the HAPSAD measure than the various groups of the unmarried. The next most significant predictor is age, with senior citizens age 65 and older scoring .47 above those middle aged (between 45 and 54). Following them are the college-educated, who although slightly above average before adjustment, are .35 points below those with less

than a high school education. Smaller differences are found by race (Blacks .30 above Whites), by parentage (those with children about .20 points above those without children), gender (women about .10 points above men) and family income (virtually no consistent high-low income difference).

(TABLE 4 HERE)

After removing the dominating power of health as a predictor in Table 4a, the picture changes a little. Marriage again emerges as the dominant predictor (BETA=.07), with a .36 higher SWB score among those married, as do age differences between the elderly and those aged 45-54; and those with higher income. Parents, even those with preschoolers, score above those without children, as do the employed over those not in the labor force and women over men. Education differences almost disappear, as do those by race.

Ladder Scale: Turning next to the ATUS general ladder predictors in Table 5, one finds that these predictors do play a slightly larger role than in Table 4. Health again emerges as the most dominant predictor (BETA =.34), even more so after MCA adjustment. Marital status again lags well behind (BETA=.12) as a predictor, with married people scoring approximately .50 higher than unmarried people (ladder average 7.1). Those past the retirement age of 65 again score higher than those younger (here aged 25-44), as do those with higher income, being .44 above those with lowest income. Women again score slightly higher than men after adjustment, while differences by education, race, parenthood, children and employment status tend to be less regular or insignificant.

(TABLE 5 HERE)

After removing the dominant effect of health as a predictor in Table 5a, marital status differences again come to the fore (but still with only an BETA value of .07), reflecting the .35 higher ladder score among those who are married. As in Table 5, the more elderly, more affluent, parents, women and the employed score slightly higher, with differences by race, education and employment being less significant or irregular. Much the same pattern, then, emerges if health is not included as a predictor in Table 5a.

GSS Happiness: Table 6 displays the parallel predictors for the happiness question on the 1972-2012 General Social Survey, with its overall sample of more than 35,000 respondents, along with its rather steady average of about 32% very happy across this period. Again, health dominates other predictors with a BETA of .25, reflecting the 47% very happy for those reporting their health as excellent vs. only 16% who report their health as poor, after MCA adjustment. Again marital status emerges as a strong second predictor with a BETA value of .20, reflecting the more 40% very happy proportion for those married vs. only about 20% for those no longer or never married. The .09 BETA correlation with age is next most prominent, again with the 40% very happy rate among those 65 or older being the main difference involved. The slightly higher “very happy rate for women (34%) than men (30%) after MCA adjustment is also

significant, if small. Otherwise, differences by race, employment, education, income and children are either irregular or insignificant.

(TABLE 6 HERE)

The only noteworthy change after health is removed as a predictor in Table 6a is the increased predictive power of income from a BETA of .05 to .08, which reflects the increased difference in very happy between those of highest- lowest income from 38%-32% before MCA adjustment to a 40%-28% difference after adjustment.

Thus, Tables 4-6 clearly identify health and then marital status as the major predictors of a higher SWB, both momentarily in the diary and in general. People are also higher in SWB if they are past retirement age, although being not employed does not seem that detrimental to one's SWB. Having a higher income does help being a little higher SWB, as does being a female (other factors equal), while relations with race, education, children, and employment tend to be irregular or insignificant.

Table 7 recapitulates these findings into a single comparative table showing the simple average MCA-adjusted values for each of the three SWB variables for each demographic predictor. First, health clearly emerges as the dominant predictor of all three SWB measures, with strong BETAs of .25, .34 and .22 respectively after MCA adjustment, indicating a notable convergence. Similarly, the significant BETAs for marital status (.07, .12 and .19) reflect the importance of being married vs. any unmarried state on all three SWB measures. Relations with the other predictors are also rather consistent, those elderly aged 65 or older reporting highest SWB, as do those with highest income and those who are either employed or not in the labor force.

(TABLE 7 HERE)

Surprisingly, despite being saddled with more of the unpopular household chores, and showing virtually no gender difference in the Table 3 diary ratings, women emerge as generally significantly (though slightly) *higher* in SWB than men, particularly after MCA adjustment (perhaps a function of their being older, in better health and not unemployed).

