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WORKING PAPER

## **Measuring Social Well Being (SWB) in Real Time: 1975-2013 Trends in U.S. Diary SWB Ratings**

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MEASURING SOCIAL WELL-BEING (SWB) IN REAL TIME:  
1975-2013 TRENDS IN US DIARY SWB RATINGS

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ABSTRACT

As valuable as national time-diary data have been in documenting declines in women's housework, gains in parental child care and overall gains in free time, the Subjective Well-Being (SWB) implications for times spent on most daily activities (like eating or shopping) remain largely moot. Such SWB data can provide an important advance in translating time into affective terms, as when respondents report spending more time doing things they enjoy. It was hypothesized that diary activities considered as free time would be rated higher in SWB than those categorized as either work or personal care.

Subjective data on how respondents felt (in general) were first collected in a 1975 US national survey and directly in respondent diaries in its 1985 replication, and the two ratings correlated .59, despite their different time/measurement contexts. Since 2003, the American Time-Use Survey (ATUS) has replicated and expanded this national time series, as now conducted by the US Bureau of the Census. In 2010, the ATUS began supplementing these activity accounts with SWB questions on how these diary-keepers felt at the time. Analysis of the ATUS 2010-13 SWB ratings also largely replicated the enjoyment ratings in 1985 ( $r=.72$ ). As in these earlier diary studies, 2010-13 ATUS respondents rated social, religious and interactive child activities most positively, and their work and housework activities least positively. However, there were many personal activities that rated higher in SWB than certain free-time activities. One major trend difference is the notably lower SWB ratings for paid work and TV.

## INTRODUCTION

In their extensive review of measures of subjective well-being (SWB), Andrews and Robinson (1991, p.61) described SWB as “an important summing up of the quality of an individual’s life in a society ... that has sailed under at least three flags; mental health, quality of life and social gerontology, with ...most research done in the context of surveys or group-administered questions.” Moreover, most of this research (including the 11 multi-item scales they reviewed to measure SWB) has asked general questions or assessments or about general life quality (“Would you say you were very happy, somewhat happy or not very happy?”), without any specific time referent.

The present article compares three US national time-diary surveys (in 1975, 1985 and 2010-13) that have attempted to measure the Subjective Well-Being (SWB) in “real time”, that is in the context of daily time diaries in which Americans report all their activities over the previous 24 hours. These are presented under the hypothesis that respondents would rate higher enjoyment or SWB levels for diary activities classified as “free-time” rather than as work time or as personal care time. The first such SWB rating survey was conducted by the Survey Research Center of University of Michigan in 1975, in which 2006 respondents were asked simply to rate 22 different activities in terms of how much they enjoyed that activity *in general* on a 0-10 enjoyment scale, running from 0=dislike a great deal to 10=enjoy a great deal (see Appendix A, from Juster and Stafford 1985). Such general ratings could also be used as defining the SWB standards for activities in later surveys that should be expected to provide appropriate levels of SWB for that activity. Thus, if respondents rated the free-time activity of “going to church” as a 9 on that scale and rate a work activity like cleaning house as a 1, one would assume that diary respondents reporting going to church in subsequent diary studies would rate it a higher SWB level in their diary than those who report cleaning house.

Chart 1 outlines the different features of the 1975 survey in relation to those done in 1985 and 2010-13. Unfortunately, as Chart 1 indicates, this review is largely confined to surveys done in the US, although Gershuny (2012) reported parallel results in a 1986 UK survey, and the present authors have found parallel results from a 2010 national SWB diary survey in France, which are still under review. It is hoped that the present article will encourage researchers in other countries to pursue their own national SWB surveys.

### CHART 1 HERE

The second US national diary survey in 1985 was conducted at the at the Survey Research Center of University of Maryland a decade later, and its 2538 telephone respondents here were first asked to report all their different activities in a “yesterday” diary for the previous day, and then to rate each of them in terms of how much they enjoyed them, using the same 0-10 enjoyment scale as in 1975.

The third national telephone survey, conducted by the US Bureau of Labor Statistics for the US Census Bureau in 2010-13 with 36,088 former respondents in its Current Population Survey (CPS), was also based on ratings of specific diary activities,

but here involving five SWB ratings (shown in Table 3 below). Here, the respondents were asked to rate a random three of these reported diary activities (and not all diary activities like in the 1985 Maryland national survey).

Thus, the first two university-based surveys used the same 0-10 enjoyment rating scale, but for rated activities in general in 1975 vs. in relation to each of their diary activities in 1985. The 2010-13 survey also involved diary ratings, but on a new national sample using a set of five SWB rating scales (see Table 3 below) for just a random three of their “yesterday” diary activities. Since the three surveys used different ratings from different samples, and not a panel design, it is not possible to draw strict trend comparisons or possible causal inferences.

Underlying this analysis, of all three sets of SWB measures is the hypothesis that respondents would rate activities classified as “free” or less constrained more positively than activities classified as work or personal care, because of the greater degree of personal choice involved in engaging in free-time activities (rather than being dictated by role responsibilities or by the personal needs or comfort levels of other people). In other words, since all people need to sleep, eat or groom, or as parents to tend to or care for the basic needs of their children, it was expected that engaging in personal/child and work/housework/productive tasks would involve role responsibilities allowing less or minimal choice once in that role -- although with somewhat more choice or leeway possible in personal activities involving oneself or one’s children than for productive/obligatory activities, like paid work or housework. These distinctions can be captured in these three overarching diary activity coding categories, that is with least choice for productive purposes or work (paid work, domestic work, and shopping), somewhat more choice for personal/interactive (personal care and child care) and most choice for free time activities like socializing, recreation, and media use. To be sure, there are circumstances when diary activities may not fit neatly or unambiguously into one of these three categories (as when a respondent voluntarily chooses to work or sleep to achieve some personal goal rather than do something else, or watches a TV program or goes to a party because it is expected at work), but these can be seen as exceptions to that distinction, but one that cannot be reliably identified in the normal time-diary records available.

