

The Panel Study of Income Dynamics

Supplement on Disability and Use of Time (DUST)

User Guide

Release 2009.1

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April 9, 2012

This manual was prepared with funding from the National Institute on Aging P01 AG029409; Project 4. This document should be cited as follows: Freedman, VA, Cornman JC. 2012. The Panel Study of Income Dynamics' Supplement on Disability and Use of Time (DUST) User Guide: Release 2009.1. Institute for Social Research, University of Michigan. Please contact us at psidhelp@isr.umich.edu if you find errors or have suggestions for improving this guide. We thank Patricia Berglund, Azam Khan, and Steven Heeringa for creating the DUST weights and for their contributions to Chapter 9 and Appendix E and to DUST's survey director, ZoAnne Blackburn, for her contributions to Chapter 5.

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CHAPTER 1 – AN INTRODUCTION TO DUST

Disability and Use of Time (DUST) 2009 is a supplement to the Panel Study of Income Dynamics (PSID), a longitudinal study of a representative sample of U.S. individuals and the families in which they reside. Since 1968, the PSID has collected data on family composition changes, housing and food expenditures, marriage and fertility histories, employment, income, time spent in housework, health, consumption, wealth, and more. See the PSID Main Interview User Manual at <http://psidonline.isr.umich.edu/data/Documentation/UserGuide2009.pdf> for additional details on the PSID.

DUST, which was supported by a program project grant from the National Institute on Aging (P01 AG029409; Project 4), had two specific goals: 1) to assess the feasibility of including time diaries for adults on a larger scale in the PSID and 2) to produce a rich and nationally-focused data archive to support innovative research on disability, time use, and wellbeing for older married couples.

Chapter 2 – Overview of the DUST INSTRUMENT

The DUST computer assisted telephone interview (CATI) instrument was designed as a 30-40-minute time diary, which was paired during the first of two interviews with a 15-20 minute supplemental questionnaire. The following sections were included in the first interview. Section numbers designated with * were also included in the second interview.¹

1) Global Wellbeing – This section asks about satisfaction with different parts of life (e.g. life as a whole as well as health, memory, work, and marriage). These questions draw upon research carried out at ISR in the 1970s (see, e.g., Campbell et al. 1976; Andrews & Whithey 1976). These items are asked first so that the more specific subjective wellbeing questions asked later in the questionnaire will not influence answers to these global questions.

2) Impairments and Limitations – This section collects information on the severity of impairments and limitations of respondents. Impairment items ask whether the respondent has experienced common physical, mental, and sensory impairments in the last 7 days, and if so, how often they limited the respondent's daily activities. The items were developed to measure "impairments in body functions or structures" in the World Health Organization's (WHO) revision of the International Classification of Functioning, Disability, and Health (ICF; WHO, 2002). Additional limitation items are modeled closely after the American Community Survey's disability series, which identifies the population with disability through six items: hearing, vision, and mobility limitations, memory/mental functioning, and difficulty with personal care activities and household activities (Weathers, 2005).

3) Assistive Devices – DUST includes several questions about ways in which older adults accommodate health and functioning difficulties. In this section, respondents are asked about the use of common assistive devices in the last 7 days. The items were adapted from previously tested items in the 2005 Pilot Study of Technology and Aging (Freedman, Agree, and Cornman 2005).

4) Medications - Taking medications is another type of strategy that can help people accommodate health and functioning difficulties. DUST therefore asks about whether medications were taken for particular conditions in the last 7 days.

5) Behavior Change – Adults may also avoid activities as a way of accommodating health and functional decline. In this section respondents are asked whether in the last 7 days they have avoided activities—either some or all of the time—because of their health and functioning.

6) Cognitive Functioning – Because memory can affect respondents' ability to carry out daily activities and the quality of responses about what they did yesterday and last week, DUST asks

¹ Box and Arrow questionnaires for the first and second interviews are available in "Dust09 Pilot BA Interview1.pdf" and "Dust09 Pilot BA Interview2.pdf," respectively.

respondents to offer a self-rating of their cognitive ability. The items are drawn from the Health and Retirement Study.

7) Marital Quality – Because couples' wellbeing can depend in part on the quality of marriage, DUST includes a subset of questions drawn from a standardized marital quality instrument measuring both strain and support (Whalen and Lachman 2000). The subset was drawn based on analysis of the MIDUS2 data that showed the items retain acceptable internal validity. The questions ask respondents to rate how they feel about different aspects of their marriage, with answer categories: a lot, some, a little, or not at all.

8*) Yesterday Time Diary –The diary covers a 24 hour period, starting with 4:00 am on the previous day and continuing until 4:00 am on the day of the interview. The basic diary structure is modeled after the American Time Use Study, carried out by the Bureau of Labor Statistics (www.bls.gov/tus/; with several innovations described below). Respondents were asked to report what they were doing and how long it took. For some activities there were additional follow-up questions such as for whom they did the activity, who was doing the activity with them, who else was there but not doing the activity with them, and where they were/how they got there. At the end of each activity DUST also included a question about how the respondent felt during that activity (mostly unpleasant, mostly pleasant, or neither). This last question allows one to capture wellbeing throughout the previous day.

9*) Detailed Wellbeing – After the diary was completed, the computer randomly selected (up to) three times of day and more detailed questions were asked about how the respondent felt during each of these activities. These questions provide what DUST refers to as "detailed" subjective wellbeing on the previous day. These items were modeled after the Day Reconstruction Method (Kahneman et al., 2004) and Princeton Affect and Time Study (described in Krueger, 2007).

10*) Care Giving – This series of questions asks directly about care provided yesterday to an adult living in the household. Based on focus group discussions, these new items were developed to ask about both 'hands-on' care and 'stand-by' care. The items are designed to complement the information available from the time diaries.

11*) How Typical Was Yesterday – DUST collected detailed information about only two days, but those days may not be a good indicator of the kinds of things the respondent usually does. For instance, if the previous day was a holiday, the diary may not pick up the person's usual routine. Further, weekdays may be very different from weekends. DUST therefore asked if respondents had a usual routine during the week and on weekends, and whether yesterday was a typical day.

12) Household Care and Division of Labor – As couples age and health or functioning changes, it sometimes becomes necessary to change how the household is managed and who takes care of specific chores. This section asked on how many of the last 7 days did the respondent carry out common household chores. For some chores we asked who they did it for and whether they did

the chore because of their spouse's health. Activities were selected based on analysis of the American Time Use Study (Waidmann and Freedman 2007).

13) Participation – How often adults participate in activities outside the home, like going out for enjoyment, may be linked to their health and functioning. These activities may not happen often enough to be captured in a one-day time diary. In this section, DUST asked on how many of the last 7 days the respondent participated in a number of activities. Activities were selected based on analysis of the American Time Use Study (Waidmann and Freedman 2007).

14) Closing – In the closing section, DUST asked respondents to once again report how satisfied they were with their life as a whole. By comparing these responses to ones earlier in the interview, one can determine how the answer to this question changes once respondents have answered detailed questions about their lives and how they spent their time yesterday.

CHAPTER 3 – DUST FILE STRUCTURE

DUST data are organized into four files: a Flat Respondent File with the supplemental questionnaire data; an Activity File containing the time diary and experienced wellbeing data; a Household File with basic information on household members of DUST couples; and an Interviewer Observation File.

FLAT RESPONDENT FILE – DUST09_FLAT (N=755)

The data files have been restructured from the original interview so that all information from the first and second interview (except the time diaries and interviewer observations) has been stored in one “flat” file. The unit of analysis in this file is the individual respondent. Minimal information about each diary is stored on the flat file, designated with TD1 and TD2 in the variable names. Unique individuals are identified using the id variables DF1PAIR and DF1HDWF.

ACTIVITY FILE – DUST09_ACT (N=36,898)

The Activity File includes information on all activities in both time diary 1 and 2. The unit of analysis in this file is an activity. The variable DA1TDNUM indicates whether the record came from diary 1 or 2 (i.e., TD1 or TD2). The variable DA1ACTNO numbers the activities within each individual diary. Activities that were randomly selected for more in-depth questions about wellbeing are indicated with the variable DA1WDWB.

HOUSEHOLD FILE – DUST09_HH (N=952)

The Household File identifies all household members living with DUST couples. The file includes relationship to DUST Head and Wife and age of each household member, along with a household roster number (DH1AQSN). The latter, when used in combination with DH1PAIR, links to variables in the Flat File and Activity File (which identify for whom and with whom (either actively or passively) an activity was carried out). Household members who appear in the Household File, including respondents to DUST, may also be linked to their individual PSID records. (See Chapter 11 for information on how to link the Household File to other DUST and other PSID files.)

INTERVIEWER OBSERVATION FILE – DUST09_OBS (N=1,506)

An Interviewer Observation File is provided at the diary level. The file may be linked using DO1PAIR, DO1HDWF to the Flat File (using DF1PAIR, DF1HDWF). The variable DO1TDNUM indicates whether the record came from diary 1 or 2.

CHAPTER 4 - THE DUST SAMPLE

DUST sampled couples in the PSID in which both spouses were at least age 50 as of December 31, 2008 and at least one spouse was age 60 or older at that time. Because the vast majority of married men and women ages 60 and older have spouses that are age 50 and older, the sample essentially represents married people ages 60 and older and their spouses. Each spouse was interviewed twice by telephone (using a computer-assisted telephone instrument), with husbands and wives interviewed separately about the same randomly selected weekday and week-end day.

As described below, DUST included three sampling steps: 1) couple selection within strata; 2) systematic assignment of interview days to couples so that time diaries represent both weekdays and weekend days; and 3) joint selection across couples of three random times of the day for additional questions. Construction of weights for DUST is described in Chapter 9.

COUPLE SELECTION

Prioritizing and identification of sample

In 2009 the PSID prioritized interviewing of married couples in which both spouses were ages 48 and older as of calendar year 2007. All married couples in which both spouses were born in 1958 or earlier (i.e., aged 50 and older as of January 1st, 2009) were identified and included in a master file for sampling. Non-married, cohabitating couples were excluded from the sample.

Although included in the master file, couples in which both spouses were aged 50-59 were not eligible to be sampled because at least one member of the couple had to be age 60 or older.

Stratification by core PSID 2009 limitation status

To ensure that the sample represented a range of disability and care experiences, respondents who were eligible for sampling were categorized into cells based on both the husband's and wife's limitation status in 2009 and the husband's year of birth. Limitation was defined as having at least one of the following items answered as "A lot" or "somewhat" in 2009. How much does this (condition/problem) limit [your/his/her] normal daily activities? - A lot, somewhat, just a little, or not at all?

H7A. A Stroke

H7B. A Heart Attack

H7C. Coronary Heart Disease, Angina, or Congestive Heart Failure

H7D. High Blood Pressure or Hypertension

H7E. Asthma

H7F. Chronic Lung Disease such as Bronchitis or Emphysema

H7G. Diabetes or High Blood Sugar

H7H. Arthritis or Rheumatism

H7I. Permanent Loss of Memory or Loss of Mental Ability

H7J. A Learning Disorder

H7K. Cancer or a Malignant Tumor
H7L. Any Emotional, Nervous, or Psychiatric Problem
H7M. Other Serious, Chronic Condition

For sampling purposes, 12 original age-limitation strata were collapsed into 8 cells (couples with Husbands age 50-59 were combined with those age 60-69).

5. Husband's age: 50-69; Husband: Limitation; Wife: No limitation
6. Husband's age: 50-69; Husband: No Limitation; Wife: Limitation
7. Husband's age: 50-69; Husband: No limitation; Wife: No Limitation
8. Husband's age: 50-69; Husband: Limitation; Wife: Limitation
9. Husband's age: 70+; Husband: Limitation; Wife: No limitation
10. Husband's age: 70+; Husband: No Limitation; Wife: Limitation
11. Husband's age: 70+; Husband: No limitation; Wife: No Limitation
12. Husband's age: 70+; Husband: Limitation; Wife: Limitation

Within strata, observations were sorted by wife's age group (50-59, 60-69, and 70+ based on year of birth) and systematic sampling was used to ensure a distribution across wives' age groups that matched the distribution in the overall PSID sample.

The sample was drawn in two batches during the 2009 PSID field period: in June 2009 and in Aug 2009. At the time of the second draw, approximately 95% of cases identified as likely to be DUST eligible had completed their PSID interview. Sampling fractions for batch 2 were adjusted and additional batch 1 cases were drawn so that the overall sampling fractions were equal in batch 1 and 2 by strata.

Sample sizes and response rates

Table 4.1 shows the number of **eligible, sampled, and responding** couples per strata. Overall, 832 couples were identified as eligible; 557 were sampled, and 14 of these were found to be ineligible. Of the 543 eligible couples who were sampled, at least one diary was completed with 394 couples (73%). The final number of diaries completed was 1506.

SYSTEMATIC ASSIGNMENT OF INTERVIEW DAYS TO YIELD WEEKDAY AND WEEKEND DIARIES

As described below, four interview days were systematically assigned to each sampled couple. One primary and one backup day yielded a weekday diary (interview days Tuesday-Saturday, which yield information about reference days Monday-Friday). A second pair of primary/backup days yielded a weekend day diary (interview days Sunday or Monday, which yield diaries about Saturday or Sunday). The random backup was used if an interview could never be scheduled on the primary day.

To systematically assign interview days, all possible combinations of days were listed (see Appendix A) and a random start value between 1 and 80 was drawn. Note the listing also varied by whether the weekend day or weekday was first. Sampled couples were then systematically assigned a sequential number (incrementing by 1 each time until reaching 80, then restarting at

1). The number (1-80) was preloaded into the DUST computer assisted interview application and was then used to identify allowable interview days.

Table 4.1 Eligible, Sampled, and Responding Couples in DUST

	Presumed Eligible for Sampling	Sampled, Found to be not eligible	Sampled, Found to be eligible	Not Sampled	Effective Sampling Rate	At least 1 diary completed ^a	Response Rate ^{b,c}
H 50-69							
H Limited	85	2	70	13	84%	52	74%
W Limited	80	1	68	11	87%	52	76%
Neither	315	4	110	201	35%	67	61%
Both	43	0	43	0	100%	33	77%
H 70+							
H Limited	57	1	56	0	100%	40	71%
W Limited	56	3	53	0	100%	41	77%
Neither	130	0	80	50	62%	58	73%
Both	66	3	63	0	100%	51	81%
Total	832 ^d	14 ^d	543	275	--	394	73%

^a359 couples completed 4 diaries; 33 couples completed < 4 because one spouse had a permanent condition; 2 couples completed < 4 because they refused a second interview or the fieldwork period ended.

^bNon-response occurred at one of three stages. Couples who refused at the time of the core PSID interview (n=17), completed the core using a Spanish questionnaire (n=20), or had a proxy complete the core PSID interview (n=4) were not contacted (altogether 8% of 543). In addition, 96 cases refused to participate at the time of screen or could not be contacted (18% of 543). An additional 12 cases did not complete at least one diary after making an appointment (2% of 543).

^cWe assumed all non-contacted couples were eligible and therefore calculated the response rate as (IW + Partial IW) / Sampled, found to be eligible = 394/543 = 73%.

^dIncludes 3 couples who were initially identified as eligible and sampled but then determined to not meet the age criteria.

After providing consent to participate in the study, the interviewer attempted to schedule both husband and wife for interviews on the selected day (e.g., Wed), but provided flexibility to the respondent in choosing a specific date (e.g., June 24, July 1, July 8) and time of day. This approach minimized recall bias because the diary was always about yesterday and preserved the distribution of time diaries across weekdays and weekend days.