Some divergences do appear for the other predictors of education, race and children. Those with less education and Blacks both give higher SWB diary ratings and ladder ratings, but Blacks do express slightly lower happiness on the GSS question after MCA adjustment. Parents, especially those with preschoolers in the household, also report higher SWB diary ratings and ladder ratings, but slightly lower happiness on the GSS question after MCA adjustment.

SUMMARY AND CONCLUSIONS:

New subjective well-being (SWB) questions from the 2012-13 American Time-Use Survey (ATUS) SWB module provide the opportunity to capture how more than 25,000 ATUS respondents *momentarily* felt while engaging in various diary activities. Responses to these SWB ratings were predominantly positive, and formed multi-item measures that were significantly cohesive and unidimensional. The two most emotional items/states, happy and sad, were formed into a shorter HAPSAD scale to identify the diary activities that ATUS respondents found higher and lower in SWB terms. These ratings in Table 3 showed six free-time activities as highest in SWB: attending arts events, going for walks, being at religious services, socializing, other fitness activities and playing games, with two other favorites having a strong leisure component (namely playing with children and walking/exercising pets). Despite the gender inequalities in women doing most of the low-SWB household chores, men's and women's SWB ratings of these and most other daily activities were surprisingly similar

In addition to their momentary diary ratings, 2012-13 ATUS respondents were also separately asked to rate the *general* overall quality of their lives on a 0-10 "ladder scale", and a significant correlation ($r=.36$) was found between the momentary HAPSAD ratings and these general ladder ratings for ATUS 2012-13 respondents. In addition, correlates of these two SWB ratings were similar to responses of General Social Survey (GSS) samples when they were asked to rate their personal happiness on a three-point scale.

Recapturing findings from these three SWB into a single analysis showed respondents' health clearly emerging as the dominant predictor of all three SWB measures, with BETAs of .25, .34 and .22. Similarly, the significant BETAs for marital status (.07 .12 and .19) reflect the importance of being married vs. any unmarried state on all three SWB measures. Relations with the other predictors are also rather consistent, with those elderly aged 65 or older reporting highest SWB, as do those with highest income and those who are either employed or not in the labor force.

Surprisingly, despite their being saddled with more of the unpopular household chores, and showing virtually no gender difference in the Table 3 diary ratings, and women emerge as generally though slightly *higher* in SWB than men, particularly after MCA adjustment (perhaps a function of their being older, in better health and not unemployed).

Some minor divergences did appear for the other predictors of education, race and presence children, with the diary SWB ratings matching those from the ATUS ladder scale more than from the GSS happiness question.

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SCORE	*HAPPY	SAD	STRESS	PAIN	TIRED
n=	64,206	64,417	64,473	64,493	64,450
0	4	78	55	69	33
1	2	6	11	6	9
2	5	5	11	7	13
3	15	5	10	7	16
4	18	3	7	5	13
5	23	2	4	3	9
6	32	2	3	3	6
	100.0	100.0	100.0	100.0	100.0
MEAN (0-6)	4.4	0.6	1.2	0.9	2.2
Men	4.3	0.6	1.1	0.9	2.0
Women	4.4	0.6	1.3	1.0	2.3
(Women-Men) F=	134.4	54.2	174.3	163.1	402.0

Note: *Reverse scored with the other items, where 6 is the most positive and 0 most negative.

Table 2. Item inter-correlations, including HAPSAD, ATUS 2012-2013

SCORE	HAPPY	SAD	STRESS	PAIN	TIRED	HAPSAD
HAPPY	1.0000	-.309**	-.327**	-.159**	-.180**	.846**
SAD		1.0000	.497**	.356**	.273**	-.768**
STRESS			1.0000	.328**	.379**	-.499**
PAIN				1.0000	.341**	-.306**
TIRED					1.0000	-.274**
HAPSAD						1.0000