In the analyses that follow, this three-category distinction (work, personal and free) for the 1975 general ratings data on enjoyment is provided in Table 1, in Table 2 for the 1985 diary enjoyment ratings and in Tables 3-5 for the SWB five-item ATUS ratings scale. Further corroborating correlational data is shown in Figure 1 scatter-plots for the 1975-1985 comparison, and in Figure 2 for the 1985-2010-13 comparison. (A parallel Figure 3 is provided for a direct 2010-2012/13 comparison, when the same methods and coding are employed.)

Before proceeding to these analyses, a short, basic description of the time-diary methodology is reviewed.

## METHODOLOGY

*Time-diary Studies:* Unlike earlier measures of work, family and free time figures based on simple worker *estimate* questions on their work hours ( e.g., “How many hours did you work last week?”), or simple estimates of the hours people spend watching TV, more careful figures can be derived from time diaries. The great value of these diary accounts is that respondents report on *all* their daily activities, not just their work or TV time, which must add up to 24 hours. Using sequential diaries of all their daily activities, respondents are thus less prone to encounter problems of memory loss, self-projection or double counting of time than when they make time estimates. This is especially the case when the diary period only refers to a single day, and one that should be most vivid in their memory.

*Time-Diary Methodology:* The time diary is a micro-behavioral technique for collecting self-reports of an individual’s daily behavior in an open-ended fashion on an activity-by-activity basis. Individual respondents keep or report these activity accounts for a short, manageable period, such as a day — usually across the full 24 hours of a single day. In that way, the technique capitalizes on the most attractive measurement properties of the time variable, namely:

- \* All 24 hours of daily activity is potentially recorded, including activities in the early morning hours, when few respondents are awake.
- \* The 1,440 minutes of the day are equally distributed across respondents, thereby preserving the “zero sum” property of time that allows various trade-offs between activities to be examine; that is, if time on one activity increases, it must be zeroed out by decreases in some other activity.
- \* Respondents are allowed to use a time frame and an accounting variable that is highly familiar and understandable to them and accessible to the way they probably store their daily events in memory.

The open-ended nature of activity reporting means that these activity reports are automatically geared to detecting new and unanticipated activities (for example, in past decades, new activity codes had to be developed to accommodate aerobic exercises, use of e-mail, iPods and other new communications technologies).

What is needed to translate the activities in these diary data into SWB terms is some appropriate rating for each diary activity. In the 1975 data, that was provided by the general ratings questions shown in Appendix A. In the 1985 and 2010-13 data, that was provided by the ratings each respondent gave at the end of their full diary report, in 1985 using the respondents’ rating on the 0-10 enjoyment scale, and in ATUS 2010-13 on the five SWB ratings described in Tables 3 and 4 below.

*US National Time Diary Studies:*

National US time-diary studies have been conducted in roughly every decade since 1965 to document changes in the structure of American daily life, using standardized diary procedures first articulated by the prominent Hungarian mathematician and sociologist Alexander Szalai (1972). Szalai orchestrated and coordinated his pioneering 12-nation diary study in 1965, which was conducted independently in each country using the standardized activity coding that Szalai developed. It was conducted in the US by the academic survey firm at the University of Michigan in 1965 and was repeated there in 1975, with later national diary surveys at the University of Maryland in the 1980s and 1990s.

## RESULTS

*1975 Diary Study:* As noted above, subjective data on how these respondents felt about these diary daily activities were first collected in the 1975 study (in general) and in 1985 (in the diary), using the same 0-10 enjoyment scale shown in Appendix A. As can be seen in Table 1, the personal general activity codes rated in 1975 were over represented by child care activities, given the particular interest of economists who directed the study in activities involving children and their development (as “human capital” in economic parlance). It is clear in Table 1 that these turned out to be the highest rated (above 8.0 on the 0-10 scale) in terms of enjoyment in this 1975 survey. Next highest ratings were given to the free-time activities of conversations and outings (also about 8.3). At that point in Table 1, ratings for work and other personal care (like sleep, grooming and meals (each rated only in a 1981 re-interview survey with 613 of these same respondents) were at equivalent enjoyment levels, along with other free activities, like social entertaining, going to religious services and reading – average ratings at the 7.0-7.5 enjoyment level in Table 1.

### TABLE 1 HERE

The next activity distinction in the Table 1 ratings occurs at about the 6.5 level, which included other free time activities like hobbies, playing sports, movies and gardening, followed by the most time-involving free activity of the time, namely television. TV’s (5.9) enjoyment rating was at about same level as preparing meals (6.2). A further step down occurred for household repairs (5.1) and for organizations (5.0). Perhaps not surprisingly, the lowest levels of these listed general activities, then, were for the more mundane tasks of grocery and household shopping (4.6) and for cleaning house (4.2).

As a group, then, the lowest overall work ratings were for these domestic work activities in Table 1), with its overall average of 5.6. Because of the high popularity of each of the different aspects of child care, the personal/child activities rated highest (8.6 to 9.0), with the group of 12 free-time activities averaging more in the middle (at 7.0) -- opposite to our original hypothesis. Even with these few 1975 activities, and over-represented by pleasurable aspects of child care, then, it is already clear that there are certain personal daily activities (like child interaction and personal sleep) that many 1975 respondents rated as more enjoyable than what people may do in their free time.

*1985 Diary Ratings:* The Table 2 diary-based ratings reinforce that conclusion, by again showing that talking and playing with children emerge near the top of their list in diary enjoyment. They are surpassed only by the most enjoyable diary activity of sports participation (9.2). (The diary activity of sex was actually rated highest (9.4), but is not shown here because it is only available for 1985 diary ratings). Two other personal care activities, sleep and eating, were again rated highly by those who reported participating in them in their diaries, as were those diary participants who went to religious services, read books, walked and relaxed with other family members.