Note that assignment for batch 2 began where the numbering in batch 1 left off. The expected and actual numbers of interviews were distributed as follows (Table 4.2) across days:

Table 4.2 Expected and Actual Interviews by Day of the Week

Interview Day	Diary Day	Expected		Actual	
		N	%	N	%
SU	SA	376	25%	337	22%
M	SU	376	25%	418	28%
T	M	151	10%	152	10%
W	T	151	10%	147	10%
R	W	151	10%	167	11%
F	R	151	10%	149	10%
SA	F	151	10%	136	9%
		1506*	100%	1506	100%

*Total number of diaries does not sum to 1506 because of rounding.

For the vast majority of couples with both spouses completing one or two interviews (N=361 couples), diaries were administered to husbands and wives on the same date (351/361 first diaries and 351/360 second diaries; for one couple, one spouse completed both diaries while the other spouse completed only a first diary). Pooling over first and second diaries, 702 out of 721 attempts with couples yielded same-date interviews.²

RANDOM SELECTION OF ACTIVITIES TO ASSESS (JOINT) DETAILED WELLBEING

One of the aims of the study was to understand the experienced wellbeing of married couples and how it varies with the functional status of the husband and wife. DUST therefore collected more detailed information on wellbeing for a subset of activities.

In previous studies with the individual as the unit of analysis, one of two approaches has been undertaken. One approach is to draw a sample of activities from the list of activities in the previous day, in order to ensure that the length of the activity does not influence the chances of being selected. A second approach is to divide the day into 15-minute intervals and select random intervals from the non-sleeping portion of the day. The second approach is equivalent to sampling activities with probabilities proportional to their length.

In DUST, an explicit aim was to ask both spouses about the same times of day. We therefore selected three times of day between 8 AM and 8 PM and preloaded this information into the

² For the 19 attempts with couples that were on different dates, all but 3 were done on the same day of the week, and the average time between interviews was 17.5 days (3 diaries were 1-2 days apart, 10 were 7 days apart, 3 were 3 weeks apart, and 3 diaries were more than 3 weeks apart).

interview. We chose this block of time to minimize the chances that one or both spouses would be asleep. In order to ensure an even distribution across the day, we further subdivided the day into three 4-hour windows: 8 AM to 11:59 AM, 12 PM to 3:59 PM, and 4 PM to 7:59 PM.

For each window of time, the couple was assigned a random primary time and random backup time. The activity that crossed the primary time was selected. If the respondent was asleep, couldn't remember or refused to give an activity for that time, or if the activity had been previously selected for a prior window, the backup time was considered instead. This approach maximized the chances of asking spouses about the same time of day.

Random minutes were generated within time windows according to the following formulae shown in Table 4.3, where `uniform()` indicates a uniform random number between 0 and 1:

Table 4.3 Calculation of Random Times of Day

Primary 8:00 am-11:59 am	$r1=480+240*\text{uniform}()$
Primary 12:00 pm-3:59 pm	$r2=720+240*\text{uniform}()$
Primary 4:00 pm-7:59 pm	$r3=960+240*\text{uniform}()$
Backup 8:00 am-11:59 am	$r4=480+240*\text{uniform}()$
Backup 12:00 pm-3:59 pm	$r5=720+240*\text{uniform}()$
Backup 4:00 pm-7:59 pm	$r6=960+240*\text{uniform}()$

These selected times were then converted into military (24 hour) time.

This approach yields a sample of episodes that are length-biased. Among all eligible activities between 8 am and 8 pm, the average (final, unweighted) activity length was 45 minutes whereas the mean duration for activities selected for detailed wellbeing questions was 97 minutes. The length bias can be corrected analytically (by controlling for the original, unedited duration if appropriate) or by using the detailed wellbeing sample weights provided on the activity level file. See Chapter 9 for details

CHAPTER 5 – DATA COLLECTION PROCEDURES

OVERVIEW

DUST collected time diary and supplemental information from couples in the PSID in which at least one spouse was age 60 or older and both were age 50 or older. Both spouses were interviewed by telephone twice - on one random weekday and one random weekend day. Appointments were set so that whenever possible spouses were interviewed on the same date so that diaries captured the same 24-hour period. The data collection period was approximately five months, from July 2009 through November 2009.

DATA COLLECTION STAFF AND TRAINING

A total of 24 interviewers and 3 team leaders from the Survey Research Center at the Institute for Social Research were trained for DUST. Training was conducted in Ann Arbor, MI on June 21-23, 2009. Interviewer training included demonstrations, practice exercises and certification round-robin interviews. All members of the data collection team were experienced interviewers, with prior experience as interviewers for the main PSID study.

INTERVIEWING MODE

Interviews were conducted over the telephone using a CATI application developed specifically for DUST. See Chapter 6, The DUST Time Diary, for more details on the diary application.

CONTACTING RESPONDENTS

Between July and November 2009, each spouse in a married couple was interviewed twice over the telephone about two randomly selected days, one weekday and one weekend day. Prior to contacting a respondent by telephone, interviewers mailed a pre-notification letter providing information about the study. Initial contact was made with either the husband or the wife during the coverscreen interview. The coverscreen interview consisted of 6 steps:

1. Introduce the study to the respondents, answer questions, and explain what is involved in participation.
2. Confirm that the couple is still eligible (married, age-eligible, and living together).
3. Obtain oral consent (explain study is voluntary, risks/benefits, including what will be done with information collected)
4. Confirm and update the household listing information.
5. Schedule appointments for Interview 1 and Interview 2 for both the husband and wife.
6. Confirm appointments with both spouses.

Both members of the couple had to be eligible and willing to schedule TD1 (first time diary) and TD2 (second time diary) interviews. In order to implement the same-day diary design, the couple was called and, after providing consent to participate in the study, the interviewer attempted to schedule both husband and wife for interviews on the selected day of the week (e.g. Wednesday). Interviewers were encouraged to schedule at the earliest possible date that matched the assigned day of the week and that met the respondents' scheduling needs (e.g. respondent offered June 24, July 1, etc.)

Respondents whose spouses were unable to participate because of a permanent physical or cognitive impairment were included in DUST and permitted to schedule two rather than four interviews. These cases are indicated in the flat file with DF1SPSPM=1.

RESPONDENT PAYMENTS

Respondents received a financial incentive of \$50 in appreciation of their time and effort for participating in the study (\$100 for the couple). The coverscreen and at least one diary had to be completed for a respondent to receive the incentive. Incentives were provided by check and were mailed to respondents approximately 2-3 weeks after the interview was completed.

REFUSAL CONVERSION

Couples who initially refused to participate were sent letters that were tailored when possible to address their concerns. Of the 123 couples sent letters, 34 participated for a refusal conversation rate of 28%.

QUALITY CONTROL

Quality control procedures consisted of three components: Certification, Verification, and Evaluation.

Certification

After training was completed, team leaders conducted a one-on-one certification test with interviewers. Using a scripted interview, team leaders evaluated interviewers on both general interviewing techniques (including question reading, feedback, and probing) and study-specific aspects of the interview (such as familiarity with content of the interview, use of question-specific clarifications, and use of study materials).

Verification

The first two completed interviews for each interviewer were flagged for follow-up phone calls by supervisors who conducted brief verification interviews. Thereafter, flagging continued throughout the field period, selecting across all interviewers approximately 2-3% of interviews (n=75) for verification.

Evaluation

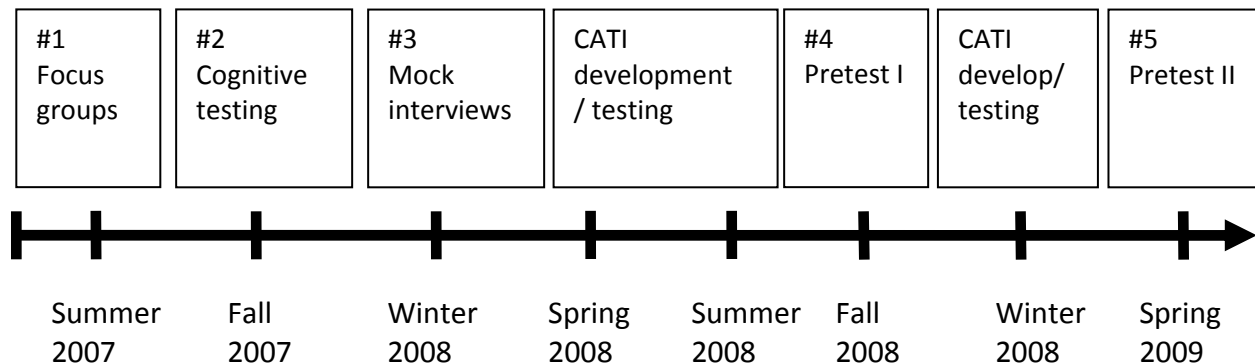
DUST used software that provided digital recordings of the interviews (DRI) for quality evaluation purposes. A portion of the first interview was recorded if the respondent provided consent to do so. A total of 717 cases were recorded and a small percentage of those cases were selected (per interviewer) to be evaluated by the quality control team on both study-specific and GIT protocols. Altogether, 69 interviews involving all 24 interviewers were evaluated. Interviewers were counseled and retrained as needed by their team leaders based on the findings of these evaluations.

CHAPTER 6 – THE DUST TIME DIARY

DUST CATI DEVELOPMENT

A CATI application was developed to collect multiple, same-day diaries for older couples in the PSID. The diary asked about all the activities occurring on the previous day, beginning at 4 am and continuing until 4 am the morning of the interview. The design of the data collection instrument was based on extensive pilot testing and a two year long developmental process (see Figure 6.1).

Figure 6.1. Time Line for DUST Developmental Activities



Focus groups

Focus groups with 19 couples ages 50 and older were facilitated by a trained moderator during the summer of 2007. Participants were asked to fill out portions of simple paper and pencil diary that described the previous morning. Focus group analyses were based on notes from the videotapes and a file created from diary entries. (For details see Freedman 2008a).

Cognitive testing

Cognitive testing took place during the fall of 2007, with 14 couples ages 50 and older following guidelines provided in Alcser and Conrad (2007). Couples were randomly assigned start times (8:00 am, 12:00 pm, 4:00 pm) and asked about four consecutive activities. Responses were recorded verbatim and then interviewers were directed to indicate one of 30 categories for the activity. The sequence of follow-up questions (related to where they were, who the activity was for, who participated with them, who else was there, and how they felt) was then determined according to the category selection. More detailed subjective wellbeing measures were also assessed for each reported time. (For details see Freedman 2008b).

Mock interviews

Following the cognitive testing, the number of categories (hereafter, “pre-codes”) was reduced to 9 and inter-rater reliability was assessed during a set of mock interviews held in February and March 2008. Four interviewers were instructed to complete 4 “full day” diaries (consisting of 22 activities per interview) with actors playing the part of respondents. The actors read from scripted descriptions of daily activities so that different interviewers should have produced

identical time diaries. Activities were purposefully selected from actual responses provided during the cognitive testing phase with an aim of representing all codes. Kappa reliability statistics were calculated for pairs of interviewers and then averaged (average kappa = 90.5). After analyzing discrepant codes and revising training materials, a second session was held with 4 additional interviewers and Kappa reliability statistics were again recalculated (average kappa = 90.7).

Pretest

Finally, a **pretest** was conducted during fall of 2008 with 28 couples who had participated in the developmental phases. The purpose of the pretest was to conduct one set of same day interviews with couples using the CATI (Blaise) application and paper coversheets. (See Freedman 2008c for details.)

A second, smaller pretest was carried out during spring 2009 with 7 couples who participated in the PSID core pretest. The second pretest was carried out to test a Blaise coverscreen application developed to govern the scheduling process and to gain some experience with the time needed to schedule and complete two sets of same-day interviews.

THE DUST TIME DIARY

The instrument was designed as a 30-40-minute diary, which was paired during the first of two interviews with a 15-20 minute supplemental questionnaire. Hence up to 4 diaries could be completed per couple. The diary asked about all the activities occurring on the previous day, beginning at 4 am and continuing until 4 am the morning of the interview.

The CATI instrument development started with the American Time Use Study approach, but several enhancements were implemented, described in more detail below.

A diary introduction (and text referred to as needed during the interview) was developed as follows:

Next, we'd like to find out how you spent your day yesterday, [YESTERDAY].

I'm going to ask you what you were doing starting at 4:00am. Then I'll ask a few more questions about the activity, like:

- how long it took;
- where you were;
- who was doing the activity with you, and;
- who else was there.

We'll repeat this series of questions until we reach the end of the day.

If you were traveling, we'll treat that as a separate activity. So, for instance, driving to the doctor would be separate from being at a doctor's appointment, and then driving home would also be a separate activity. If you were doing more than one activity for the time I ask you about, that's fine. You can tell me more than one activity for a given time.

Sometimes people want to know how much detail we are looking for. If you tell me you worked from 9 to 5, I may ask you to break that down for me, for example, into having meetings from 9 to 11, answering e-mails for an hour until 12, having lunch until 1, and so on. Or, if you tell me you cleaned the house all morning, I may ask for more detail, for example, you straightened up from 9 to 9:30, folded laundry for half an hour, made the beds at 10:00, and so on. On the other hand, you don't need to tell me about changing the tv channel or walking from room to room in your house. So, somewhere in between. And if an activity is too personal, there's no need to mention it.

Ok? Let's begin.

Controlling reporting of sequential ('run on') activities and attention to detail

To minimize extremes in reporting of detail (too much, too little), interviews were trained to use the following probes: "Let's break that down" for someone reporting very long chunks of time (> 4 hours) and "To do what?" (e.g., went in the kitchen, to do what?) for excessively fine-grained reports.

Identifying sequential main vs. secondary activities

In DUST an attempt is made to distinguish sequential activities from simultaneous activities. If more than one activity is mentioned for a particular time, respondents are asked: Just to be clear, were you doing [both / all] of these activities at [START TIME]? If the respondent says yes, he or she is asked: If you had to choose, which of these would you say was the main activity? The interviewer is given the option of reading the definition: By main activity, we mean the one that you were focused on most. If the respondent says, no that he/she was not doing both activities at [START TIME] the interviewer re-asks, "Yesterday, [YESTERDAY], at [START TIME], what were you doing?" and corrects lines as necessary. One disadvantage of this approach is that it takes additional time to take the respondent through this series of questions and correct it. We therefore also trained interviewers to use the probe "let's break that down" if the respondent was clearly reporting sequential activities, as evidenced by use of words like "then" (e.g., I made breakfast and then I sat down and ate it.)

Assessment of duration

DUST assesses the duration (and all remaining follow-up items) for the main activity. Respondents may either report an end time (e.g. 11:00 am) or a duration (e.g. 1 hour). In both cases the interviewer confirms with the respondent. "So you (were) [ACTIVITY] from about [START TIME] to [END TIME], is that correct?" This approach allows the respondent to make corrections and adjust their end time if necessary before the next diary entry is made. These checks help maintain a structured, but conversational tone to the interview.

Follow-ups tailored to pre-coded activities

After recording main and secondary activities and recording/confirming the duration of the main activity, interviewers selected one of nine categories best matching the main activity (see Figure 6.2). These "precodes" were not designed to be analytic; there was post-coding of all

main and secondary activities. Rather, precodes routed the respondent to the appropriate follow-up questions.

A report of sleeping (1) as the first or last activity of the day received follow-up questions related to the quality of that night's sleep. This provides information on the duration and quality of sleep the night before the diary day **and** the night before the interview. Quality of sleep is assessed with three follow-up items:

- Did it take you more than half an hour to fall asleep?
- Did you wake up during the night, that is, between the time you fell asleep and [END TIME reported for sleeping episode]?
- If yes, did you have trouble falling back to sleep?