Note: N of cases: 64,094, 2-tailed Signif: * - .01 ** - .001

Table 3. Gender Differences on the Happy-Sad Index, ATUS 2012-2013

ACTIVITY	ALL	n=	MEN	WOMEN
READ/PLAY CHILD	5.3	550	5.3	5.3
ARTS*	4.9	69	5.0	4.7
WALKING	4.5	314	4.1	4.8
RELIGION	4.4	684	4.5	4.4
SOCIAL	4.4	2441	4.4	4.5
WORKING OUT	4.2	204	4.3	4.1
WALK PET	4.2	381	4.1	4.3
PLAY GAMES	4.1	558	4.1	4.1
EAT/DRINK	4.0	10095	4.0	4.1
HOME DECORATION	4.0	145	3.7	4.4
LAWN/GARDEN	4.0	619	4.0	4.0
MEAL PREPARATION	3.9	3635	3.8	4.0
SHOP	3.9	1604	3.9	3.8
PET CARE	3.8	584	4.0	3.7
HOMEWORK CHILD	3.8	167	4.4	3.5
RADIO/RECORDS	3.8	195	3.8	3.8
PHONE OTHERS	3.8	189	3.8	3.8
HOUSEHOLD STORING	3.8	228	3.7	3.8
PHONE FAMILY	3.8	309	3.8	3.8
READING	3.8	1215	3.7	3.8
AVERAGE	3.8	52064	3.7	3.8
ALL TRAVEL	3.7	9230	3.7	3.8
HOUSEHOLD PLAN	3.6	742	3.8	3.5
RELAX	3.6	1097	3.6	3.6
EDUC CLASS	3.6	181	3.5	3.7
EMAIL	3.5	252	3.6	3.5
TV	3.5	6223	3.6	3.5
OUTDOOR CLEAN	3.5	122	3.6	3.5
CAR REPAIR	3.5	142	3.6	3.2
GROCERY SHOP	3.5	650	3.6	3.4
COMPUTER	3.5	673	3.4	3.6
MEAL CLEANUP	3.4	1069	3.1	3.4
PAID JOB	3.4	3764	3.3	3.4
INDOOR HOUSEWORK	3.3	1458	3.2	3.3
LAUNDRY	3.2	935	3.1	3.3
POSTAL MAIL	3.1	174	3.1	3.0
BUY GAS	2.8	143	2.2	3.3
HOUSEHOLD FINANCES	2.6	155	2.9	2.3
EDUC SCHOOLWORK	2.5	302	2.5	2.4
SICK CARE	1.8	471	1.6	1.8
JOB SEARCH	1.3	95	1.2	1.5
*Note: free time activities in bold				

Table 4. Predictors of HAPSAD*, ATUS 2012-2013 (Grand Mean=3.83)

VARIABLE	CATEGORY	n=	UNADJUSTED	ETA	ADJUSTED	BETA	F=
Sex	Male	28509	-0.04	0.01	-0.06	0.02	36.91
	Female	35585	0.03		0.05		
Age	15-24	6283	0.12	0.06	0.07	0.06	28.25
	25-34	10463	0.16		-0.03		
	35-44	12556	0.05		-0.12		
	45-54	11430	-0.19		-0.16		
	55-64	10553	-0.19		-0.03		
	65-74	7430	0.12		0.25		
	75+	5379	0.05		0.31		
Education	< HS	8793	-0.09	0.02	0.16	0.05	26.79
	HS	16198	0.00		0.11		
	Some college	11317	0.00		0.02		
	Associates	6199	0.03		-0.02		
	Bachelors	13409	0.03		-0.14		
	Masters+	8178	0.02		-0.19		
Race	White	50879	0.00	0.02	-0.04	0.04	29.18
	Black	9490	0.05		0.23		
	Native	465	-0.06		0.16		
	Asian	2452	-0.02		-0.08		
	Other	808	-0.28		-0.17		
Children	None	46467	-0.09	0.06	-0.06	0.05	28.37
	Yes - 6 to 12	8256	0.11		0.10		
	Yes - under 6	5232	0.38		0.27		
	Yes, both	4139	0.26		0.17		
Income	Under 20K	12212	-0.32	0.07	-0.07	0.02	7.32
	20K-35K	11292	-0.05		0.02		
	35K-60K	14367	0.06		0.03		
	60K-100K	14028	0.16		0.06		
	100K+	12195	0.10		-0.05		
Marital status	Married	31091	0.19	0.08	0.16	0.07	52.96
	Widowed	5589	-0.11		-0.14		
	Divorced	9325	-0.29		-0.14		
	Separated	1796	-0.23		-0.05		
	Never married	16293	-0.13		-0.17		
Employment status	Employed	38811	0.08	0.04	0.02	0.01	5.54
	Unemployed	3429	-0.13		-0.10		
	Not in labor force	21854	-0.11		-0.03		
Health	Excellent	11424	0.60	0.25	0.63	0.25	946.57
	Very good	21662	0.31		0.32		
	Good	19700	-0.07		-0.09		
	Fair	8698	-0.79		-0.82		
	Poor	2610	-2.00		-1.99		