Close to these top ratings (8.0 and above), were reported for the free-time activities of TV viewing and newspaper reading (both 7.8). Close behind were the four other free activities of hobbies, exercise, meetings and gardening (7.1 to 7.3). At the next level down was, most prominently, paid work (7.0), followed by cooking, child supervision, shopping and personal grooming (about 6.5). Somewhat further down, at 5.5 or below, were the familiar housework tasks of grocery shopping, cleaning and the like, followed only at the very bottom of these enjoyment ratings, however, by laundry and health/sick care.

TABLE 2 HERE

Two discrepancies from Table 1 in particular stand out in Table 2, namely for work and TV. As in other studies of job satisfaction, workers in Table 1 may express high general job enjoyment (7.9) simply because they are happy just to have a paying occupation (or pleasant/supportive work environment), and despite the daily disasters and unpleasantness that often occurs at the workplace, as arise in the context of the diary (7.0 in Table 2). Conversely, there may be a general perception that most TV programs are a waste of time (6.0 in Table 1), but that “the programs I saw last night were pretty good” (7.8 in Table 2).

No matter what the context or time frame, however, child interaction and socializing remain at or near the top in both lists, while housework and other domestic chores as hypothesized remain more towards the bottom in terms of enjoyment however one looks at them. (Nonetheless, it is still the case most such housework still rates above the theoretical 5.0 midpoint (average) of both 1975 and 1985 0-10 enjoyment scales).

*SWB Ratings in ATUS 2010-13:* One obvious distinction between the single enjoyment ratings in Tables 1 and 2 and the 2010-13 SWB diary ratings, described in Tables 3-5, is that they are asked on five different 0-6 unipolar scales described in Tables 3 and 4, not on the single 0-Dislike to 10-Enjoy scale for all activities. This greater breadth and coverage of emotions, however, meant that they could only be asked for a random three of the activities in the 2010-13 diaries.

These five adjective feelings items were based on a promising set of pilot-study results by a Princeton University-led team of prominent social scientists (e.g., Krueger et al. 2009; Kahnemann et al. 2004), and the 2010 ATUS began supplementing their time-

diary accounts by asking respondents these psychological Subjective Well-Being (SWB) questions on how they felt as they were engaged in these random three diary activities. After first reporting all their activities in the diary as in 1985, then, ATUS respondents were asked how they felt while doing them, using the five adjective scales that ran from a score of 0 (for “not at all” feeling that on the scale) to 6 (for very much having that feeling).

After excluding a sixth adjective (“meaningful”) that did not correlate with the other five, the distribution of their responses to the other five scales (sad, pain, tired, stress and happiness) are shown in Table 3, along with their overall average scores on its 0-6 scale. At the same time, Table 3 indicates the aversion most ATUS respondents felt about rating daily activities negatively. Thus, more than 70% of respondents gave absolute zero ratings to the adjectives “sad” and “tired” in rating their daily activities. Many such item and scaling concerns were raised about the Princeton approach team in a 2009 issue of *Social Indicators Research* by Michelson (2009), Bittman (2009), Juster (2009) and Gershuny (2009).

TABLE 3 HERE

However, Table 4 shows that these five disparate items/adjectives of well-being are still significantly related to each other (with correlations from 0.17 to 0.49, all significant well beyond the .001 confidence level, despite their covering at least some “of the variety of (both positive and negative) emotions that people experience” that Diener (1994) identified. Indeed, in the last column of Table 4, it can be seen that these five items can be reduced to form a single dimension of SWB, using the factor analysis program in SPSS (which stated it could not rotate its one factor solution from the correlation matrix in Table 4). This summation into a single scale is further supported by the high item-scale correlations of 0.57 to 0.75 in Table 4. Along with its .70 coefficient alpha value, that provides the justification for summing the five items into a single overall SWB index, potentially running from 0 (most positive on all 5) to 30 (most negative on all five), with the average score of 3.4 in Table 5 indicating how strongly positively each diary activity was rated. As shown by taking the 4.3 average on the happy scale, and subtracting the negative scores for pain, sad, stress and tired, and then adding a 4.0 constant to provide most scores with a positive value, the resulting average for all ATUS activities is 3.4, with a maximum score of 6.0 and a minimum of 0.

TABLE 4 HERE

These five items do inter-correlate about as well as other accepted scales in the attitude literature, like for self-esteem or trust in people. Thus, a higher positive score for each activity thus reflects a higher SWB, as will be described in more detail below. These are shown for 28 main ATUS activities in Table 5.

As in Tables 1 and 2, Table 5 again shows that play activities with children, along with meals out, rate near the top with an SWB score of 5.4, as does the free-time activity of religious attendance (5.6) and that is well above the 4.2-4.6 scale scores for the next

set of free-time activities of playing sports, walking and socializing, along with the personal activity of talking/reading to children. Next behind them are the 3.9 ratings for general caring for children and for the free-time ratings for reading and hobbies, along with the 3.7 rating for general (non-food) shopping.

#### TABLE 5 HERE

The next layer of SWB ratings is for the personal care activities of physical care for children and eating meals at home, along with the free-time activities of exercising and organizational participation.(3.4-3.6). That is closely followed by the 2.8 to 3.0 ratings for telephone calls and the household tasks of preparing meals, doing yardwork, helping others, doing household repairs and grocery shopping.

Leading the bottom part of the list is the main free-time activity of TV viewing, which is rated just above the average for other housework activities, laundry, commuting to work, car repairs and basic house cleaning. At the very bottom of this Table 5 SWB list, then, is paid work, followed only by handling and paying household bills and finances.