Note that all respondents were also asked to rate the quality of sleep the night before: Would you say it was Excellent, Very good, Good, Fair, or Poor?

Figure 6.2 DUST CATI Screen Showing Main Activity Precode Choices

DUST 2009 TD1

Forms Answer Time Diary Progress Testing Note Help Show Watch Window

Main Activity:
sleeping

♦ If necessary: This will just take me a moment to log

1. Sleeping, napping, trying to sleep, waking up	7. Household chores / helping others, includes:	8. Providing care to others, includes:
2. Washing, dressing / undressing, grooming (includes "getting ready")	Preparing food, drink, meals	Washing or grooming someone else
3. Travel to / from place to pick up / drop off person	Kitchen and food cleanup	Getting someone else ready
4. All other travel to / from place	Shopping and running an errand	Feeding someone else
5. Working for pay, work-related activities, volunteering	Putting away shopping, groceries	Taking care of someone else's health needs
6. Talking on phone, socializing / talking in person, sending text messages by phone	Doing laundry	Looking after someone
	Cleaning the house	Playing with / reading to child
	Outdoor chores, include care of cars	Arranging someone else's health care
	Home repairs / improvements	Accompanying someone else to health care appointments
	Paying bills / Financial / legal affairs	Other care-related activities
	Arranging for services	
	Other chore or help	
	9. All other activities, includes:	
	Eating / drinking	Pot care
	Relaxing / thinking	Attending events
	Television / movies / music	Sports / exercise / physical activity
	Leisure and hobbies	Self-care / taking care of own health needs
	Using computer (for leisure)	Waiting

Activity Pre-Code

Precode 2 (washing/dressing/grooming) follow up question:

- How did you feel while you (were) [description of ACTIVITY]?

Precode 3 (travelling to/from a place to pick up/drop off a person) follow-ups:

- Who did you (pick up/drop off)? (relationship of person to R was recorded, e.g. mother, neighbor, friend)
- Who else went with you? (*who passive*)
- Where did you (pick up/drop off) your [relationship of person picked up/dropped off]?
- How did you get there?
- Were you the driver or passenger?
- How did you feel while you (were) [description of ACTIVITY]?

Precode 4 (other travel, travelling between places/activities) follow-up questions:

- Who went with you? (*who active*)
- How did you get there?
- Were you the driver or passenger?
- How did you feel while you (were) [description of ACTIVITY]?

Precode 5 (working for pay, work-related activities, volunteering) follow-up questions:

- Where were you while you were doing that?
- [If at home, outdoors, work, someone else's home] Who else was [at home/outdoors at home/yard/there] with you? (*who passive*)
- How did you feel while you (were) [description of ACTIVITY]?

Precode 6 (talking to others) follow-up questions:

- Where were you while you were doing that?
- Who were you talking to? [relationship of person to R recorded] (*who active*)
- Was this on the phone or in person?
- [If at home, outdoors, work, someone else's home] Who else was [there] with you? (*who passive*)
- How did you feel while you (were) [description of ACTIVITY]?

Precode 7 and 8 (household chores/helping and caring activities) follow-up questions:

- Where were you while you were doing that?
- Who did that with you? (*who active*)
- [If not in a public place] (Besides [person already mentioned], w/W)ho else was [LOCATION] with you? (*who passive*)
- How did you feel while you (were) [description of ACTIVITY]? and
- Who did you do that for? (*who for*)³

Precode 9 (all other activities):

³ This item was modeled after a question used in the New Zealand Time Use Study.

- Where were you while you were doing that?
- Who did that with you? (*who active*)
- [If not in a public place] (Besides [person already mentioned], w/W)ho else was [LOCATION] with you? (*who passive*) and
- How did you feel while you (were) [ACTIVITY]?

Tailored pick list for ‘who’ questions

For all three types of “who” questions (who active, who passive, and who for) a tailored list of responses was offered to the interviewer to choose from. The list reflected the respondent’s household composition (which can be linked through an ID in the Household File to person level core PSID information) as well as generic relationship categories for people outside the household.

Experienced wellbeing measures

We collected a single-item experienced wellbeing measure for all main activities (except sleeping) and more detailed measures of experienced wellbeing for activities that took place at three randomly selected times of day. The latter were modeled after the Princeton Affect and Time Study (PATS; Krueger 2007) based on the Day Reconstruction Method (Kahneman et al. 2004), with one major distinction. PATS randomly draws three 15-minute windows. The DUST application was aimed to facilitate analysis of joint wellbeing (between spouses), so we instead asked about the emotion experienced during the entire activity. The activity of the randomly selected time was brought up on the screen and the respondent was reminded about the details of the activity. Specifically, respondents were told:

“The computer has selected [# periods] (activity/activities) for me to ask you about. For the following questions, please use a scale from 0 to 6, where 0 means you did not have this feeling at all and 6 means the feeling was very strong. You told me that from [Start Time] to [End Time] you [Activity] with [your Who_Active] [WHERE]. From 0 to 6, how CALM did you feel during this time, where 0 means not at all calm and 6 means very calm?”

This question was repeated for five other emotions (happy, frustrated, worried, sad, tired) and pain. We chose 6 emotions (plus pain) based on terms used in the focus groups, with the aim of obtaining more negative emotions than positive and making sure we had at least one measure from each quadrant of the emotion circumplex (Russell 2003). The same 3 random times of day were preloaded for both spouses, with times randomly selected from three windows (8 AM-11:59 AM; 12:00PM-3:59 PM; and 4:00 PM-8:00 PM), ensuring distribution throughout the waking day. The activity that occurred during the randomly selected time was then selected for questions about detailed wellbeing.

CHAPTER 7 – TIME DIARY CODING

OVERVIEW OF DUST CODING TASK

The DUST CATI program had several features that facilitated diary coding: for example, the program does not allow gaps in time or overlapping activities, requires activities to be at least 1 minute, and discourages reporting of multiple activities per line. In addition, interviewers instructed respondents to provide travel separately.

Following the completion of the interviewer, the data were provided to coders, who carried out three main tasks:

- Coded primary activities
- Coded secondary activities (up to 5, using the same coding scheme used for primary activities)
- Flagged cases to be edited after coding

Note that coders did not edit cases but helped to identify (“flag”) cases that needed editing so that edits could be carried out consistently and systematically following the coding task.

DUST CODING APPROACH

DUST codes use a 3-digit scheme. The first digit is referred to as the **supercategory**, the second is the **category** and the third the **subcategory**. The three digits together are referred to as the “**activity code**.” See Appendix B for a full list of the 3-digit activity codes used in DUST.

	DIGIT 1	DIGIT 2	DIGIT 3	ACTIVITY CODE
Example	SUPERCATEGORY	CATEGORY	SUBCATEGORY	
Grocery shopping	3 (Obtaining goods)	1 (Groceries and food)	1 (Grocery shopping)	311

Supercategories

The first digit distinguishes 9 “SUPERCATEGORIES”:

- 1: SELF-CARE ACTIVITIES: Taking care of oneself, including sleep
- 2: PRODUCTIVE ACTIVITIES: Working, volunteering, and school
- 3: OBTAINING GOODS: Shopping for groceries & food, other goods, and real estate
- 4: HOUSEHOLD ACTIVITIES: Taking care of/helping with chores, pets and cars
- 5: PHYSICAL CARE, LOOKING AFTER OTHERS & SCHOOL- RELATED ACTIVITIES
- 6: NON-ACTIVE LEISURE: Socializing, tv and movies, games (not sports) & puzzles, hobbies, reading, writing, and using computer (unspecified reason), relaxing/no activity
- 7: ACTIVE LEISURE, ARTS & ENTERTAINMENT, & TRAVEL: Playing or attending sports, attending arts & entertainment, and travel as leisure
- 8: ORGANIZATIONAL ACTIVITIES: Religious & spiritual practice, participation in other organizations (not volunteer/not sports) and in government/civic activities
- 9: DATA ISSUES: Missing/refused (and temporary codes that flagged for editing)

Categories

Within each supercategory there are up to 7 specific categories. (There are 40 categories altogether)

SUPERCATEGORY 1. SELF CARE ACTIVITIES:

- 1 1. Sleeping
- 1 2. Washing, Dressing, and Grooming
- 1 3. Eating and Drinking
- 1 4. Health-Related Self-Care & Medication
- 1 5. Use of Medical, Health, & Long Term Care Services
- 1 6. Personal Emergencies

SUPERCATEGORY 2. PRODUCTIVE ACTIVITIES:

- 2 1. Work and Work-related Activities
- 2 2. Other Income Generating Activities
- 2 3. Looking for Work
- 2 4. Volunteering
- 2 5. Using Unemployment and other Social Services
- 2 6. Educational Activities

SUPERCATEGORY 3. OBTAINING GOODS

- 3 1. Obtaining Groceries and Food
- 3 2. Obtaining Other Non-Durable Goods
- 3 3. Obtaining Durable Goods (cars, furniture, large appliances)
- 3 4. Real Estate Related Activities

SUPERCATEGORY 4. HOUSEHOLD ACTIVITIES (Includes helping with household activities)

- 4 1. Food and Drink Preparation
- 4 2. Laundry and Clothing repair
- 4 3. Household Care
- 4 4. Animal and Pet Care
- 4 5. Vehicle Care
- 4 6. Appliance, Computer, Tool and Toy Care
- 4 7. Financial Management & Household Planning

SUPERCATEGORY 5. PHYSICAL CARE, LOOKING AFTER OTHERS, & SCHOOL-RELATED ACTIVITIES

- 5 1. Physical Care and Assistance to Others
- 5 2. Medical Care for Others
- 5 3. School-Related Assistance to Others

SUPERCATEGORY 6. NON-ACTIVE LEISURE

- 6 1. Socializing and Personal Communication

- 6 2. TV & Movie Viewing
- 6 3. Games & Puzzles
- 6 4. Other Non-Active Leisure
- 6 5. Smoking and Drinking Alcohol
- 6 6. No Activity: Relaxing, Emotions

SUPERCATEGORY 7: ACTIVE LEISURE, ARTS & ENTERTAINMENT & TRAVEL

- 7 1. Sports and Physical Activity
- 7 2. Arts and Entertainment
- 7 3. Travel as Leisure

SUPERCATEGORY 8. ORGANIZATIONAL ACTIVITIES

- 8 1. Religious and Spiritual Practice
- 8 2. Other Organizations (Not Volunteer)
- 8 3. Government and Civic Activities

SUPERCATEGORY 9. DATA ISSUES

- 9 1. Data Issues (DK/RF and temporary codes)
- 9 9. Data Issues (Missing/Not Ascertained)

Subcategories:

Each of the categories has up to 9 additional subcategories to choose from.

Subcategories 1 to 4:

Meanings of subcategories 1-4 differ for each category. See below for details on closely related codes across categories.

Example 1: Supercategory 1 (Self-care Activities), Category 2 (Washing, dressing and grooming), Subcategories 1 through 9 are:

- 1. Washing oneself
- 2. Dressing oneself
- 3. Grooming oneself
- 4. Using the toilet
- 5. Using services related to washing, dressing, grooming
- 7. Travel related to washing, dressing, grooming, toileting
- 8. Waiting and watching related to washing, dressing, grooming, toileting
- 9. Washing, Dressing, Grooming, Toileting, n.e.c. (not elsewhere classified)

Example 2: Supercategory 2 (Productive activities), Category 1 (Working), subcategories 1 through 9 are:

- 1. Working, main or other job
- 2. Leisure activities at work
- 6. Using computer or on line performing activities related to work and work-related activities

7. Travel related to work and work-related activities
8. Waiting and watching related to work and work-related activities
9. Work and work-related activities, n.e.c. (not elsewhere classified)

Subcategories 5 to 9

Except in Supercategory 9 where these codes are not used, third digits of 5, 6, 7, 8 and 9 (where relevant) always mean the same thing:

5. Using services related to [category]
6. On the computer or on line performing activity related to [category] or researching/reading material related to [category]
7. Travel related to [category]
8. Waiting and watching related to [category]
9. [Category] not elsewhere classified ("n.e.c.")

Note that subcategory codes 5-9 do not exist under every category.

Special rules for subcategories XX5 – XX9

When using subcategories XX5-XX8 coders were given the general rule to “code as low as possible” (CLAP) and only use XX9 if the activity could not be classified in subcategories 1-8. More specifically:

Code XX5

Using services includes use of services related to categories 1-4 ONLY. All activities related to using services are coded according to the type of activity for which the service is used. The appropriate supercategory and category are assigned and then 5 is assigned as the subcategory.

Code XX6

We reserved “XX6” for computer and time spent on-line related to the category. An individual can go “on-line” using a computer, and also through a phone, a pda (personal digital assistant), blackberry, palm pilot and other technologies. Sometimes individuals perform activities on the computer or online (e.g. banking, shopping, emailing) and other times they are doing research about or reading about a particular topic area (e.g., research or reading about pet care, appliance care, household care).

Using computer or online performing activity includes activities listed in categories 1-5 ONLY. For example, research on the computer about using home health services or about transportation options for persons with disabilities is 146 (self care, health related activity, on the computer). Coders assumed that the activity was not on computer or on-line (use codes XX1-XX4) unless explicitly mentioned or clear from context (“surfing web to find...”).

When the purpose of the computing or on-line activity was known from the open text, the activity was coded using the category that best reflected the purpose of the activity. For example:

OPEN TEXT:	CODE:
Used computer to work on project for work	216
Ordered groceries on line	316
Ordered prescriptions on computer	326
Checked bank statement on line	476
Texted my daughter	616
Played computer games	636

When the purpose was not given or was not clear from the open text, rules about generic computer use were followed. Activities such as “on computer”, “worked on computer”, “got on computer”, “went on line”, “sent emails on computer”, “read emails”, or “texting on cell” were considered “generic computer use or on-line” activity, or **GCO** for short. The first step in coding a “GCO” was to check the other information on the screen, including pre-code and where the respondent was at the time of the activity. Context may also be provided by previous activities that took place earlier in the day.

GCOs were most often pre-coded as “Working for pay, work-related activities, volunteering,” and “All other activities,” and less often as “Talking on phone, socializing/talking in person, sending text messages by phone.” Different rules were used for coding GCO activities. The following table outlines the rules used.

Table 7.1. Rules for classifying GCO activities

If open text is GCO and precode is:	GCO Rule: Try Supercategory-Category-Subcategory:
Working for pay, work-related activities, volunteering	2-X-6; use context to decide Category; If volunteer and other income-related activities not explicitly mentioned earlier in the day, assume computer use/on line/texting is for work 216
Talking on phone, socializing/talking in person, sending text messages by phone	Use context to decide Supercategory and Category. If at work, 216 If not at work, 616
All other activities	Use context to decide Supercategory and Category. If email, facebook, skype or other form of communicating with others mentioned 616 Otherwise 646 .

If a coder could not assign a code from context, the activity was flagged for supervisor review.

An exception to using code XX6

The only computer-related activity that is not XX6 is helping someone else with computer or other online problems (not at work). This follows the rule of other household activities, which are coded the same way whether the respondent is doing the activity him/herself or helping someone else with it. Thus if a respondent reports “helping someone with a computer problem” the activity is coded 462. Computer set-up, repair & maintenance (self): Includes

fixing, installing, repairing, hooking up, maintaining computer and accessories (printers, modems) and helping with computer and on-line activities/problems (connections, hardware, software, network). We could not use 466 for this because 466 is reserved for “Using the computer or going on line researching or reading material related to appliance, computer, tool or toy care.”

Code XX7

Travel includes travel related to categories 1-6, including travel related to using services. For example, drove to the drycleaner is 427.