*Note: Happy – Sad, Multiple R Squared .075

Table 5. Predictors of LADDER*, ATUS 2012-2013 (Grand Mean=7.12)

VARIABLE	CATEGORY	n=	UNADJUSTED	ETA	ADJUSTED	BETA	F=
Sex	Male	28509	-0.09	0.04	-0.12	0.05	212.60
	Female	35585	0.07		0.10		
Age	15-24	6283	0.02	0.09	-0.04	0.13	104.77
	25-34	10463	-0.09		-0.20		
	35-44	12556	-0.04		-0.23		
	45-54	11430	-0.16		-0.13		
	55-64	10553	-0.12		0.04		
	65-74	7430	0.37		0.46		
	75+	5379	0.32		0.54		
Education	< HS	8793	0.08	0.08	0.44	0.10	106.95
	HS	16198	-0.09		0.06		
	Some college	11317	-0.19		-0.11		
	Associates	6199	-0.13		-0.16		
	Bachelors	13409	0.09		-0.15		
	Masters+	8178	0.30		-0.07		
Race	White	50879	0.02	0.02	-0.04	0.05	47.05
	Black	9490	-0.05		0.24		
	Native	465	-0.15		0.25		
	Asian	2452	-0.01		-0.13		
	Other	808	-0.35		-0.16		
Children	None	46467	-0.05	0.04	-0.04	0.03	17.20
	Yes - 6 to 12	8256	0.04		0.05		
	Yes - under 6	5232	0.16		0.12		
	Yes, both	4139	0.22		0.18		
Income	Under 20K	12212	-0.47	0.15	-0.20	0.08	70.39
	20K-35K	11292	-0.18		-0.11		
	35K-60K	14367	-0.02		-0.03		
	60K-100K	14028	0.18		0.09		
	100K+	12195	0.45		0.24		
Marital status	Married	31091	0.31	0.16	0.25	0.12	185.62
	Widowed	5589	0.06		-0.16		
	Divorced	9325	-0.42		-0.24		
	Separated	1796	-0.52		-0.23		
	Never married	16293	-0.31		-0.25		
Employment status	Employed	38811	0.04	0.09	0.01	0.07	187.43
	Unemployed	3429	-0.76		-0.60		
	Not in labor force	21854	0.05		0.08		
Health	Excellent	11424	0.81	0.33	0.82	0.34	1906.45
	Very good	21662	0.36		0.36		
	Good	19700	-0.18		-0.17		
	Fair	8698	-0.92		-0.96		
	Poor	2610	-2.07		-2.11		

*Note: Multiple R Squared .164

Table 6. Predictors of VERY HAPPY*, GSS 1972-2012 (Grand Mean=0.32)