Overall, then, this detailed ordering of activity SWB scores in Table 5 emerges as hypothesized for work activities, with paid and domestic working activities averaging 2.6 on the SWB. On the other hand, personal care to one's self and one's children is rated slightly above (3.5) the mean for free time activities (at 3.4) at the top of these overall means, indicating that personal and free activities are basically equivalent. Moreover, as any perusal of Table 5 makes clear, there are enough interesting exceptions to either order to not take this distinction seriously. (Further, if the 2010-13 unrated ATUS activities of sleep and grooming were to maintain their high ratings as in Tables 1 and 2, personal care activities would inch even higher in Table 5).

*Bivariate Scatter Plots:* Perhaps a better appreciation of the Table 1-5 convergent results can be obtained by plotting the pairs of average SWB values across the two comparison periods (years 1975-1985 and years 1985-2010-13), as is visualized in Figure 1 (for the 0-10 enjoyment ratings in 1975 and 1985) and in Figure 2 (for the enjoyment diary ratings in 1985 vs. the 0-6 SWB ratings in 2010-13).

Figure 1 shows the scatterplots for 1975 and 1985, with its significant overall correlation  $r$  of 0.59. It is clear from the main dispersions around the regression line in Figure 1 that its relatively low value may be due more to the extent of dispersion of its high or low values, rather than inconsistencies in its ranking of these activities. Thus, the projections onto the resulting regression line values agree that play, talk and care of children, along with talks with friends, going to church and home meals rate at the top of enjoyment, while shopping and cleaning house are at the bottom, much as evident in Tables 1 and 2. It is also possible that that the higher than average enjoyment of the sports, church and movie ratings are because these are ratings of users and not of many of those who do not attend or play. Likewise, the lower than projected diary ratings for

shopping, cleaning, repairs and child care may also be due to those who do them less often. Nonetheless, a correlation near .60 is relatively rare in the social sciences.

FIGURE 1 HERE

The correlation is higher (.72) for the 1985 to 2010 comparison in Figure 2, perhaps because they are both rated in the “real-time” context of the time diary. In both diaries, religious, sports and play with children rate highest in both the 1985 enjoyment ratings and the 2010-13 SWB scales. Socializing, family interaction, eating out and reading (print medium not identified in the ATUS) also near the top in both years, although being more than 30 years apart). At the other end of this SWB progression regression line is a variety of mundane domestic tasks.

FIGURE 2 HERE

Also contributing to a lower correlation are the surprisingly lower SWB ratings in 2010-13 for work, TV and paying bills than 35 years earlier. It would appear that these activities have encountered a new “revolution of rising expectations” as far as public feelings about them are concerned. The notable drop in work SWB ratings is not consistent with the rather constant levels of job satisfaction in the recent literature (e.g. Smith 2007; GSS 2014). Television critics continue to praise the high quality programs (like *60 Minutes* or *The Simpsons*), on regular television, but particularly recent shows on cable TV, like *The Sopranos*, *Mad Men* and *Throne of Gods*. Advances in home computing and Internet programs should have eased users’ lives with simplified and organized bill paying programs.

Nonetheless, the rather ordered comparative ratings of the two sets of 1975-1985 and 1985-2010/13 in Figures 1 and 2 further indicate the basic consistency of results in Tables 1, 2 and 5. Despite the differences in activities and rating schemes, they tell much the same story of overall convergence. Figure 3 provides a parallel picture for the 2010 vs. 2012-13 comparison, with its promising correlation of .94, when the same organization collects and codes the data – which should be the case in future ATUS surveys.

FIGURE 3 HERE

## SUMMARY AND CONCLUSIONS

This review has identified some parallel findings from three different diary surveys conducted in years 1975, 1985 and 2010-13, using different procedures intended to identify daily activities that respondents in national probability samples rate as higher or lower in SWB terms. Unfortunately, the three studies use different methods so they cannot be used to draw trend comparisons about whether US daily life has become more or less enjoyable. However, they do suggest some common conclusions about *which daily activities* respondents find most positive or enjoyable.

Tables 1-2 and Figure 1 show that national US respondents do tend to rate their enjoyment from daily activities rather similarly (correlation of 0.59) when asked in rather different contexts, either in their 1975 general ratings or in the more immediate “real time” context of the 1985 time diary. There are two major and important exceptions to this, which have plausible explanations, perhaps because workers may tolerate the ups and downs of daily work life or because of work’s other side benefits (income, co-workers, predictability, etc.), and because diary TV viewers may appreciate its predictability and its lack of challenge.

The new SWB scales in Table 5 from the 2010 ATUS do provide a more diverse, nuanced and perhaps richer opportunity to measure the public’s SWB during different activities. Yet, using this new five-item SWB scale, these national ATUS ratings of activities in Table 5 largely replicate many of the previous feelings about engaging in various daily activities, as apparent in Tables 1 and 2. Social and visiting activity, interactive activities with children, religious/volunteer activities and sports activities top the list of favorite daily activities as rated in the diary, as well as in general. Routine household tasks and attending to medical and other personal needs rate nearer the bottom.

What may be most interesting, surprising – and troubling -- in these recent ATUS ratings, however, is the notably lower SWB ratings given to paid work activities. This perhaps reflects a disturbing trend in jobs (especially as it may also affect moonlighting on second jobs and job searches), which often are taken simply to meet one’s basic financial needs. The finding that these ratings are so far below those in Table 1 (and Table 2) remains a cause for concern. These findings are also at odds with responses US workers give to other general survey questions about the role and importance of work in their lives (Smith 2007).

Of further concern is the below average ratings given to Americans’ most prevalent free-time activity of TV viewing. TV may serve to offset the even-lower rated activity of paid work, but it still rates notably lower than almost all other choices of a free-time activity. Earlier results from Kubey and Csikszentmihalyi (1990) suggested TV was not that much lower in enjoyment ratings than other activities, but that it was more deficient on adjectives “challenging” and “alertness” (items not included in the present SWB ratings). Thus, both findings suggest that engaging in more active free-time activities could be one road to improving America’s collective SWB.