All traveling (including walking with a destination) was coded according to the purpose of the trip, regardless of mode or purpose. A supercategory and category were assigned first and then “7” was given as the final digit.

The only exceptions are:

1. Walking for exercise or walking for pleasure (712)
2. Walking a pet (442)
3. Walking around a place (e.g., grocery store, mall, car dealership, museum) should be coded as the activity (grocery shopping 311, clothes shopping 321, car shopping 331, arts & entertainment 721)

Note that travel for leisure purposes (e.g., Going on a trip, vacation, or driving around, sightseeing) is 737.

Coders adhered to the following rules when selecting a supercategory/category for travel:

- For all travel except homebound trips, supercategory and category were selected by looking ahead to the next activity/destination before coding a travel episode.
- For all homebound trips, supercategory and category were selected by looking backwards to the previous activity.
- Picking up a child or someone else to do an activity together (e.g., picked up a friend to go shopping) was coded as travel related to the destination.
- Picking up or dropping off a child or someone else as an activity (e. g, picked up my son at school, dropped off my niece at practice) was coded as travel related to care & assistance to others.
- Single leg, single destination trips: Direct trips to/from a destination are considered as Travel related to [category]. For example, traveling to and from work was coded as “Travel related to work”.
- Multi-leg trips: All legs associated with one destination were coded according to the trip destination. For example, driving to the train station, waiting for the train, taking the

train to work, and walking from the train station to work should all be coded as Travel related to work.

- Multiple destination trips: Each travel episode of a multiple destination trip was coded according to each destination. For example, code driving from home to work as travel related to working, from work to the bank as travel related to financial services and banking, from the bank to the grocery store as travel related to grocery shopping, and from the grocery store to home as travel related to grocery shopping.
- Trips home: These episodes were coded according to the last stop before home. For example, if someone had been at work, then drove from work to the bank, made a withdrawal, and then drove home, code driving from the bank to home as “Traveling/Related to financial services and banking”.
- Waiting related to travel: Any waiting related to travel was coded as waiting, following CLAP when possible. For example, waiting for the bus (e.g. to commute to work) was coded as waiting related to working (218) and waiting for the school bus to drop off a grandchild was coded waiting related to physical care and assistance (518).
- Travel as part of job: Travel time for taxi drivers, bus drivers, chauffeurs, for whom travel is their job, was coded “Work” (211) (note: these activities are likely to have pre-codes of “5”).
- The first and last travel episodes for people who drive for a living were coded under “Travel related to working” (because they are going to/from work) (217). For salesman who travel between clients, time traveling between meeting clients was coded as travel related to work (217).
- Travel as a volunteer activity: Some volunteer activities involve driving as the activity (for example, delivering meals to people with disabilities or older adults, transporting individuals who need a ride, driving a float in a parade, providing on-the-road driving instruction, etc.) Reports of ***driving as a volunteer activity*** were coded as “Volunteer Activity” (241). ***Driving to/from a volunteer*** activity was coded as 247, traveling related to volunteering.
- Travel and dining out: If a respondent stayed and ate at a restaurant, codes 137 (travel to meal) then 131 (ate meal) then 137 (travel back to start) were used. If a respondent was going out to pick up food, the episodes were coded 317 (travel to purchase food) then 312 (purchase food) then 317 (travel back). That is, code 137 is driving to restaurant to eat whereas code 317 is driving to restaurant to pick up food.
- Travel and pre-code 3 (pick up/drop off): Some travel codes with a pre-code of 3 do not require an activity with a matching 2 digit code. For example, 517 could be dropped off

someone cared for and 617 could be picked up a friend. Similarly, 537 could be picked up child at bus stop or school. Also 457 (move car) does not require an activity code with 45.

- Travel and farming: Use other income generating activities for time working / going to / from SP's farm: traveling to farm 227 and working on farm 221.
- For situations where no travel was reported between adjacent activities, coders flagged the case for editing, and coding was handled as part of data editing activities. See Chapter 8 Data Editing.

Code XX8

Waiting and watching (XX8) included waiting and watching related to categories 1-7, including waiting and watching related to using the computer, travel, and to using services. These episodes, then, were coded according to the purpose of the waiting or watching. Some examples include:

- Waited in the car at the dry cleaner is 428 (household activities; laundry/clothing repair; waiting).
- Watched my son send email on the computer is 618 (non-active leisure, socializing and personal communication, watching).
- Waiting to see the doctor for the respondent's own appointment is coded as 158 (self-care activities; use of medical, health, & long term care services; waiting).
- Watching someone fix a computer is 468 (household activities; appliance, computer, tool and toy care, watching).
- Waiting with someone else for the other person to see the doctor is 528 (Physical care, looking after others, & school-related; medical care others; waiting.)

Any waiting or watching related to using services was coded as waiting and watching, remembering **CLAP**. For example, waiting to talk to a loan officer about a loan was coded 478 and watching the cable repairman as 468.

Any waiting or watching related to travel was coded as waiting. For example, waiting for the bus (to commute to work) was coded as waiting and watching related to working (218).

Code XX9

N.E.C. includes activities related to categories 1-8 that cannot be placed in any of these categories. These codes were reserved for use **after** consulting with a supervisor through the 911 mechanism (see below). If it was determined that there was not a relevant code and one would be added, a final code of XX9 to identify activities that belong in the given category but are not elsewhere classified was used. 999 is a final code reserved for cases that could not be classified at the 2-digit level.

Multiple activities on a line

The interviewers for DUST were trained to record each activity mentioned in a separate field. If a respondent reported that they changed body position and then carried out an activity, or changed rooms in the house and then carried out an activity, the interviewer was trained to treat this as a single activity. Coders were also trained to ignore the change in body position or location. Some examples include:

- “Went upstairs and used the bathroom” - “went upstairs” was ignored and the activity was assigned the code 124, going to the bathroom.
- “Shifted position on couch and grabbed a beer” - “shifted position on couch” was ignored and the activity was assigned the code 652, drinking alcohol.
- “Went to bed to read” = 642, reading
- “Went to bed and watched tv” = code 621, watching tv.
- Went to bed with no other activity is 112.
- “Went into the kitchen to make breakfast” = 411, made breakfast.
- “Bent over to play with grandson” = 513, playing with grandson.
- “Went outside to sit in the sun” = 661, doing nothing, relaxing.

Coders were trained to flag other instances of multiple activities per line with a temporary code for supervisory review.

Temporary (911) and other data issue codes

If at any time a coder was unsure of which code to choose, he/she was instructed to use a temporary code of 911. This placed the entire case into review status so that assistance from a supervisor could be given. 911 could be used multiple times within the case if necessary.

The standard procedure for using 911 was to:

- Code the problematic activity “911” and continue coding as much of the diary as possible. An explanation could also be added to a notes field.
- “Send” the case to the proper supervisor. The supervisor reviewed/changed the code, and sent it back to the coder.

Review of 911 cases early in the coding process revealed a few common issues (e.g. listing “showered and dressed” on a single line). A list of common issues was given to coders with instructions to assign temporary codes, which were then reviewed by the PI and remedied during editing.

Three final data issue codes were generated during editing:

- 912 Can’t remember / DK
- 913 Too personal / RF
- 999 Missing/Not Ascertained

RELATED CODES

Coders were trained to be aware of similar codes across multiple supercategories. Table 7.2 shows examples of some of these codes. This list does not include every similarity that exists, but it does contain some of the more common ones. When selecting a code, coders were instructed to concentrate on the primary purpose of the activity and to also consider the context (who, what, where).

Table 7.2: Examples of Related Codes

Example #	Related Codes:	Includes
1	112 621 642 913	Going to bed no other activity mentioned Went to bed to watch tv (code watch tv) Went to bed to read (code reading) Went to bed and engaged in personal activity (code private)
2	121-124 511 145	Washing, dressing, grooming, toileting self Washing, dressing, grooming, toileting someone else Receiving help from an aide with washing, dressing, grooming or toileting
3	125 511	Using washing, dressing, or grooming services (getting own hair cut, manicure, pedicure, massage, and talking with people who provide such services) Giving haircut to someone else
4	131 145 312 611 652	Eating breakfast, lunch, dinner, snack; eating at home or restaurant; having drink (not alcohol); having coffee or tea; having dessert Being fed by an aide (at home) Ordering fast food/take out Socializing at a bar, cocktail lounge, nightclub (emphasis on "socializing") Drinking alcohol, including beer, wine and other alcohol
5	137 317	Travel to / from restaurant or bar Travel related to picking up fast food or take out (Fast food is in the 300"s)
6	141 712	Taking medication; taking care of own health needs (dressing wound, giving a shot, icing, bandaging); checking blood pressure or insulin Exercise; walking for exercise; working out
7	241 811 812	Tasks related to volunteering including raising money, stuffing envelopes, donating clothing, volunteering in a soup kitchen or senior center (NOT volunteering in religious capacity) Volunteering in religious capacity-leading services Volunteering in religious capacity-teaching religion

Example #	Related Codes:	Includes
8	255 835	Applying for/collecting unemployment and other social services such as welfare, food stamps Using government services (e.g., police, fire, licensing, permits, inspection services)
9	261 211	Attending class, lecture or seminar; taking exams Attending training for work
10	262 711	Attending school-related clubs(play, band, choir) & practices Playing sports or practicing for school teams
11	311 431 412	Buying, ordering, paying for groceries Bringing in or putting away the groceries/putting shopping away Cleaning up kitchen, washing/drying dishes, loading/unloading dishwasher, putting food away
12	341 221	Purchasing, renting, selling home/apartment/real estate Maintaining rental property (other income generating)
13	415 312	Hiring caterer, chef, wait staff, and arranging for meals on wheels (Food and Drink Services) Ordering fast food/take out (not on-line)
14	421 425	Washing, drying, hanging clothes, sorting, ironing, putting clothes away, hemming or repairing clothing (not a service) Using dry cleaner (using a service)
15	473 431	Making lists, organizing, planning, looking for misplaced item, assigning chores for household related activities (Household planning) Bringing in or putting away the groceries/putting shopping away
16	614 616 646	Reading mail, sending mail or packages, bringing in the mail and newspaper, writing cards/letters, checking phone messages (not email or other electronic communication) Socializing or communicating by computer or with other technology (includes email) On computer or on-line performing non-active leisure activities including reading, writing, listening to music, or reading/research related to arts and crafts, photography, sewing, jewelry making and all collecting; <u>includes computer use or on-line unspecified reason (not at work)</u>
17	515 535	Hiring/paying for/talking to/interviewing care givers including babysitters, summer camp, nanny, adult day care, aide (not education related)(Assume it's for someone else) Hiring a tutor or paying for instruction or lessons(Assume for someone else)

Example #	Related Codes:	Includes
18	621 721 723	Watching tv, video, movie, vcr, dvd, tivo, borrowing videos, or listening to talk radio, music on the radio, recorded music Attending concerts Attending movies (outside home)

CROSSWALK TO CODES FROM OTHER STUDIES

See Appendices C and D for a suggested crosswalk to DUST activity codes from the 2008 American Time Use Study (ATUS) and the Multinational Time Use Study (MTUS).

CHAPTER 8 – DATA EDITING

Of the 36,898 activities reported in all 1,506 diaries, approximately 6% of activity lines required editing (defined as a change in start or end times or splitting off an activity from a prior activity). The following sections of this chapter describe the editing process.

REVIEW OF SECONDARY ACTIVITIES

All records listing one or more secondary activities were reviewed. Consistent with instructions to interviewers and coders, any remaining instances of secondary activities that were changes in body position or location (e.g. got up, came in, left, went in, came out, sat down) were eliminated. Secondary activities that also appeared in the next time period as a primary activity or that were redundant with the primary activity or another secondary activity at the same time period were also eliminated (e.g. combing hair and putting on makeup would be considered a single activity 123 grooming).

ACTIVITY LINES CONTAINING MORE THAN ONE ACTIVITY

Some activity lines were flagged during the coding process because the line contained more than one activity (e.g. showered and got dressed). To code these activity lines, it was first determined whether the activities on the line were simultaneous or sequential. If the activities were simultaneous, rules guided which activity was the main activity and which one was the secondary activity. If the activities were sequential, a separate set of rules guided which activity came first and which came second.

Simultaneous activities

Table 8.1 shows the combinations of activities that were found on a single line and allowed to occur simultaneously.

Table 8.1: Coding Simultaneous Activities That Appeared On One Line

Activities listed on line	Coding rule
Any combination of laundry, dishes/kitchen cleanup, and household chores	Main activity is first mentioned
Any activity with watching television or listening to the radio	Main activity is first mentioned
Any activity + care giving	Main activity selected based on consistency with pre-code.
Any activity + socializing	Main activity selected based on consistency with pre-code.
Any activity + eating (not a meal)	Main activity selected based on consistency with pre-code. If both main and secondary should be precoded 9, eating (non meal) is secondary. An exception is eating (non meal) and drinking/smoking, where drinking/smoking is secondary.
Any activity + having/eating a meal	Eating meal is always main activity.

In most cases, the first activity mentioned was considered the main activity and each subsequent activity was classified as a secondary activity. For example, combinations of laundry, dishes/kitchen cleanup, and household chores were allowed to be simultaneous with the first mentioned activity the main activity. The same approach was used if any activity was mentioned with watching television or listening to the radio (first mentioned is considered main). In other cases (any activity + socializing; any activity + care giving), the main activity was selected to be consistent with the precode. Rules for eating depended on whether the activity was a meal.

Sequential activities

Remaining cases of multiple mentions per line were considered sequential. When a set of activities on a single line was designated as sequential, the activities were separated into multiple activity lines with rules governing which activity came first.

For cases identified during coding as multiple self-care activities per line, the activities were split into sequential activities in the order of mention, with time split proportionately. For example:

- Shower and dress;
- Bathe and dress;
- Made breakfast (lunch, dinner) and ate breakfast (lunch, dinner);

were all split into multiple lines in the order of mention.

For cases identified during coding as having activity and travel on one line, the activity and travel were split into sequential lines and context was used to determine the order and fill in appropriate travel mode and who went with the respondent or appropriate where/who for activity codes. When the length of one leg of a roundtrip was known, the other leg was assigned the same length.

For brief activities prior to sleep (e.g. read a book and went to sleep; watched tv and went to sleep), the brief activity was assigned 5 minutes and the remaining time assigned to sleep.

All other cases were split into multiple lines in the order of mention, with the length of time split evenly across activities.

START TIME, END TIME AND DURATION

When a sequential activity was split off from a prior activity, the end time of the prior activity and start time of the new activity were adjusted accordingly. In addition, the following corrections were made to these fields:

- If a diary ended before 4am, a “blank/unidentified” activity was added to the diary with an end time of 4am. Any activities listed that went past 4am were deleted from the diary. This was to ensure that all diaries ended at 4am the day after the diary started.
- If the start or end time of an activity was missing, the start and end time were filled in based on information from previous and subsequent activities in the diary.

- Activities with times > 10 hours (>12 hours for sleeping) were checked to see if they were legitimate. Changes from pm to am were implemented as necessary to avoid unlikely outliers (e.g. eating for 13 hours rather than 1 or sleeping for 22 hours rather than 10).

MISSING TRAVEL

Travel was identified as missing by comparing “where” codes for sequential activities and by comparing sequential activity codes (e.g., aberrations from the expected xy7-xyN-xy7 – travel, activity, travel - sequence). Context was used to fill in appropriate travel mode and who went with the respondent. Where travel time was available for one leg of trip to/from same place (e.g. to/from home) the missing duration was filled in using the known travel time; otherwise the activity was split evenly between the missing travel leg and the activity.