VARIABLE	CATEGORY	n=	UNADJUSTED	ETA	ADJUSTED	BETA	F=
Sex	Male	17376	-0.01	0.02	-0.02	0.04	54.94
	Female	21684	0.01		0.02		
Age	15-24	4235	-0.06	0.06	-0.03	0.08	24.10
	25-34	8533	-0.01		-0.02		
	35-44	7792	-0.01		-0.03		
	45-54	6466	0.00		-0.02		
	55-64	5217	0.03		0.02		
	65-74	4097	0.05		0.07		
	75+	2720	0.02		0.08		
Education	< HS	9191	-0.02	0.07	0.01	0.02	4.00
	HS	20070	-0.01		-0.01		
	Associates	1965	0.00		0.01		
	Bachelors	5259	0.05		0.00		
	Masters+	2575	0.08		0.01		
Race	White	31859	0.02	0.09	0.01	0.03	19.83
	Black	5483	-0.10		-0.04		
	Other	1718	-0.04		0.00		
Children	None	27212	0.00	0.01	0.01	0.03	11.02
	Yes - 6 to 12	4969	-0.01		-0.01		
	Yes - under 6	3932	0.00		-0.03		
	Yes, both	2947	0.01		-0.03		
Income	Under 20K	9887	-0.08	0.14	-0.02	0.06	24.00
	20K-35K	7434	-0.04		-0.03		
	35K-60K	9583	0.02		0.00		
	60K-100K	5322	0.08		0.03		
	100K+	3111	0.13		0.06		
	Missing	3723	0.02		0.02		
Marital status	Married	21405	0.09	0.21	0.08	0.19	297.68
	Widowed	3825	-0.08		-0.12		
	Divorced	4631	-0.12		-0.10		
	Separated	1349	-0.16		-0.11		
	Never married	7850	-0.10		-0.08		
Employment status	Employed	23226	0.00	0.06	-0.01	0.05	31.57
	Unemployed	2087	-0.10		-0.05		
	Not in labor force	13747	0.02		0.03		
Health	Excellent	11968	0.14	0.22	0.14	0.22	610.46
	Good	17500	-0.03		-0.03		
	Fair	7388	-0.11		-0.12		
	Poor	2204	-0.14		-0.16		

*Note: Proportion of "Very Happy", Multiple R Squared .105

Table 7. Predicted Average Values of HAPSAD, LADDER, and VERY HAPPY

VARIABLE	CATEGORY	HAPSAD	LADDER	VERY HAPY
Sex	Male	3.77	7.00	0.30
	Female	3.88	7.22	0.34
Age	15-24	3.90	7.08	0.29
	25-34	3.80	6.92	0.30
	35-44	3.71	6.89	0.29
	45-54	3.67	6.99	0.30
	55-64	3.80	7.16	0.34
	65-74	4.08	7.58	0.39
	75+	4.14	7.66	0.40
Education	< HS	3.99	7.56	0.33
	HS	3.94	7.18	0.31
	Some college	3.85	7.01	N/A
	Associates	3.81	6.96	0.33
	Bachelors	3.69	6.97	0.32
	Masters+	3.64	7.05	0.33
Race	White	3.79	7.08	0.33
	Black	4.06	7.36	0.28
	Native	3.99	7.37	N/A
	Asian	3.75	6.99	N/A
	Other	3.66	6.96	0.32
Children	None	3.77	7.08	0.33
	Yes - 6 to 12	3.93	7.17	0.31
	Yes - under 6	4.10	7.24	0.29
	Yes, both	4.00	7.30	0.29
Income	Under 20K	3.76	6.92	0.30
	20K-35K	3.85	7.01	0.29
	35K-60K	3.86	7.09	0.32
	60K-100K	3.89	7.21	0.35
	100K+	3.78	7.36	0.38
	Missing	N/A	N/A	0.34
Marital status	Married	3.99	7.37	0.40
	Widowed	3.69	6.96	0.20
	Divorced	3.69	6.88	0.22
	Separated	3.78	6.89	0.21
	Never married	3.66	6.87	0.24
Employment status	Employed	3.85	7.13	0.31
	Unemployed	3.73	6.52	0.27
	Not in labor force	3.80	7.20	0.35
Health	Excellent	4.46	7.94	0.46
	Very good	4.15	7.48	N/A
	Good	3.74	6.95	0.29
	Fair	3.01	6.16	0.20
	Poor	1.84	5.01	0.16