This latter finding can also be seen as consistent with studies that have examined the activity-happiness connection in the longer term by using more general questions, such as those asked in the General Social Survey (GSS) since 1972. Robinson and Martin (2008) found that GSS respondents who estimated they generally watched more television reported significantly lower levels of happiness than those who watched less (education, income and other demographics controlled). Moreover, those who were more active in social life, attending religious services and reading newspapers reported higher happiness levels – as in the present diary surveys. In other words, the present diary data are consistent with findings from longer-term, more general data that suggest that people who are more active or social in their free time report higher SWB levels than those less

active or less social. Nonetheless, as in these present surveys, this remains correlational evidence, without causal implications. In other words, it could be that unhappier people chose to spend their by watching more TV or being less active, rather than the reverse.

## REFERENCES

- Andrews, Frank and John Robinson (1991) "Measures of Subjective Well-Being". in John Robinson, Philip Shaver and Lawrence Wrightsman *Measures of Social Psychological Attitudes*. Academic Press: San Diego CA
- Bittman, Michael (2009) Comment on "Comparing Time Use and Subjective Well-Being in Two Countries" *Social Indicators Research* 93: 33-35
- Gershuny, Jonathan (2009) "Comment on Krueger and Colleagues" *Social Indicators Research* 93: 23-26
- Gershuny, Jonathan. (2012). "National Utility: Measuring the Enjoyment of Activities". *European Sociological Review*. 10: 1093 1-17
- Juster, Tom (2009) "Some Perspectives on the Study of Time Use" *Social Indicators Research* 93: 19-21
- Juster, Tom and Frank Stafford. 1985. *Time, Goods, and Well-Being*. Ann Arbor: Survey Research Center, Institute for Social Research, University of Michigan.
- Kahneman, Daniel, Alan B. Krueger, David A. Schkade, Norbert Schwarz and Arthur A. Stone. 2004. "A Survey Method for Characterizing Daily Life Experience: the Day Reconstruction Method" *Science* 306(5702): 1776-1780
- Kreuger, Alan. et al. (2009) "Comparing Time Use and Subjective Well Being in Two Countries." *Social Indicators Research* 93: 1-17
- Kubey, Robert and Mihalyi Csikszentmihalyi (1990) *Television and the Quality of Life* Hillsdale, NJ: Erlbaum
- Michelson, William. (2009) "Adding Affect to Time Diary Accounts" *Social Indicators Research* 93:31-32
- Robinson, John (1993) "As We Like It." *American Demographics*, Feb. p. 44-48.
- Robinson, John and Geoffrey Godbey. 1999. *Time for Life: The Surprising Ways Americans Use Their Time*. 2<sup>nd</sup> edition. University Park, PA: Pennsylvania State University Press.
- Robinson, John and Steven Martin (2008) "What Do Happy People Do?" *Social Indicators Research* 89:565-571
- Smith, T. (2007) "Job Satisfaction in America". *National Opinion Research Center*. University of Chicago.
- Szalai, Alexander, ed. 1972. *The Use of Time: Daily Activities of Urban and Suburban*

*Populations in Twelve Countries.* The Hague, Paris: Mouton.  
**CHARTS, TABLES AND FIGURES**

Chart 1. Survey Features of 1975, 1985 and 2010-2013 National Surveys

Year	1975	1985	2010-2013
Source	University of Michigan	University of Maryland	US Bureau of Census
Survey Mode	Telephone Random Probability	Telephone Random Probability	Telephone Random Probability
n=	2001	2538	36088
Activity question time frame	General	Yesterday diary	Yesterday diary
Activities covered	22 in Appendix A	All activities in the diary	Random three in the diary
Rating scale	0=Dislike a great deal 10=Enjoy a great deal	0=Dislike a great deal 10=Enjoy a great deal	0=Not at all 6=Very

Table 1. 1975 (0-10) General Enjoyment Ratings by Type of Activity

<b>WORK/HOUSEWORK (6)</b>	<b>PERSONAL/CHILD (7)</b>	<b>FREE TIME (12)</b>
PAID WORK (8.0)	KID TALK (9.0) KID CARE (8.9) KID TRIPS (8.8) KID PLAY (8.6)	FRIENDS TALK (8.3) OUTINGS (8.2)
COOKING (6.2)	*SLEEP (7.5) *EATING (7.4) *GROOM (7.4)	ENTERTAIN (7.6)
REPAIRS (5.1)		CHURCH (7.3)
GROCERY SHOP (4.6)		NEWSPAPERS (7.1)
OTHER SHOP (4.3)		READ BOOKS (7.0)
CLEAN HOUSE (4.2)		HOBBIES (6.8)
		PLAY SPORTS (6.5)
		MOVIES, PLAYS (6.5)
		GARDENING (6.4)
		TV (5.9)
		ORGANIZATIONS (5.0)
<b>MEAN = (5.6)</b>	<b>MEAN = (8.8)</b>	<b>MEAN = (7.0)</b>

\* Ratings obtained in a 1981 panel from the 1975 survey respondents.