WORK AND VOLUNTEERING

Edits related to work and volunteering included:

- Respondents who do not report working in either the global wellbeing or participation questions are assumed to be volunteering.
- All farm care was treated as other income generating activity.
- All leisure-related secondary activities that occurred while the main activity was work (211) or traveling to work (216) were coded as 212 (leisure activity at work).

PRECODES

“Pre-codes” that interviewers used in the field were cleaned to make them consistent with detailed codes applied during coding. Follow-up variables were set to INAP according to skips that should have been followed if the corrected pre-code had been used in the field. Similarly, any data from follow-up questions that should not have been asked given the corrected pre-code were deleted. Approximately 10% of activities had a pre-code that was edited. The activity file includes both the original precode (“DA1OCODE” and the final precode “DA1PCODE”).

EDITING FLAGS

The following editing flags were included in the activity file.

- DA1SPLIT – This flag indicates that the activity was split off from the previous activity (typically because it was originally recorded on the same activity line as the previous activity or because a distinct travel leg was missing).
- DA1SFIX– This flag indicates that the start time of the activity was edited. Note that all activities that were split off have an edited start time.
- DA1EFIX – This flag indicates that the end time was edited. Note that all activities from which an activity was split off had the end time edited.
- DA1PFIX – This flag indicates that the original pre-code was edited.

CHAPTER 9 – DUST WEIGHTING AND ADJUSTING FOR COMPLEX SAMPLE DESIGN

OVERVIEW OF WEIGHTS

The DUST public use data set supports weighted analysis at three levels:

- *Couple or individual level analysis* – analyses that focus on eligible couples (or individuals) as the population of inference (unit of analysis).
- *Analysis of diary-based activities* – analyses that describe days (either time use or wellbeing) experienced by eligible couples or individuals based on diary reports.⁴
- *Analysis of detailed wellbeing measures (for randomly selected activities)* – analyses of more in-depth measures of wellbeing of couples or individuals for a random subsample of diary-based activities.

To support these three levels of analysis (inference to couples or individuals, to days, and to a subsample of activities for which detailed wellbeing was asked), four survey analysis weights are included in the DUST files. In the Flat File users will find a couple-level weight (DF1CPLWT) and diary-level weights corresponding to first and second diaries (DF1TD1WT, DF1TD2WT). In addition, the Activity File includes a detailed wellbeing weight for a subsample of randomly selected activities (DA1DWBWT).

The remainder of this chapter describes the construction of each of these weights.

COUPLE WEIGHTS

The *couple weight* (DF1CPLWT on the Flat File) was constructed for analysis of characteristics of eligible couples or individuals. The weights are a product of the final 2009 PSID Family Weight and a sample selection adjustment (1/P in Table 9.1), which takes into account differential sub-sampling of eligible PSID couples across strata and differential non-response by strata.

To minimize the impact of extreme weights on the variances of sample estimates, the couple weight was trimmed at the 95th percentile value. The final couple weights were then rescaled post-trimming to preserve the original proportion of total weight for each stratum.

⁴ Recently the literature has emphasized the importance of ensuring that the analysis of time-use data accurately reflects the time scale of the data observations. Diary days and the component activities measured in DUST are for a cross-sectional sample of person days. Properly weighted, these data are representative of daily and short term distribution of time use among older married individuals. Care should be taken not to make inference about longer term profiles of time use.

Table 9.1. Weighting Adjustment for Unequal Probabilities of Selection and Non Response

	Strata (DF1STRAT)	Pr(Sampled) (A)	Pr(Responding Sampled) (B)	1/(A*B)
H 50-69				
H Limited	1+5	0.84	0.74	1.609
W Limited	2+6	0.87	0.76	1.512
Neither	3+7	0.35	0.61	4.684
Both	4+8	1.00	0.77	1.299
H 70+				
H Limited	9	1.00	0.71	1.408
W Limited	10	1.00	0.77	1.299
Neither	11	0.62	0.73	2.209
Both	12	1.00	0.81	1.235

DIARY WEIGHTS

As noted above, the *diary weights* are used in analyses that make inferences to days experienced by couples or individuals. Because each couple was asked to provide a diary report of activities for two randomly assigned days, one randomly assigned weekday and one randomly assigned weekend day, the unweighted sample of diaries over-represents weekend days.

The diary weights are a product of the couple weight and a sample selection adjustment [$1/(7 \times \text{Pr}(\text{Day}))$ in Table 9.2], which adjusts for the over-representation of weekend days in the original sample and differential response rates by day of the week.

Extreme values for the diary weights were trimmed at the 95th percentile value and weight values for all diary days were then rescaled to preserve the total weighted counts for each sample stratum.

Table 9.2. Weighting Adjustment for Diary Weights

<i>Interview Day</i>	<i>Diary Day</i>	<i>Pr(Day) in DUST-Diary 1</i>	<i>Pr(Day) in DUST-Diary 2</i>	$\frac{1}{(7 \times \text{Pr}(\text{day}))}$ <i>Diary 1</i>	$\frac{1}{(7 \times \text{Pr}(\text{day}))}$ <i>Diary 2</i>
SU	SA	0.2108	0.2148	0.6777	0.6651
M	SU	0.2816	0.2935	0.5073	0.4867
T	M	0.1295	0.0951	1.1031	1.5022
W	T	0.0935	0.1208	1.5279	1.1826
R	W	0.1080	0.1151	1.3228	1.2412
F	R	0.0904	0.0782	1.5803	1.8268
SA	F	0.0862	0.0824	1.6573	1.7337

DETAILED WELLBEING WEIGHTS

The detailed wellbeing weight is used for the analysis of the DUST in-depth reports on a subsample of activities that occurred on respondents' assigned diary days. The weight is nonzero only for activities with the flag indicating detailed wellbeing questions were asked set to 1 (DA1WDWB=1).

The sampling procedure (randomly selecting a time within a four hour window) resulted in each activity having a probability of selection proportionate to length. Therefore, analyses of detailed wellbeing will over-represent longer activities. The detailed wellbeing weight includes an adjustment that corrects for the fact that longer activities had a proportionately greater chance of being selected for detailed wellbeing follow-up questions.

The weight is a product of the diary weight and a sample selection adjustment ($1/\text{Pr}(\text{selection})$), where the probability of the activity being selected from the window is the original unedited time spent on the activity during the window divided by the total time in the window eligible to be selected. Eligible time was the sum of time spent not asleep and not engaged in unknown activities (according to the original unedited precode).⁵

Extreme values for the final detailed wellbeing weight were trimmed at the 95th percentile weight value. If a diary activity was not selected for the detailed wellbeing questions, the value of its detailed wellbeing weight is set to 0.

VARIANCE ADJUSTMENT FOR COMPLEX SAMPLE DESIGN

Proper estimation of variances for complex sample survey estimates requires the specification of a *sampling error computation model*. Analysts who are interested in performing sampling error computations for DUST should be aware that estimation programs such as SAS, Stata, and other software detailed in the PSID documentation assume a specific sampling error computation model and will require special sampling error codes. Individual records in the analysis data set must be assigned sampling error codes that identify to the programs the complex structure of the sample (stratification, clustering) and are compatible with the computation algorithms of the various programs.

To facilitate the computation of sampling error for statistics based on DUST data, design-specific sampling error codes are included in all public-use versions of the data set. Although minor recoding may be required to conform to the input requirements of the individual programs, the sampling error codes that are provided should enable analysts to conduct either Taylor Series or repeated replication estimation of sampling errors for survey statistics. In

⁵ If an activity crossed multiple windows, the window that resulted in the highest probability of selection was used in weight construction.

programs that use the Taylor Series Linearization method, the sampling error codes (stratum and cluster) will typically be input as keyword statements (SAS V9.1 or higher, SUDAAN V9.0 or higher) or as global settings (Stata V9 or higher, SPSS "plan file") and will be used directly in the computational algorithms. Programs that permit BRR or JRR computations will require the user supplied sampling error codes to construct "replicate weights" that are required for these approaches to variance estimation.

Two sampling error code variables are defined for each case based on the sample design stratum and primary stage unit (PSU) cluster: Sampling Error Stratum Code (DF1STRAM) and Sampling Error Cluster Code (DF1CLUST). The sampling error DF1STRAM variable for DUST data contains a unique code for each of 32 sampling error strata formed by either combining matched pairs of sampling design strata or creating separate sampling error strata for each self-representing primary stage stratum in the parent PSID design. The DUST version of the stratum and cluster variables were modified from the PSID versions in order to eliminate zero cells in the cross-tabulation of the stratum and cluster variables and to facilitate balanced cell sizes across the two design variables.

Analysts should take care to avoid sub-setting the data set for a given subpopulation of interest (such as females). Instead they should use the subpop statement in Stata or the DOMAIN statement in SAS. See example syntax in Appendix E.

CHAPTER 10 – BRIEF BACKGROUND ON THE PSID

THE PSID SAMPLE

The PSID was originally designed to study the dynamics of income and poverty. Thus, the original 1968 PSID sample was drawn from two independent samples: an over-sample of 1,872 low income families from the Survey of Economic Opportunity (the “SEO sample”) and a nationally representative sample of 2,930 families designed by the Survey Research Center at the University of Michigan (the “SRC sample”). The oversampling of families who were poor in the late 1960s resulted in a sizable subsample of African Americans. These two samples combined constitute a national probability sample of U.S. families as of 1968.

The rules for following individuals were designed to maintain a representative sample of families at any point in time as well as across time. To accomplish this, PSID “sample persons” include all persons living in the PSID families in 1968 plus anyone subsequently born to or adopted by a sample person. All sample members are followed when leaving to establish separate family units. This procedure replicates the population's family-building activity and produces a dynamic sample of families each year.

PSID families also include many “non-sample persons.” The most common example is people who after 1968 marry sample persons. Information on non-sample persons is collected while they are living in the same family unit as a sample person. However, once they stop living with a sample person, their household is not interviewed.

This self-replacing design implies that for many PSID families the data include self-reported information on multiple generations within the same family at various points in their lives. Through multiple waves collected over long time periods on a national population, the PSID is the only data set ever collected on life course and multigenerational economic conditions, wellbeing, and health in a long-term panel representative of the full U.S. population.

PSID CONTENT

The PSID contains a large number of family- and individual-level variables that have been measured wave after wave in much the same, if not identical, manner. The PSID Data Center (<http://simba.isr.umich.edu/default.aspx>) provides a full description of variables available in the PSID.

ACCESSING THE PSID DATA

Public use data are provided in two ways: through a Data Center where users create customized extracts, and through zipped files where entire data files are downloaded. Before downloading data for the first time, users must complete a short registration form (<http://simba.isr.umich.edu/U/ca.aspx>), which includes choosing a username and password that allows them to access the data archive. For details see the latest PSID User Guide at <http://psidonline.isr.umich.edu/Guide/documents.aspx>.

CHAPTER 11 – LINKING DUST DATA

LINKING DUST FILES

DUST files may be linked to one another and to files from the PSID.

Linking DUST flat, activity, household, and observation files

The following table provides users with the names of variables that may be used to link observations among the various DUST files

Table 11.1 Linking Variables in the DUST files

	<i>Flat (N=755)</i>	<i>Activity (N=36,898)</i>	<i>Household (N=952)</i>	<i>Obs (N=1506)</i>
Couple ID	DF1PAIR	DA1PAIR	DH1PAIR	DO1PAIR
Head or Wife	DF1HDWF	DA1HDWF	--	DO1HDWF
Diary Number	--	DA1TDNUM	--	DO1TDNUM

In addition, in the flat and activity files there are variables that indicate the person number of the individual with whom an activity was carried out (actively or passively) or for whom an activity was carried out (see “Who Variables” in Table 11.2). The relationship of this individual to the husband and wife may be obtained from the household file, by merging information from the household file to the flat or activity file. To link information about a specific household member designated in a “Who Variable” with values of 3-24 in the flat or activity file, use both DH1PAIR=D*1PAIR and DH1AQSN=“Who Variable” of interest. (See Appendix F for an example of Stata code to match the Activity file to the Household file to obtain relationship to respondent for household members 3 to 24.)

Table 11.2 Linking Who Variables in the DUST files

	<i>Flat (N=755)</i>	<i>Activity (N=36,898)</i>	<i>Household (N=952)</i>
Who Variables	DF1C1B, DF1C2B, DF1HH1B1-DF1HH1B6, DF1HH3B1-DF1HH3B6, DF1HH4B1-DF1HH4B6	DA1WACT1-DA1WACT6, DA1WPAS1-DA1WPAS6, DA1WHOF1-DA1WHOF6	DH1AQSN

LINKING DUST FILES TO PSID INFORMATION

DUST files may also be linked to information in the core PSID. The user must first link to the 2009 PSID IDs (which are automatically included in any extract from the Data Center that includes variables from 2009).

The PSID Family ID and Individual sequence numbers for 2009 have been included in DUST flat, activity, and household files. To link to the 2009 PSID Family file use D*1YRID with ER42002. To link to the 2009 PSID Individual file use D*1YRID and D*1SN with ER34001 and ER34002 (see Table 11.3).

Table 11.3. Family ID and Sequence Numbers in the DUST Flat and Activity Files

	<i>Flat (N=755)</i>	<i>Activity (N=36,898)</i>	<i>2009 PSID Family</i>	<i>2009 PSID Individual</i>
Family ID	DF1YRID	DA1YRID	ER42002	ER34001
Sequence Number	DF1SN	DA1SN	--	ER34002

The DUST Household file contains three different kinds of observations: (1) household members of DUST respondents that are in the couple's family unit (includes the respondent, spouse, and adult children who never left home); (2) household members of DUST respondents who have their own family unit in the PSID (e.g. an adult child who left home, formed their own household, and returned to their parents' house); (3) other members of the household who are not in the PSID (e.g. a cousin or unrelated individual who has temporarily moved in).

To link a respondent or spouse or other family unit member to the 2009 PSID Family file, use DH1YRID with ER42002. To link a respondent or spouse or other family unit member to the 2009 PSID Individual file, use DH1YRID and DH1SN with ER34001 and ER34002.

To link other DUST household members who are in their own family unit to the 2009 PSID Family file, use DH1HYRID with ER42002. To link other household members who are in their own family unit to the 2009 PSID Individual file, use DH1HYRID and DH1HUSN with ER34001 and ER34002.

Also note that there are 13 observations in the DUST household file that do not exist in the PSID and, therefore, cannot be linked to any PSID data.

Table 11.4. Family ID and Sequence Numbers in the DUST Household file

	<i>Household (N=952)*</i>	<i>2009 PSID Family</i>	<i>2009 PSID Individual</i>
Respondent/Spouse Family ID	DH1YRID	ER42002	ER34001
Respondent Spouse Sequence Number	DH1SN	--	ER34002
Other HH member Family ID	DH1HYRID	ER42002	ER34001
Other HH member Sequence Number	DH1HUSN	--	ER34002

*Note: 13 observations in the household file do not have a record in the 2009 PSID.