APPENDIX A. Tables 4a-6a

Table 4a. Predictors of HAPSAD* Without Health, ATUS 2012-2013 (Grand Mean=3.83)							
VARIABLE	CATEGORY	n=	UNADJUSTED	ETA	ADJUSTED	BETA	F=
Sex	Male	28509	-0.04	0.01	-0.07	0.02	37.51
	Female	35585	0.03		0.05		
Age	15-24	6283	0.12	0.06	0.34	0.10	68.88
	25-34	10463	0.16		0.03		
	35-44	12556	0.05		-0.16		
	45-54	11430	-0.19		-0.26		
	55-64	10553	-0.19		-0.15		
	65-74	7430	0.12		0.29		
	75+	5379	0.05		0.35		
Education	< HS	8793	-0.09	0.02	0.01	0.02	4.14
	HS	16198	0.00		0.06		
	Some college	11317	0.00		0.01		
	Associates	6199	0.03		0.00		
	Bachelors	13409	0.03		-0.05		
	Masters+	8178	0.02		-0.08		
Race	White	50879	0.00	0.02	-0.03	0.04	20.09
	Black	9490	0.05		0.20		
	Native	465	-0.06		0.03		
	Asian	2452	-0.02		-0.10		
	Other	808	-0.28		-0.19		
Children	None	46467	-0.09	0.06	-0.07	0.05	30.73
	Yes - 6 to 12	8256	0.11		0.11		
	Yes - under 6	5232	0.38		0.27		
	Yes, both	4139	0.26		0.20		
Income	Under 20K	12212	-0.32	0.07	-0.26	0.06	40.90
	20K-35K	11292	-0.05		-0.05		
	35K-60K	14367	0.06		0.06		
	60K-100K	14028	0.16		0.14		
	100K+	12195	0.10		0.08		
Marital status	Married	31091	0.19	0.08	0.18	0.07	61.02
	Widowed	5589	-0.11		-0.13		
	Divorced	9325	-0.29		-0.18		
	Separated	1796	-0.23		-0.13		
	Never married	16293	-0.13		-0.18		
Employment status	Employed	38811	0.08	0.04	0.10	0.05	62.67
	Unemployed	3429	-0.13		-0.07		
	Not in labor force	21854	-0.11		-0.17		

*Note: Happy – Sad, Multiple R Squared .020

Table 5a. Predictors of LADDER* Without Health, ATUS 2012-2013 (Grand Mean=7.12)

VARIABLE	CATEGORY	n=	UNADJUSTED	ETA	ADJUSTED	BETA	F=
Sex	Male	28509	-0.09	0.04	-0.12	0.06	196.79
	Female	35585	0.07		0.10		
Age	15-24	6283	0.02	0.09	0.28	0.15	153.09
	25-34	10463	-0.09		-0.13		
	35-44	12556	-0.04		-0.27		
	45-54	11430	-0.16		-0.25		
	55-64	10553	-0.12		-0.09		
	65-74	7430	0.37		0.50		
	75+	5379	0.32		0.57		
Education	< HS	8793	0.08	0.08	0.27	0.06	46.23
	HS	16198	-0.09		0.00		
	Some college	11317	-0.19		-0.13		
	Associates	6199	-0.13		-0.13		
	Bachelors	13409	0.09		-0.04		
	Masters+	8178	0.30		0.07		
Race	White	50879	0.02	0.02	-0.03	0.04	29.34
	Black	9490	-0.05		0.19		
	Native	465	-0.15		0.11		
	Asian	2452	-0.01		-0.16		
	Other	808	-0.35		-0.19		
Children	None	46467	-0.05	0.04	-0.04	0.04	20.81
	Yes - 6 to 12	8256	0.04		0.06		
	Yes - under 6	5232	0.16		0.12		
	Yes, both	4139	0.22		0.22		
Income	Under 20K	12212	-0.47	0.15	-0.42	0.14	211.75
	20K-35K	11292	-0.18		-0.19		
	35K-60K	14367	-0.02		0.00		
	60K-100K	14028	0.18		0.17		
	100K+	12195	0.45		0.40		
Marital status	Married	31091	0.31	0.16	0.26	0.13	196.73
	Widowed	5589	0.06		-0.15		
	Divorced	9325	-0.42		-0.28		
	Separated	1796	-0.52		-0.32		
	Never married	16293	-0.31		-0.25		
Employment status	Employed	38811	0.04	0.09	0.09	0.08	176.05
	Unemployed	3429	-0.76		-0.57		
	Not in labor force	21854	0.05		-0.07		