Table 2. 1985 (0-10) Diary Enjoyment Ratings by Type of Activity

<b>WORK/HOUSEWORK (12)</b>	<b>PERSONAL/CHILD (10)</b>	<b>FREE TIME (15)</b>
		PLAY SPORTS (9.2)
	KID PLAY (8.8)	
	SLEEP (8.5)	MOVIES, ARTS (8.5)
		CHURCH (8.5)
	KID TALK (8.4)	
		BOOKS (8.3)
		WALK (8.2)
		SOCIALIZE (8.2)
		RELAX (8.2)
		FAMILY (8.0) X
	EATING (7.8)	TV (7.8)
		NEWSPAPERS (7.8)
		HOBBIES (7.5)
	TELEPHONE (7.2)	EXERCISE (7.2)
		MEETING (7.2)
		GARDENING (7.1)
		OUTINGS (7.1)
WORK (7.0)		
COOK (6.6)	KID CARE (6.9)	
SHOP (6.6)	KID TRIP (6.6)	
PET CARE (6.0)	GROOM (6.5)	
REPAIRS (5.5)		
GROCERY SHOP (5.5) X		
PAY BILLS (5.2)		
OTHER SHOP (5.1)		
YARD (5.0)		
DISHES (4.9)		
HOUSEWORK (4.9)		
LAUNDRY (4.8)	HEALTH CARE (4.8)	
<b>MEAN = (6.2)</b>	<b>MEAN = (7.3)</b>	<b>MEAN = (7.8)</b>

Table 3. Percent of responses, each SWB scale score, ATUS 2010-2013

<b>SCORE</b>	<b>*HAPPY</b>	<b>SAD</b>	<b>STRESS</b>	<b>PAIN</b>	<b>TIRED</b>
N=	78,398	78,539	78,568	78,577	78,559
0	4.2	77.6	51.5	69.9	30.1
1	2.0	6.2	11.3	6.5	9.6
2	5.4	5.3	12.1	6.5	13.9
3	15.7	4.6	10.2	6.2	16.7
4	18.9	2.7	7.0	5.0	14.0
5	23.4	1.8	4.3	3.2	9.1
6	30.4	1.8	3.5	2.6	6.7
<b>MEAN (0-6)</b>	<b>4.4</b>	<b>0.6</b>	<b>1.4</b>	<b>0.9</b>	<b>2.3</b>

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

Table 4. SWB item inter-correlations, including SWB, ATUS 2010-2013

SCORE	HAPPY	SAD	STRESS	PAIN	TIRED	SWB	Factor
HAPPY	1	-.318**	-.329**	-.167**	-.172**	.577**	-0.552
SAD		1	.373**	0.356	.266**	-.691**	0.752
STRESS			1	.330**	.365**	-.755**	0.775
PAIN				1	.338**	-.652**	0.653
TIRED					1	-.679**	0.622
						<b>ALPHA=</b>	<b>0.70</b>

Note: N of cases: 78,202 , 2-tailed Signif: \* - .01 \*\* - .001

Table 5. 2010-2013 ATUS DIARY SWB RATINGS

<b>WORK/HOUSEWORK (13)</b>	<b>PERSONAL/CHILD (6)</b>	<b>FREE TIME (9)</b>
		RELIGIOUS (5.6)
	KID PLAY (5.4)	
	MEALS OUT (5.4)	
	KID TALK/READ (4.3)	PLAY SPORTS (4.6)
	KID CARE (3.9)	WALKING (4.3)
SHOP OTHER (3.7)		SOCIALIZE (4.2)
		READ (3.9)
		HOBBY (3.8)
		EXERCISE (3.6)
COOK (3.3)	MEALS HOME (3.5)	
YARD (3.2)	BABY CARE (3.4)	ORGANIZATIONS (3.4)
	TELEPHONE (3.0)	
HELP (2.9)		
HH REPAIR (2.9)		
GROCERY SHOP (2.8)		TV (2.6)
OTHER HOUSE (2.5)		
LAUNDRY (2.5)		
COMMUTER (2.5)		
CAR REPAIR (2.4)		
HOUSEWORK (2.3)		
WORK (1.7)		
BILLS (0.7)		
<b>MEAN =(2.6)</b>	<b>MEAN =(3.5)</b>	<b>MEAN =(3.4)</b>