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APPENDICES

APPENDIX A: SYSTEMATIC ASSIGNMENT OF DAYS OF WEEK

	Primary Interview Day 1 (Long)	Backup Interview Day 1 (Long)	Primary Interview Day 2 (Short)	Backup Interview Day 2 (Short)
	Yields weekend diary:		Yields weekday diary:	
1	Sunday	Monday	Tuesday	Wednesday
2	Sunday	Monday	Tuesday	Thursday
3	Sunday	Monday	Tuesday	Friday
4	Sunday	Monday	Tuesday	Saturday
5	Sunday	Monday	Wednesday	Tuesday
6	Sunday	Monday	Wednesday	Thursday
7	Sunday	Monday	Wednesday	Friday
8	Sunday	Monday	Wednesday	Saturday
9	Sunday	Monday	Thursday	Tuesday
10	Sunday	Monday	Thursday	Wednesday
11	Sunday	Monday	Thursday	Friday
12	Sunday	Monday	Thursday	Saturday
13	Sunday	Monday	Friday	Tuesday
14	Sunday	Monday	Friday	Wednesday
15	Sunday	Monday	Friday	Thursday
16	Sunday	Monday	Friday	Saturday
17	Sunday	Monday	Saturday	Tuesday
18	Sunday	Monday	Saturday	Wednesday
19	Sunday	Monday	Saturday	Thursday
20	Sunday	Monday	Saturday	Friday
21	Monday	Sunday	Tuesday	Wednesday
22	Monday	Sunday	Tuesday	Thursday
23	Monday	Sunday	Tuesday	Friday
24	Monday	Sunday	Tuesday	Saturday
25	Monday	Sunday	Wednesday	Tuesday

	Primary Interview Day 1 (Long)	Backup Interview Day 1 (Long)	Primary Interview Day 2 (Short)	Backup Interview Day 2 (Short)
	Yields weekend diary:		Yields weekday diary:	
26	Monday	Sunday	Wednesday	Thursday
27	Monday	Sunday	Wednesday	Friday
28	Monday	Sunday	Wednesday	Saturday
29	Monday	Sunday	Thursday	Tuesday
30	Monday	Sunday	Thursday	Wednesday
31	Monday	Sunday	Thursday	Friday
32	Monday	Sunday	Thursday	Saturday
33	Monday	Sunday	Friday	Tuesday
34	Monday	Sunday	Friday	Wednesday
35	Monday	Sunday	Friday	Thursday
36	Monday	Sunday	Friday	Saturday
37	Monday	Sunday	Saturday	Tuesday
38	Monday	Sunday	Saturday	Wednesday
39	Monday	Sunday	Saturday	Thursday
40	Monday	Sunday	Saturday	Friday
41	Tuesday	Wednesday	Sunday	Monday
42	Tuesday	Thursday	Sunday	Monday
43	Tuesday	Friday	Sunday	Monday
44	Tuesday	Saturday	Sunday	Monday
45	Wednesday	Tuesday	Sunday	Monday
46	Wednesday	Thursday	Sunday	Monday
47	Wednesday	Friday	Sunday	Monday
48	Wednesday	Saturday	Sunday	Monday
49	Thursday	Tuesday	Sunday	Monday
50	Thursday	Wednesday	Sunday	Monday
51	Thursday	Friday	Sunday	Monday
52	Thursday	Saturday	Sunday	Monday
53	Friday	Tuesday	Sunday	Monday
54	Friday	Wednesday	Sunday	Monday

	Primary Interview Day 1 (Long)	Backup Interview Day 1 (Long)	Primary Interview Day 2 (Short)	Backup Interview Day 2 (Short)
	Yields weekend diary:		Yields weekday diary:	
55	Friday	Thursday	Sunday	Monday
56	Friday	Saturday	Sunday	Monday
57	Saturday	Tuesday	Sunday	Monday
58	Saturday	Wednesday	Sunday	Monday
59	Saturday	Thursday	Sunday	Monday
60	Saturday	Friday	Sunday	Monday
61	Tuesday	Wednesday	Monday	Sunday
62	Tuesday	Thursday	Monday	Sunday
63	Tuesday	Friday	Monday	Sunday
64	Tuesday	Saturday	Monday	Sunday
65	Wednesday	Tuesday	Monday	Sunday
66	Wednesday	Thursday	Monday	Sunday
67	Wednesday	Friday	Monday	Sunday
68	Wednesday	Saturday	Monday	Sunday
69	Thursday	Tuesday	Monday	Sunday
70	Thursday	Wednesday	Monday	Sunday
71	Thursday	Friday	Monday	Sunday
72	Thursday	Saturday	Monday	Sunday
73	Friday	Tuesday	Monday	Sunday
74	Friday	Wednesday	Monday	Sunday
75	Friday	Thursday	Monday	Sunday
76	Friday	Saturday	Monday	Sunday
77	Saturday	Tuesday	Monday	Sunday
78	Saturday	Wednesday	Monday	Sunday
79	Saturday	Thursday	Monday	Sunday
80	Saturday	Friday	Monday	Sunday

APPENDIX B: 3-DIGIT DUST CODES

SUPERCATEGORY 1: Self-Care Activities

Sleeping

- 111 Sleeping: Sleeping; napping
- 112 Going to bed: Going to bed no other activity mentioned.
- 113 Waking up: Waking or getting up
- 114 Laying down; resting
- 116 --
- 117 --
- 118 Sleeplessness (Waiting to Sleep): Trying to sleep; laying awake; waiting to fall asleep
- 119 Sleeping, n.e.c.

Washing, Dressing and Grooming

- 121 Washing Oneself: Washing own body, bathing/showering and running bath for self
- 122 Dressing Oneself: Putting on/taking off own clothes, pajamas
- 123 Grooming Oneself: Includes cleaning own teeth, hair-related, contact-related, make-up and shaving activities
- 124 Using the toilet: Includes using the bathroom, urinating, moving bowels and all euphemisms
- 125 Using services related to washing, dressing, grooming: Includes getting own hair cut, manicure, pedicure, massage, and talking with people who provide such services
- 126 -
- 127 Travel related to washing, dressing, grooming, toileting
- 128 Waiting and watching related to washing, dressing, grooming, using the toilet
- 129 Washing, Dressing, Grooming, Toileting, nec: Includes "getting ready" without detail about specific activities

Eating and Drinking

- 131 Eating and drinking: Includes eating breakfast, lunch, dinner, snack; eating at home or restaurant; having drinks (not alcohol); having coffee or tea; having dessert
- 135 --
- 136 --
- 137 Travel related to eating and drinking
- 138 Waiting and watching related to eating and drinking
- 139 Eating and drinking, n.e.c.

Health-Related Self-Care & Medication

- 141 Health-related self care and taking medication (except exercise): Includes taking medication; taking care of own health needs (dressing wound, giving a shot, icing, and bandaging); checking blood pressure or insulin
- 145 Using in-home health and care services (paid): Includes use of services for own health or care at home such as in-home health care, physical therapy at home, or a home health aide or therapist, ordered medication on the phone

- 146 On the computer or on line performing activities related to self-care & medication use: Includes researching/reading about health condition and medications, reading health-related blog
- 147 Travel related to health-related self care
- 148 Waiting and watching related to health-related self-care
- 149 Self-care n.e.c

Use of Medical, Health, & Long Term Care Services

- 151 Receiving medical care from a family member or friend
- 155 Using medical, health, and long-term care services outside the home: Includes use of/paying for medical, dental, vision, inpatient, outpatient, mental health, adult day care
- 156 On the computer or on line making performing activities related to using medical, health & long-term care services: Includes making appointments on line, checking health records, communicating with doctor or doctor's office, research/reading about providers
- 157 Traveling related to use of medical, health, and long-term care services outside home: Includes travel to/from medical, dental, vision, inpatient, outpatient, mental health, long-term care services
- 158 Waiting and watching related to use of medical, health and long-term care services outside home
- 159 Using medical services, n.e.c.

Personal Emergencies

- 161 Personal emergencies: Includes being in an accident, calling for help, losing consciousness
- 165 -
- 166 -
- 167 Travel related to personal emergencies
- 168 Waiting and watching related to personal/private activities or emergencies
- 169 Personal/private or personal emergencies, n.e.c.*

SUPERCATEGORY 2: Productive Activities

Work and Work-Related Activities

- 211 Working, main or other job: Includes time spent working for pay, whether at work or at home (not on computer or on line)
- 212 Leisure activities at work: Includes time spent socializing, eating/drinking, on arts & entertainment, and active and non-active leisure as part of work (not on computer or on line); work break or lunch break; includes getting ready to leave work
- 215 -
- 216 On the computer or on line performing work or work-related activities at main or other job at work or at home (includes texting for work or work-related purposes)
- 217 Travel related to work & work-related activities
- 218 Waiting and watching related to working & work-related activities

219 Working & work-related activities n.e.c.

Other Income Generating Activities

- 221 Other income generating activities: Includes all other income generating activities including selling arts and crafts, babysitting, maintaining rental property, garage or flea market (not on computer or on line); includes working on farm
- 225 -
- 226 On the computer performing other income generating activities: Includes selling goods on ebay or Craig's list, handling email related to other income generating activities
- 227 Travel related to other income-related activities
- 228 Waiting and watching related to other income-related activities
- 229 Other income-related activities n.e.c.

Looking for Work

- 231 Job searching and interviewing in person: Includes looking for work, updating a resume, interviewing, preparing for an interview, filling out a job application, auditioning (not on computer or on line)
- 235 Using an employment seeking or headhunting service
- 236 On the computer or on line performing job search or using on-line employment services
- 237 Travel related to job searching and interviewing
- 238 Waiting and watching related to job searching and interviewing
- 239 Job search and Interviewing, n.e.c.

Volunteering

- 241 Volunteering: Includes tasks related to volunteering including raising money, stuffing envelopes, donating clothing, volunteering in a soup kitchen or senior center (not volunteering in religious capacity and not on computer or on line)
- 245 -
- 246 On the computer or on line performing volunteer tasks: Includes sending email, newsletters in volunteer capacity (not religious capacity)
- 247 Travel related to volunteering
- 248 Waiting and watching associated with volunteer activities
- 249 Volunteer activities, n.e.c.

Using Unemployment and Other Social Services

- 255 Using unemployment and other social services in person: Includes applying for/collecting unemployment and other social services such as welfare, food stamps (not on computer or on line)
- 256 On the computer or on line performing activities related to use of unemployment and other social services
- 257 Travel related to unemployment and social services
- 258 Waiting and watching related to unemployment and social services
- 259 Using unemployment and social services, nec

Educational Activities

- 261 Taking a class (not for work): Includes attending class, lecture or seminar; taking exams (not on computer or on line)
- 262 Extracurricular activities related to education: Includes attending school-related clubs (play, band, choir) & practices
- 263 Own homework or research for class or educational activities: Includes studying, homework, writing papers, research for class or tests (not on computer or on line)
- 264 Administrative time related to taking a class and other educational activities: Includes filling out forms, enrolling, registering, paying tuition, getting ID for class.
- 265 Using services related to educational activities. Includes using tutor, taking a test preparation course (e.g. SAT, LSAT, GRE preparation)
- 266 On computer or on line performing education or education-related activities or researching/reading material about education or education-related activities
- 267 Travel related to educational activities
- 268 Waiting and watching related to educational activities
- 269 Educational activities, n.e.c.

SUPERCATEGORY 3: Obtaining Goods**Obtaining Groceries and Food**

- 311 Grocery shopping: Includes buying, ordering, paying for groceries (not on computer or on line)
- 312 Purchasing other food (not groceries): Including buying, ordering paying for fast food/take out (not on computer or on line); paying for meal at restaurant
- 315 Using grocery shopping or food purchasing services
- 316 On computer or on line performing grocery shopping or purchasing of other food or researching/reading materials about
- 317 Travel related to grocery shopping or food purchasing
- 318 Waiting and watching related to grocery shopping or food purchasing
- 319 Grocery shopping or food purchasing, n.e.c.

Obtaining Other Non-Durable Goods

- 321 Shopping for non durable goods (including running errands not specified): Includes purchasing clothing, gasoline, medicine, household items, running errands, browsing, comparison shopping (not on computer or on line)
- 325 -
- 326 On computer or on line shopping (not grocery shopping) for or researching/reading material about non-durable goods
- 327 Travel related to shopping for non-durable goods
- 328 Waiting and watching related to shopping for non-durable goods
- 329 Shopping for non-durable goods, n.e.c. Includes "shopping" with no details.

Obtaining Durable Goods (Cars, Furniture, Large Appliances)

- 331 Shopping for durable goods: Includes shopping for a car, furniture, and large appliances (not on computer or on line).
- 335 -
- 336 On computer or on line shopping for or researching/reading material about durable goods
- 337 Travel related to shopping for durable goods
- 338 Waiting and watching related to shopping for durable goods
- 339 Shopping for durable goods, n.e.c.

Real Estate Related Activities

- 341 Real estate related activities: Includes purchasing, renting, selling home/apartment/real estate
- 345 Using services related to purchasing renting selling home/apartment/real estate
- 346 On computer or on line shopping for or researching/reading material about home/apartment/real estate
- 347 Travel related to purchasing renting selling home/apartment/real estate
- 348 Waiting and watching related to purchasing renting selling home/apartment/real estate
- 349 Real estate related activities, n.e.c.

SUPERCATEGORY 4: Household Activities (includes helping with household activities)

Food & Drink Preparation

- 411 Food and drink preparation & presentation: Includes cooking, preparing meals and snacks, setting table, and serving and helping with these activities
- 412 Kitchen and food clean-up: Includes cleaning up kitchen, washing/drying dishes, loading/unloading dishwasher, putting food away and helping with these activities
- 415 Using meal prep or clean up services: Includes hiring caterer, chef, wait staff, and arranging for meals on wheels
- 416 Using computer or online researching/reading material related to food preparation and/or recipes
- 417 Travel related to using food & drink preparation, presentation, & clean-up and using such service
- 418 Waiting and watching related to Food & drink prep, presentation, and clean-up
- 419 Food & drink prep, presentation, & clean-up, n.e.c.

Laundry and Clothing Repair

- 421 Laundry & repairing clothing: Includes washing, drying, hanging clothes, sorting, ironing, putting clothes away, hemming or repairing clothing and helping with these activities
- 425 Using laundry services. Includes using drycleaner, tailor
- 426 Using computer or online researching/reading material related to laundry and clothing repair
- 427 Travel related to laundry. Includes travel to/from drycleaner, Laundromat.
- 428 Waiting and watching related to laundry.
- 429 Laundry & repairing clothing, n.e.c.

Household Care

- 431 Indoor cleaning (except laundry) and storing: Includes indoor cleaning (rooms other than kitchen), recycling, tidying up, picking up), bringing in or putting away groceries/putting away shopping, and helping with these activities
- 432 Indoor maintenance, repair, improvements, & decoration (including arranging and indoor plant care): Includes indoor home maintenance, indoor home improvements, heating and cooling, indoor decorating, watering and caring for indoor houseplants, and helping with these activities
- 433 Outdoor cleaning: Includes outdoor cleaning, shoveling, cleaning garage, gutters, walkways, and helping with these activities
- 434 Outdoor maintenance, repair, improvements, & decoration (including lawn, garden): Includes care for deck, shed, roof, porch, fence, mailbox, lawn, garden, pools, ponds, and hot tubs
- 435 Using services related to household cleaning, storing, maintenance, repair, improvement & decoration. Includes hiring/paying/doing business with cleaner, electrician, contractor, decorator, landscaper for indoor or outdoor chores
- 436 On computer or on line researching/reading material related to indoor or outdoor household care
- 437 Travel related to household cleaning, storing, maintenance, repair, improvement & decoration.
- 438 Waiting and watching related to household cleaning, storing, maintenance, repair, improvement & decoration. Includes waiting and watching household chores being done
- 439 Household chores, n.e.c.: Includes can't tell if indoor or outdoor care

Animal and Pet Care

- 441 Care for animals and pets (not veterinary care): Includes feeding, grooming, letting outside, bathing animals and pets (not walking, exercising or playing with) and helping with these activities
- 442 Walking / exercising / playing with animals and pets: Includes walking, exercising, and playing with animals or pets (not caring for) and helping with these activities
- 445 Using animal and pet services (including vet care): Includes hiring/talking to/paying for/attending pet training, kennel, groomer, veterinary services
- 446 On computer or on line researching/reading material related to animal or pet care
- 447 Travel related to animal and pet care/exercise
- 448 Waiting and watching related to animal and pet care and exercise
- 449 Pet and animal care and exercise, n.e.c.