*Note: Multiple R Squared .065

Table 6a. Predictors of VERY HAPPY* Without Health, GSS 1972-2012 (Grand Mean=0.32)

VARIABLE	CATEGORY	n=	UNADJUSTED	ETA	ADJUSTED	BETA	F=
Sex	Male	22945	-0.01	0.02	-0.02	0.04	69.11
	Female	29055	0.01		0.02		
Age	15-24	5498	-0.05	0.06	0.01	0.07	25.14
	25-34	11506	-0.01		0.00		
	35-44	10461	-0.01		-0.03		
	45-54	8505	0.00		-0.03		
	55-64	6868	0.02		0.00		
	65-74	5483	0.05		0.05		
	75+	3679	0.02		0.07		
Education	< HS	11897	-0.03	0.06	-0.01	0.03	11.40
	HS	26773	-0.01		-0.01		
	Associates	2704	0.00		0.01		
	Bachelors	7182	0.05		0.03		
	Masters+	3444	0.07		0.03		
Race	White	42525	0.02	0.09	0.01	0.04	34.25
	Black	7102	-0.10		-0.04		
	Other	2373	-0.03		-0.01		
Children	None	36387	0.00	0.01	0.01	0.03	13.22
	Yes - 6 to 12	6496	-0.01		-0.02		
	Yes - under 6	5236	0.00		-0.03		
	Yes, both	3881	0.01		-0.02		
Income	Under 20K	13261	-0.08	0.14	-0.04	0.08	50.98
	20K-35K	9809	-0.03		-0.03		
	35K-60K	12693	0.02		0.01		
	60K-100K	7013	0.08		0.04		
	100K+	4165	0.13		0.08		
	Missing	5059	0.02		0.01		
Marital status	Married	28287	0.09	0.21	0.08	0.20	401.22
	Widowed	5092	-0.08		-0.12		
	Divorced	6285	-0.12		-0.10		
	Separated	1801	-0.16		-0.12		
	Never married	10535	-0.10		-0.09		
Employment status	Employed	30934	0.00	0.06	0.00	0.03	24.08
	Unemployed	2795	-0.10		-0.06		
	Not in labor force	18271	0.02		0.01		

*Note: Proportion of "Very Happy", Multiple R Squared .060

APPENDIX B. Survey Questions

(1) ATUS Diary Well-Being Questions

Now I want to go back and ask you some questions about how you felt yesterday. We're asking these questions to better understand people's health and well-being during their daily lives. As before, whatever you tell us will be kept confidential. The computer has selected 3 time intervals that I will ask about.

Between [STARTTIME OF EPISODE] and [STOPTIME OF EPISODE] yesterday, you said you were doing [ACTIVITY]. The next set of questions asks how you felt during this particular time.

Please use a scale from 0 to 6, where a 0 means you did not experience this feeling at all and a 6 means the feeling was very strong. You may choose any number 0,1,2,3,4,5 or 6 to reflect how strongly you experienced this feeling during this time.

Happy: First, from 0 – 6, where a 0 means you were not happy at all and a 6 means you were very happy, how happy did you feel during this time?

Tired: From 0 – 6, where a 0 means you were not tired at all and a 6 means you were very tired, how tired did you feel during this time?

Stressed: From 0 – 6, where a 0 means you were not stressed at all and a 6 means you were very stressed, how stressed did you feel during this time?

Sad: From 0 – 6, where a 0 means you were not sad at all and a 6 means you were very sad, how sad did you feel during this time?

Pain: From 0 – 6, where a 0 means you did not feel any pain at all and a 6 means you were in severe pain, how much pain did you feel during this time if any?

(2) ATUS Well-Being Ladder

Please imagine a ladder with steps numbered from zero at the bottom to ten at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you.

If the top step is 10 and the bottom step is 0, on which step of the ladder do you feel you personally stand at the present time?

(3) GSS General Happiness Question

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?

(4) ATUS General Health Question

Would you say your health in general is excellent, very good, good, fair, or poor?

(5) GSS General Health Question

Would you say your own health, in general, is excellent, good, fair, or poor?