Figure 1. 1975 vs. 1985 ratings

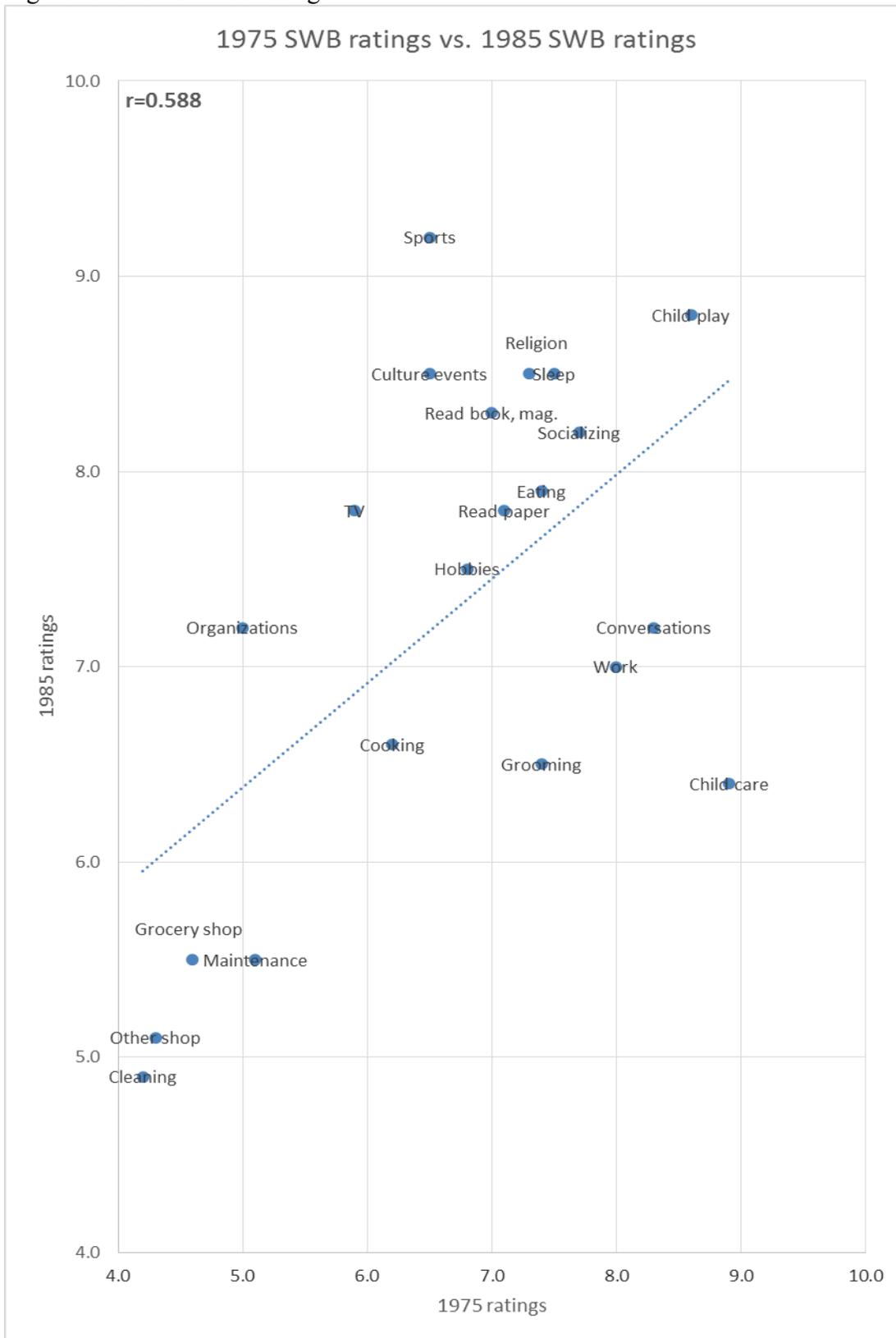


Figure 2. 1985 vs. 2010 ratings

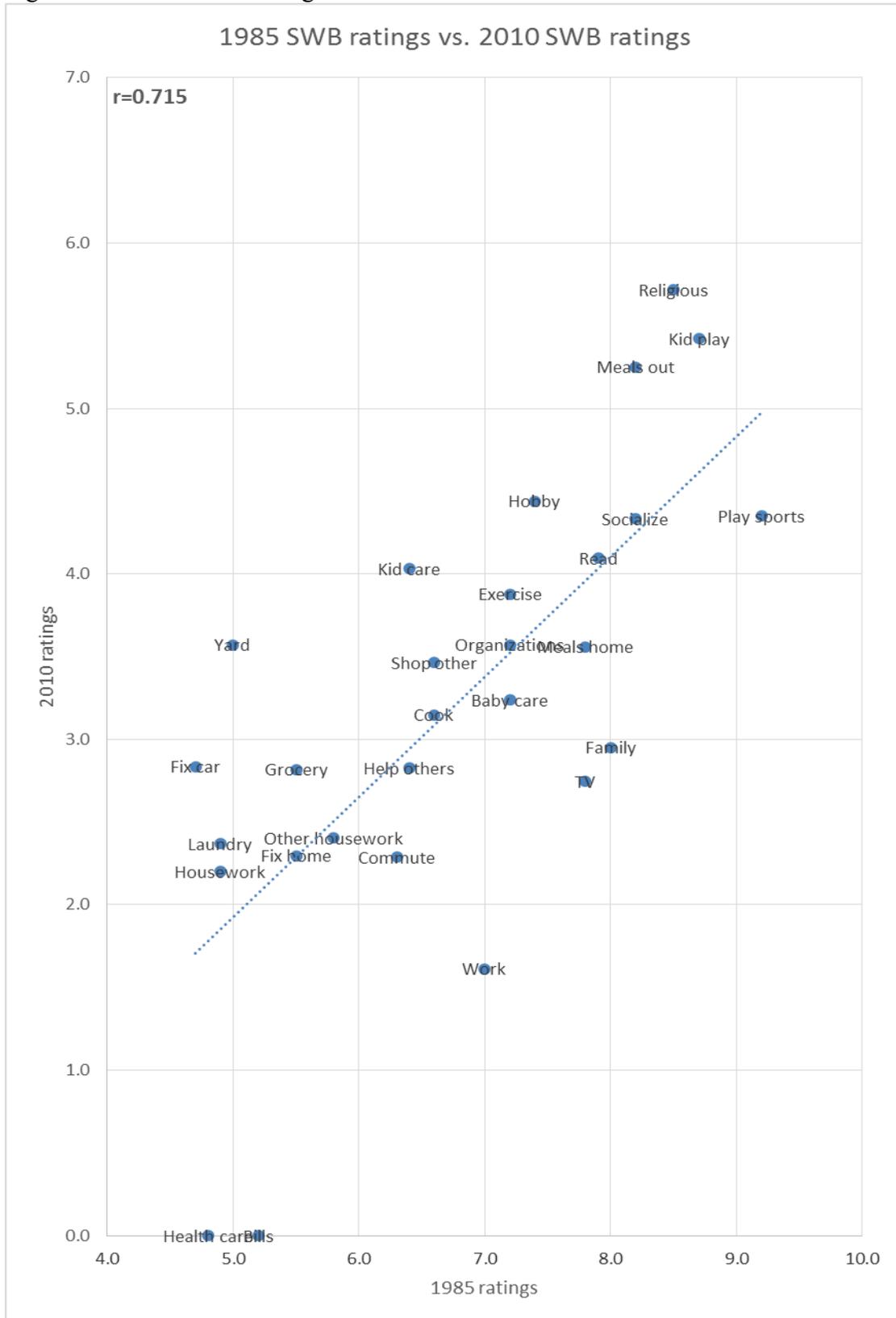
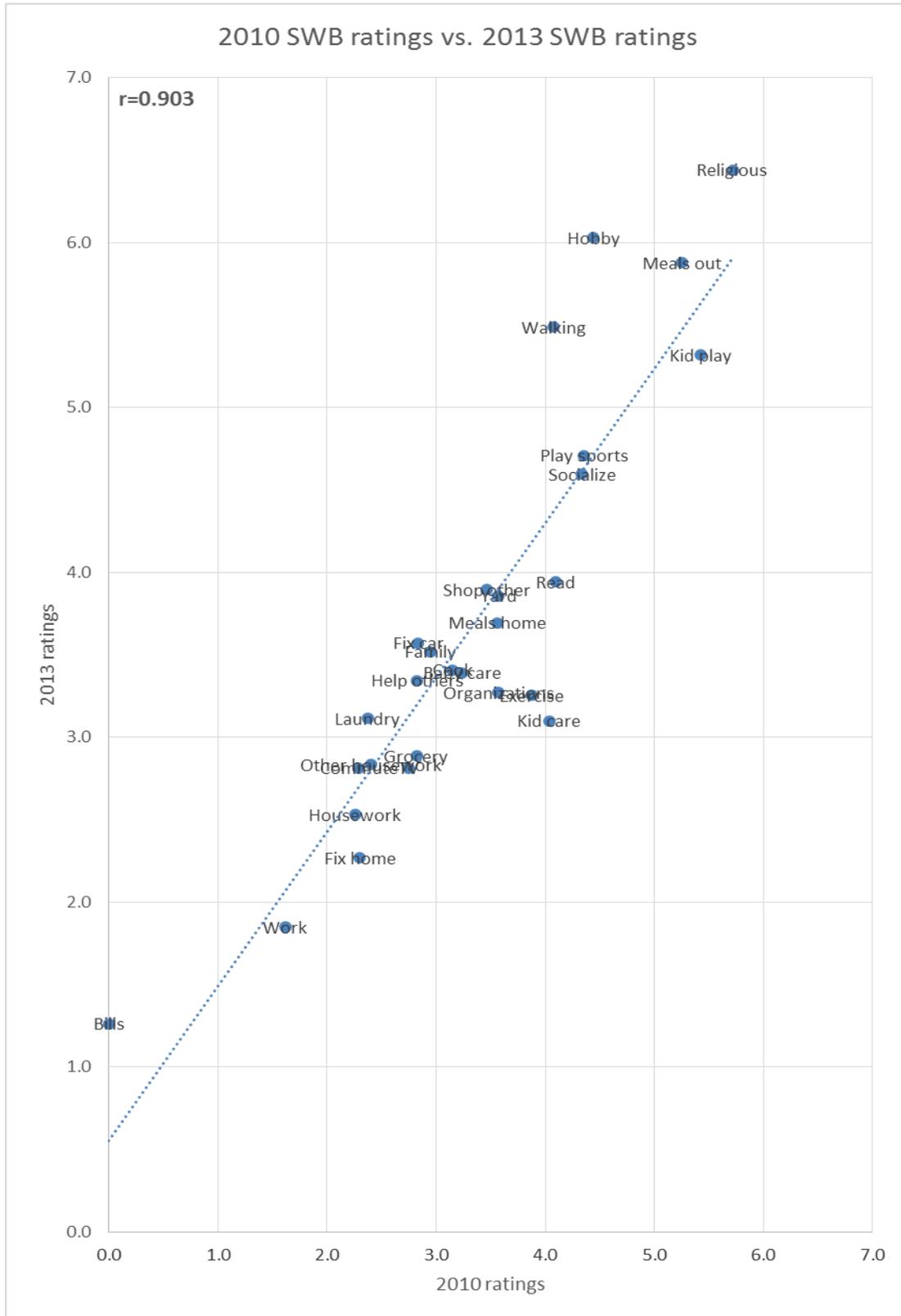