Vehicle Care

- 451 Vehicle repair and maintenance (not service use): Includes fixing car, changing oil, cleaning, working on engine and helping with these activities
- 455 Using vehicle repair and maintenance service
- 456 On computer or on line researching/reading material related to vehicle care

- 457 Travel related to vehicle repair and maintenance and care (includes moving car to/from street to driveway/garage)
- 458 Waiting and watching related to vehicle repair and maintenance
- 459 Vehicle repair and maintenance, nec

Appliance, Computer, Tool and Toy Care

- 461 Appliance tool, and toy set-up, repair, & maintenance (self): Includes fixing, installing, repairing, hooking up, maintaining appliances, stereo/tv/vcr/dvd player/satellite dish, camera, security system, lawn-mower, and toys and helping with these activities
- 462 Computer set-up, repair & maintenance (self): Includes fixing, installing, repairing, hooking up, maintaining computer and accessories (printers, modems) and helping with computer and on-line activities/problems (connections, hardware, software, network)
- 465 Using services related to appliance, computer, tool, and toy setup, repair & maintenance: Includes hiring/talking to/paying for installation, repair, and maintenance of appliances, computers, tools, and toys
- 466 On computer or on line researching/reading material related to appliance, computer, tool or toy care
- 467 Travel related to appliance, computer, tool, and toy set-up, repair & maintenance
- 468 Waiting and watching related to appliance, computer, tool, and toy setup, repair & maintenance
- 469 Appliance, computer, tool, and toy set-up, repair, & maintenance (by self), nec

Financial Management & Household Planning

- 471 Financial management: Includes paying bills, writing checks, doing taxes, balancing checkbook, checking balances and investments (on paper or by phone), looking at bills, giving money/allowance to household member and helping with these activities
- 472 Using banking services: Includes using banking services, making deposits, withdrawals, transfers in person, or using the ATM and helping with these activities
- 473 Household & personal organization, management, and planning: Includes making lists, organizing, planning, looking for misplaced items, assigning chores for household related activities (not on computer or on line) and helping with these activities ; packing and unpacking vehicle for trip; packing/unpacking bags/suitcases; paper work, unspecified (not for work)
- 475 Using loan, other financial and legal services: Includes meeting with or talking to or paying a loan or mortgage officer, lawyer or paralegal, accountant, stockbroker, claims adjuster, mediator, debt manager, or insurance agent.
- 476 On the computer or on line performing financial management, banking, or household/personal organization: includes using the computer to pay bills, write checks, do taxes (e.g., Turbo tax), balance checkbook (e.g., Quicken), make deposits, withdrawals or transfers, make lists, organize, plan, assign hh chores, make a budget, helping with these activities, or research/reading material related to these activities
- 477 Travel related to financial management, & banking, loan, and other financial and legal * household & personal organization services

- 478 Waiting and watching related to financial management, & banking, loan, and other financial and legal services & household & personal organization
- 479 Financial management and banking, loan and other financial and legal services, & household & personal organization, n.e.c.

SUPERCATEGORY 5: Physical Care, Looking after Others & School-related activities

Physical Care & Assistance to Others

- 511 Physical care for someone else: Includes dressing, bathing, feeding, grooming someone and physical care for a baby, child, or adult
- 512 Looking after someone else: Includes supervising, keeping an eye on, watching for health-related reasons a baby, child, or adult
- 513 Other caring-related activities including reading to, playing with (not playing sports or attending sports), teaching someone (not school related). Includes reading to, playing with (not sports), teaching someone (not school related) and disciplining/directing a child as part of care-related activities
- 515 Contracting with paid child or adult care services for someone else's care: Includes hiring/paying for/talking to/interviewing caregivers including babysitters, summer camp, nanny, adult day care, aide (not education related)
- 516 On computer or online reading/researching material related to physical care and assistance to others (not education related)
- 517 Travel related to physical care or looking after someone else including picking up / dropping off another person, not at school or class)
- 518 Waiting and watching related to providing physical care or looking after someone else (including reading, playing with)
- 519 Activities related to providing physical care or looking after someone else (including reading, playing with n.e.c); includes waking someone else up.

Medical Care for Others

- 521 Providing medical care to someone else: Includes giving someone else medicine, taking temperature, changing bandage, giving insulin, helping with physical therapy
- 525 Obtaining medical care for someone else. Includes interacting with medical care provider for someone else (talking with someone else's doctor, being at their appointment with them)
- 526 On computer or online reading/researching material related to medical care for someone else.
- 527 Travel related to medical care for someone else including picking up / dropping off or bringing another person to their doctor or medical provider)
- 528 Waiting and watching related to medical care provided to someone else
- 529 Activities related to providing physical care or looking after someone else (including reading, playing with n.e.c.

School-Related Assistance

- 531 Helping someone else with home work or home schooling: Includes reviewing, checking, quizzing someone else about homework
- 532 Attending meetings and school conferences for someone else: Includes parent-teach conferences, back to school night, meeting with teacher, tutor or other school-related function
- 535 Arranging services for someone else's education. Includes hiring a tutor or paying for instruction or lessons
- 536 On computer or online performing activities related to someone else's education or researching/reading material related to someone else's education
- 537 Traveling related to someone else's educational activities including picking up / dropping off at school or class
- 538 Waiting and watching related to someone else's educational activities
- 539 Activities related to education of someone else, nec

SUPERCATEGORY 6: Non-Active Leisure

Socializing and Personal Communication

- 611 Socializing and communicating with others-in person: Includes talking with, greeting, visiting, hugging/kissing, giving gifts to, entertaining, spending time with friends or family in person, laughing with others, joking around with others (not on computer, telephone, or online)
- 612 Socializing and communication with others by talking on telephone: Includes talking on the phone with friends or family and checking phone messages
- 613 Attending or hosting party, wedding or social occasions: Includes attending/hosting weddings, bar/bat mitzvah receptions, and birthday/holiday/graduation parties
- 614 Reading and sorting through the mail (not email), sending mail or packages, bringing in the mail and newspaper, writing cards/letters (not on the computer); at post office
- 615 Using services related to socializing and personal communication such as a dating service or party planner
- 616 On computer or on line or other technology to socialize or communicate: Includes email (non work-related) or other technology such as instant messaging, texting, skypeing, or online at facebook or other social networking site
- 617 Travel related to social and personal communication, including to/from parties (including giving a friend a ride)
- 618 Waiting and watching related to social and personal communication, including parties
- 619 Social and personal communication, nec

TV & Movie Viewing

- 621 Watch television and movies: Includes watching tv, video, movie, vcr, dvd, tivo, borrowing videos (not going to the movies)
- 625 Using services related to watching television or movies. Includes picking out video at the video store.

- 626 On computer or on line to watch tv shows or movies or to research/read material related to watching tv shows or movies
- 627 Travel related to television and movie viewing. Includes going to the video store.
- 628 Waiting related to television and movie viewing
- 629 Television and movie viewing, n.e.c.

Games & Puzzles

- 631 Games & puzzles (not part of taking care of someone): Includes doing puzzles, crosswords, board games (not on computer or on line)
- 632 Gambling (not at Casino or on line). Includes playing/winning the lottery, betting, playing poker
- 635 -
- 636 On computer or on line or other technology playing games or doing puzzles. Includes computer games, internet games, Wii, playstation, on line poker, on line gambling
- 637 Travel related to games, videogames and computer games. Includes going to the videogame store.
- 638 Waiting and watching related to games, videogames and computer games.
- 639 Games & puzzles, n.e.c.

Other Non-Active Leisure

- 641 Arts and crafts, collecting, and hobbies, making music (personal): Includes arts and crafts, playing musical instrument, photography, sewing, jewelry making and collections; senior center activities if no specific activities mentioned
- 642 Reading (personal): Includes reading books, magazines, newspaper, listening to books on tape (not on computer).
- 643 Writing (personal): Includes writing in diary or journal (not on computer);
- 644 Listening to recorded music or radio including talk radio, music on the radio, CDs, ipod (not on computer)
- 645 Using services related to non-active leisure; at the library checking out books
- 646 On computer or on-line performing non-active leisure including reading, writing, listening to music, or reading/research related to arts and crafts, photography, sewing, jewelry making and all collecting (e.g. coin collecting); includes computer use or on-line unspecified reason (not at work), "surfing the web", downloading files, burning CDs, uploading pictures.
- 647 Travel related to non-active leisure: include travel to/from collector's conventions, library, senior center if no specific activities mentioned
- 648 Waiting and watching related to non-active leisure
- 649 Non-active leisure, n.e.c.

Smoking and Drinking Alcohol

- 651 Smoking or chewing tobacco
- 652 Drinking alcohol: Includes having beer, wine, and alcoholic beverages
- 655 -
- 656 -

- 657 -
- 658 -
- 659 Smoking and drinking alcohol, n.e.c.

No Activity: Relaxing, Emotions

- 661 Doing nothing, relaxing: Includes thinking, sitting outside, sunbathing; sitting down taking it easy; (if there is another codeable response, do not code "relaxing")
- 662 Negative emotion w/no activity: Includes crying, worrying, fretting
- 663 Positive emotion w/no activity: laughing (by oneself)
- 665 -
- 666 -
- 667 -
- 668 -
- 669 No activity, n.e.c.

SUPERCATEGORY 7: Active Leisure, Arts & Entertainment, & Travel

Sports and Physical Activity

- 711 Playing/practicing sports or taking physical activity class/lessons: Includes all sports, teams, and taking lessons or practice, includes dancing
- 712 Walking/jogging for exercise or pleasure or working out: Includes walking/jogging/running for pleasure or exercise, stretching, working out, using the gym
- 713 Other outdoor recreation activities: Includes camping, fishing, boating, hiking, hunting and other outdoor recreation activities
- 714 Attending sporting events (including family member's sporting event)
- 715 -
- 716 Using computer or going on line to read/research material related to sports or physical activity; following favorite team on-line (but does not include watching live games on line)
- 717 Travel related to active leisure
- 718 Waiting and watching related to active leisure
- 719 Active leisure, nec

Arts & Entertainment

- 721 Attending arts outside of home: Includes attending plays, theatre, concerts
- 722 Attending family member's play or concert
- 723 Attending movies (outside of home)
- 724 Attending casino
- 725 -
- 726 Using computer or going on line to gamble or to read/research about other arts & entertainment
- 727 Travel related to arts & entertainment
- 728 Waiting related to arts & entertainment
- 729 Arts & entertainment, n.e.c.

Travel as Leisure

- 735 Using travel-related services for leisure, including travel agent, AAA
- 736 Using computer or going on line to research/read material related to travel as research, including making on-line reservations, printing boarding passes for leisure trip
- 737 Going on a trip, vacation, or driving around, sightseeing: Includes going on a trip, vacation or driving around to see the sites
- 738 Waiting related to travel for leisure
- 739 Travel for leisure, n.e.c

SUPERCATEGORY 8: Organizational Activities**Religious & Spiritual Practice**

- 811 Attending religious services & practice: Includes attending/leading/participating in church services, praying alone, studying religious texts, attending funerals/weddings/bar mitzvah and other religious ceremonies, attending church choir practice or performance
- 812 Religious & spiritual education activities: Includes participating in religious study group or attending religious class
- 813 Religious & spiritual volunteer activities: Includes attending meetings, events and activities sponsored by church, synagogue, temple, mosque or other organized religion
- 815 Using services related to religious & spiritual activities
- 816 Using computer or going on line to participate in religious practice, religious education, or religious volunteer activities or research/read material related to these activities
- 817 Travel related to religious & spiritual, and religious education activities
- 818 Waiting related to religious & spiritual, and religious education activities
- 819 Religious and spiritual activities, n.e.c.

Other Organizations (not volunteer)

- 821 Attending meetings, events, and activities sponsored by professional, union, fraternal, political, civic, or special interest organizations: Includes attending meetings, events, and activities sponsored by Boy Scout/Girl Scout, unions, fraternal lodge, weight watchers, political party, AA, book club, homeowner's association
- 825 -
- 826 Using computer or going on line to participate in other organizations meetings, events, activities or research/read material related to these activities
- 827 Travel related to attending meetings (personal, not volunteer)
- 828 Waiting related to attending meetings
- 829 Attending meetings (personal, not volunteer), n.e.c.

Government & Civic Activities

- 831 Civic obligations & participation. Includes serving on jury duty, appearing in court, voting, participating in surveys other than DUST, attending town hall meetings, talking to political representative
- 832 DUST interview on previous day (survey)

- 835 Using government services (not unemployment; social services): Includes using police, fire, licensing, permits, inspection services
- 836 Using computer or going on line to participate in government or civic activities or research/read material related to these activities
- 837 Travel related to government or civic activities
- 838 Waiting related to government or civic activities
- 839 Civic or government activities, nec

SUPER CATEGORY 9: Other Miscellaneous Codes & Data Issues

Data Issues

- 912 Can't remember / Don't know
- 913 Too personal / Refused
- 999 Missing

APPENDIX C: CROSSWALK BETWEEN ATUS AND DUST ACTIVITY CODES

2008 ATUS	Description of ATUS code	DUST 2-digit code	Description of DUST code
010101	Sleeping	11	Sleeping
010102	Sleeplessness	11	
010199	Sleeping, n.e.c.*	11	
010201	Washing, dressing and grooming oneself	12	Washing dressing and grooming
010299	Grooming, n.e.c.*	12	
080501	Using personal care services	12	
	Waiting associated w/personal care		
080502	services	12	
080599	Using personal care services, n.e.c.*	12	
180101	Travel related to personal care	12	
180199	Travel related to personal care, n.e.c.*	12	
	Travel related to using personal care		
180805	services	12	
110101	Eating and drinking	13	Eating and drinking
110199	Eating and drinking, n.e.c.*	13	
110201	Waiting associated w/eating & drinking	13	
	Waiting associated with eating & drinking,		
110299	n.e.c.*	13	
119999	Eating and drinking, n.e.c.*	13	
181101	Travel related to eating and drinking	13	
	Travel related to eating and drinking,		
181199	n.e.c.*	13	
010301	Health-related self care	14	Health-related self-care & medication
010399	Self care, n.e.c.*	14	
080402	Using in-home health and care services	14	
	Using health and care services outside the		
080401	home	15	Use of medical, health, & long term care services
080403	Waiting associated with medical services	15	
080499	Using medical services, n.e.c.*	15	
180804	Travel related to using medical services	15	

2008 ATUS	Description of ATUS code	DUST 2-digit code	Description of DUST code
010501	Personal emergencies	16	Personal emergencies
010599	Personal care emergencies, n.e.c.*	16	
019999	Personal Care, n.e.c.*	16	
020899	Appliances and tools, n.e.c.*	16	
050101	Work, main job	21	Work and work-related activities
050102	Work, other job(s)	21	
050103	Security procedures related to work	21	
050104	Waiting associated with working	21	
050199	Working, n.e.c.*	21	
050201	Socializing, relaxing, and leisure as part of job	21	
050202	Eating and drinking as part of job	21	
050203	Sports and exercise as part of job	21	
050204	Security procedures as part of job	21	
050205	Waiting associated with work-related activities	21	
050299	Work-related activities, n.e.c.*	21	
180501	Travel related to working	21	
180502	Travel related to work-related activities	21	
050301	Income-generating hobbies, crafts, and food	22	Other income generating activities
050302	Income-generating performances	22	
050303	Income-generating services	22	
050304	Income-generating rental property activities	22	
050305	Waiting associated with other income- generating activities	22	
050399	Other income-generating activities, n.e.c.*	22	
180503	Travel related to income-generating activities	22	Looking for work
050401	Job search activities	23	
050403	Job interviewing	23	
050404	Waiting associated with job search or interview	23	
050405	Security procedures rel. to job search/interviewing	23	