Figure 3. 2010 vs. 2013 ratings



## APPENDIX A. 1975 GENERAL ENJOYMENT QUESTION

### SECTION H: CONSUMPTION BENEFITS

Now we'd like to know whether you enjoy doing some of the activities we have just talked about. Think about a scale, from 10 to zero. If you enjoy doing an activity a great deal, rank it as 10; if you dislike doing it a great deal, rank it as 0; if you don't care about it one way or the other, rank it in the middle, as 5. For example, if you like it some, you might rank it 6 or 7. Keep in mind that we're interested in whether you like doing something, not whether you think it's important to do.

IF R NEVER DOES THE ACTIVITY, ENTER A DASH "--"

Rating:	10	9	8	7	6	5	4	3	2	1	0
	ENJOY A					DISLIKE A					
	GREAT DEAL					GREAT DEAL					

How much do you enjoy ...

H1. Cleaning the house .... \_\_\_\_

(ASK EVERYBODY)

H2. Cooking ..... \_\_\_\_

How much do you enjoy ...

H3. Doing repairs  
around the house ..... \_\_\_\_

H13. Talking with friends  
or neighbors ..... \_\_\_\_

H4. Making things for  
the house ..... \_\_\_\_

H14. Entertaining in  
your home ..... \_\_\_\_

H5. Gardening ..... \_\_\_\_

H15. Going to church ..... \_\_\_\_

H6. Grocery shopping ..... \_\_\_\_

H16. Working in clubs and  
social organizations.. \_\_\_\_

H7. Other kinds of  
shopping ..... \_\_\_\_

H17. Watching TV ..... \_\_\_\_

(IF R WORKS)

H18. Reading the paper .... \_\_\_\_

H8. Your job ..... \_\_\_\_

H19. Reading books or  
magazines ..... \_\_\_\_

(IF R HAS CHILDREN)

H20. Playing active  
sports or games ..... \_\_\_\_

How much do you enjoy ...

H21. Going out to movies,  
plays, sports events.. \_\_\_\_

H9. Taking care of  
your children ..... \_\_\_\_

H22. Going on trips  
or outings ..... \_\_\_\_

H10. Playing games with  
your children ..... \_\_\_\_

H11. Talking with your  
children ..... \_\_\_\_

H12. Taking your  
children places ..... \_\_\_\_