2008 ATUS	Description of ATUS code	DUST 2-digit code	Description of DUST code
050499	Job search and Interviewing, n.e.c.*	23	
059999	Work and work-related activities, n.e.c.*	23	
180504	Travel related to job search & interviewing	23	
150101	Computer use	24	Volunteering
150102	Organizing and preparing	24	
150103	Reading	24	
150104	Telephone calls (except hotline counseling)	24	
150105	Writing	24	
150106	Fundraising	24	
150199	Administrative & support activities, n.e.c.*	24	
150201	Food preparation, presentation, clean-up	24	
150202	Collecting & delivering clothing & other goods	24	
150203	Providing care	24	
150204	Teaching, leading, counseling, mentoring	24	
150299	Social service & care activities, n.e.c.*	24	
150301	Building houses, wildlife sites, & other structures	24	
150302	Indoor & outdoor maintenance, repair, & clean-up	24	
150399	Indoor & outdoor maintenance, building & clean-up activities, n.e.c.*	24	
150401	Performing	24	
150402	Serving at volunteer events & cultural activities	24	
150499	Participating in performance & cultural activities, n.e.c.*	24	
150501	Attending meetings, conferences, & training	24	
150599	Attending meetings, conferences, & training, n.e.c.*	24	
150601	Public health activities	24	
150602	Public safety activities	24	

2008 ATUS	Description of ATUS code	DUST 2-digit code	Description of DUST code
150699	Public health & safety activities, n.e.c.*	24	
150701	Waiting associated with volunteer activities	24	
150799	Waiting associated with volunteer activities, n.e.c.*	24	
150801	Security procedures related to volunteer activities	24	
150899	Security procedures related to volunteer activities, n.e.c.*	24	
159999	Volunteer activities, n.e.c.*	24	
181501	Travel related to volunteering	24	
181599	Travel related to volunteer activities, n.e.c.*	24	
100102	Using social services	25	Using unemployment and other social services
060101	Taking class for degree, certification, or licensure	26	Educational activities
060102	Taking class for personal interest	26	
060103	Waiting associated with taking classes	26	
060104	Security procedures rel. to taking classes	26	
060199	Taking class, n.e.c.*	26	
060201	Extracurricular club activities	26	
060202	Extracurricular music & performance activities	26	
060203	Extracurricular student government activities	26	
060204	Waiting associated with extracurricular activities	26	
060299	Education-related extracurricular activities, n.e.c.*	26	
060301	Research/homework for class for degree, certification, or licensure	26	
060302	Research/homework for class for pers. interest	26	
060303	Waiting associated with research/homework	26	

2008 ATUS	Description of ATUS code	DUST 2-digit code	Description of DUST code
060399	Research/homework n.e.c.*	26	
060401	Administrative activities: class for degree, certification, or licensure	26	
060402	Administrative activities: class for personal interest	26	
060403	Waiting associated w/admin. activities (education)	26	
060499	Administrative for education, n.e.c.*	26	
069999	Education, n.e.c.*	26	
160103	Telephone calls to/from education services providers	26	
180601	Travel related to taking class	26	
180602	Travel related to extracurricular activities (ex. Sports)	26	
180603	Travel related to research/homework	26	
180604	Travel related to registration/administrative activities	26	
180699	Travel related to education, n.e.c.*	26	
070101	Grocery shopping	31	Obtaining groceries and food
070103	Purchasing food (not groceries)	31	
180701	Travel related to grocery shopping	31	
180703	Travel related to purchasing food (not groceries)	31	
070102	Purchasing gas	32/33	Obtaining other goods (nondurable and durable)
070104	Shopping, except groceries, food and gas	32/33	
070105	Waiting associated with shopping	32/33	
070199	Shopping, n.e.c.*	32/33	
070201	Comparison shopping	32/33	
070299	Researching purchases, n.e.c.*	32/33	
070301	Security procedures rel. to consumer purchases	32/33	
070399	Security procedures rel. to consumer purchases, n.e.c.*	32/33	
079999	Consumer purchases, n.e.c.*	32/33	
160104	Telephone calls to/from salespeople	32/33	
180702	Travel related to purchasing gas	32/33	

2008 ATUS	Description of ATUS code	DUST 2-digit code	Description of DUST code
180704	Travel related to shopping, ex groceries, food, and gas	32/33	
180799	Travel related to consumer purchases, n.e.c.*	32/33	
080601	Activities rel. to purchasing/selling real estate	34	Real estate related activities
080602	Waiting associated w/purchasing/selling real estate	34	
080699	Using real estate services, n.e.c.*	34	
180806	Travel related to using real estate services	34	
020201	Food and drink preparation	41	Food & drink preparation
020202	Food presentation	41	
020203	Kitchen and food clean-up	41	
020299	Food & drink prep, presentation, & clean- up, n.e.c.*	41	
090102	Using meal preparation services	41	
180202	Travel related to food & drink prep., clean-up, & presentation	41	
020102	Laundry	42	Laundry and clothing repair
020103	Sewing, repairing, & maintaining textiles	42	
090103	Using clothing repair and cleaning services	42	
020101	Interior cleaning	43	Household care
020104	Storing interior hh items, inc. food	43	
020199	Housework, n.e.c.*	43	
020301	Interior arrangement, decoration, & repairs	43	
020302	Building and repairing furniture	43	
020303	Heating and cooling	43	
020399	Interior maintenance, repair, & decoration, n.e.c.*	43	
020401	Exterior cleaning	43	
020402	Exterior repair, improvements, & decoration	43	
020499	Exterior maintenance, repair & decoration, n.e.c.*	43	

2008 ATUS	Description of ATUS code	DUST 2-digit code	Description of DUST code
020501	Lawn, garden, and houseplant care	43	
020502	Ponds, pools, and hot tubs	43	
020599	Lawn and garden, n.e.c.*	43	
020905	Home security	43	
020999	Household management, n.e.c.*	43	
029999	Household activities, n.e.c.*	43	
	Housework, cooking, & shopping	43	
040501	assistance for nonhh adults		
	House & lawn maintenance & repair		
040502	assistance for nonhh adults	43	
090101	Using interior cleaning services	43	
	Waiting associated with using household		
090104	services	43	
090199	Using household services, n.e.c.*	43	
	Using home		
090201	maint/repair/décor/construction svcs	43	
	Waiting associated w/ home		
090202	main/repair/décor/constr	43	
	Using home maint/repair/décor/constr		
090299	services, n.e.c.*	43	
090401	Using lawn and garden services	43	
	Waiting associated with using lawn &		
090402	garden services	43	
090499	Using lawn and garden services, n.e.c.*	43	
099999	Using household services, n.e.c.*	43	
	Telephone calls to/from household		
160106	services providers	43	
180201	Travel related to housework	43	
	Travel related to interior maintenance,		
180203	repair, & decoration	43	
	Travel related to exterior maintenance,		
180204	repair, & decoration	43	
	Travel related to lawn, garden, and		
180205	houseplant care	43	
180901	Travel related to using household services	43	

2008 ATUS	Description of ATUS code	DUST 2-digit code	Description of DUST code
180902	Travel related to using home main./repair/décor./construction svcs	43	
180904	Travel related to using lawn and garden services	43	
020601	Care for animals and pets (not veterinary care)	44	Animal and pet care
020602	Walking / exercising / playing with animals	44	
020699	Pet and animal care, n.e.c.*	44	
080701	Using veterinary services	44	
080702	Waiting associated with veterinary services	44	
080799	Using veterinary services, n.e.c.*	44	
090301	Using pet services	44	
090302	Waiting associated with pet services	44	
090399	Using pet services, n.e.c.*	44	
180206	Travel related to care for animals and pets (not vet care)	44	
180807	Travel related to using veterinary services	44	
180903	Travel related to using pet services (not vet)	44	
040503	Animal & pet care assistance for nonhh adults	44	
020701	Vehicle repair and maintenance (by self)	45	Vehicle care
020799	Vehicles, n.e.c.*	45	
040504	Vehicle & appliance maintenance/repair assistance for nonhh adults	45	
090501	Using vehicle maintenance or repair services	45	
090502	Waiting associated with vehicle main. or repair svcs	45	
090599	Using vehicle maint. & repair svcs, n.e.c.*	45	
180207	Travel related to vehicle care & maintenance (by self)	45	
180905	Travel related to using vehicle maintenance & repair services	45	

2008 ATUS	Description of ATUS code	DUST 2-digit code	Description of DUST code
020801	Appliance, tool, and toy set-up, repair, & maintenance (by self)	46	Appliance, computer, tool and toy care
180208	Travel related to appliance, tool, and toy set-up, repair, & maintenance (by self)	46	
020901	Financial management	47	Financial management & household planning
020902	Household & personal organization and planning	47	
030501	Helping hh adults	47	
030502	Organization & planning for hh adults	47	
030504	Waiting associated with helping hh adults	47	
030599	Helping household adults, n.e.c.*	47	
040505	Financial management assistance for nonhh adults	47	
040506	Household management & paperwork assistance for nonhh adults	47	
040508	Waiting associated with helping nonhh adults	47	
040599	Helping nonhh adults, n.e.c.*	47	
080201	Banking	47	
080202	Using other financial services	47	
080203	Waiting associated w/banking/financial services	47	
080299	Using financial services and banking, n.e.c.*	47	
080301	Using legal services	47	
080302	Waiting associated with legal services	47	
080399	Using legal services, n.e.c.*	47	
180209	Travel related to household management	47	
180305	Travel related to helping hh adults	47	
180405	Travel related to helping nonhh adults	47	
180802	Travel related to using financial services and banking	47	
180803	Travel related to using legal services	47	

2008 ATUS	Description of ATUS code	DUST 2-digit code	Description of DUST code
030101	Physical care for hh children	51	Physical care & assistance to others
030102	Reading to/with hh children	51	
030103	Playing with hh children, not sports	51	
030108	Organization & planning for hh children	51	
030109	Looking after hh children (as a primary activity)	51	
030111	Waiting for/with hh children	51	
030112	Picking up/dropping off hh children	51	
030199	Caring for & helping hh children, n.e.c.*	51	
030401	Physical care for hh adults	51	
030402	Looking after hh adult (as a primary activity)	51	
030499	Caring for household adults, n.e.c.*	51	
030503	Picking up/dropping off hh adult	51	
040101	Physical care for nonhh children	51	
040102	Reading to/with nonhh children	51	
040103	Playing with nonhh children, not sports	51	
040108	Organization & planning for nonhh children	51	
040109	Looking after nonhh children (as primary activity)	51	
040111	Waiting for/with nonhh children	51	
040112	Dropping off/picking up nonhh children	51	
040199	Caring for and helping nonhh children, n.e.c.*	51	
040401	Physical care for nonhh adults	51	
040402	Looking after nonhh adult (as a primary activity)	51	
040499	Caring for nonhh adults, n.e.c.*	51	
040507	Picking up/dropping off nonhh adult	51	
080101	Using paid childcare services	51	
080102	Waiting associated w/purchasing childcare svcs	51	
080199	Using paid childcare services, n.e.c.*	51	

2008 ATUS	Description of ATUS code	DUST 2-digit code	Description of DUST code
160107	Telephone calls to/from paid child or adult care providers	51	
180301	Travel related to caring for & helping hh children	51	
180304	Travel related to caring for hh adults	51	
180401	Travel related to caring for and helping nonhh children	51	
180404	Travel related to caring for nonhh adults	51	
180801	Travel related to using childcare services	51	
039999	Caring for & helping hh members, n.e.c.*	51	
049999	Caring for & helping nonhh members, n.e.c.*	51	
030301	Providing medical care to hh children	52	Medical care for others
030302	Obtaining medical care for hh children	52	
030303	Waiting associated with hh children's health	52	
030399	Activities related to hh child's health, n.e.c.*	52	
030403	Providing medical care to hh adult	52	
030404	Obtaining medical and care services for hh adult	52	
030405	Waiting associated with caring for household adults	52	
040301	Providing medical care to nonhh children	52	
040302	Obtaining medical care for nonhh children	52	
040303	Waiting associated with nonhh children's health	52	
040399	Activities related to nonhh child's health, n.e.c.*	52	
040403	Providing medical care to nonhh adult	52	
040404	Obtaining medical and care services for nonhh adult	52	

2008 ATUS	Description of ATUS code	DUST 2-digit code	Description of DUST code
040405	Waiting associated with caring for nonhh adults	52	School-related assistance to others
180303	Travel related to hh children's health	52	
180403	Travel related to nonhh children's health	52	
030201	Homework (hh children)	53	
030202	Meetings and school conferences (hh children)	53	
030203	Home schooling of hh children	53	
030204	Waiting associated with hh children's education	53	
030299	Activities related to hh child's education, n.e.c.*	53	
040201	Homework (nonhh children)	53	
040202	Meetings and school conferences (nonhh children)	53	
040203	Home schooling of nonhh children	53	
040204	Waiting associated with nonhh children's education	53	
040299	Activities related to nonhh child's educ., n.e.c.*	53	
180302	Travel related to hh children's education	53	
180402	Travel related to nonhh children's education	53	
020903	HH & personal mail & messages (except e-mail)	61	Socializing and personal communication
020904	HH & personal e-mail and messages	61	
030106	Talking with/listening to hh children	61	
040106	Talking with/listening to nonhh children	61	
120101	Socializing and communicating with others	61	
120199	Socializing and communicating, n.e.c.*	61	
120201	Attending or hosting parties/receptions/ceremonies	61	

2008 ATUS	Description of ATUS code	DUST 2-digit code	Description of DUST code
120202	Attending meetings for personal interest (not volunteering)	61	
120299	Attending/hosting social events, n.e.c.*	61	
120501	Waiting assoc. w/socializing & communicating	61	
120502	Waiting assoc. w/attending/hosting social events	61	
120599	Waiting associated with socializing, n.e.c.*	61	
160101	Telephone calls to/from family members	61	
160102	Telephone calls to/from friends, neighbors, or acquaintances	61	
181201	Travel related to socializing and communicating	61	
181202	Travel related to attending or hosting social events	61	
181601	Travel related to phone calls	61	
181699	Travel rel. to phone calls, n.e.c.*	61	
120303	Television and movies (not religious)	62	Tv & movie viewing
120304	Television (religious)	62	
120307	Playing games	63	Games & puzzles
030104	Arts and crafts with hh children	64	Other non-active leisure
040104	Arts and crafts with nonhh children	64	
120305	Listening to the radio	64	
120306	Listening to/playing music (not radio)	64	
120308	Computer use for leisure (exc. Games)	64	
120309	Arts and crafts as a hobby	64	
120310	Collecting as a hobby	64	
	Hobbies, except arts & crafts and collecting	64	
120311	collecting	64	
120312	Reading for personal interest	64	
120313	Writing for personal interest	64	
120503	Waiting associated with relaxing/leisure	64	
181203	Travel related to relaxing and leisure	64	

2008 ATUS	Description of ATUS code	DUST 2-digit code	Description of DUST code
120302	Tobacco and drug use	65	Smoking and drinking alcohol
120301	Relaxing, thinking	66	No activity: relaxing, emotions
120399	Relaxing and leisure, n.e.c.*	66	
030105	Playing sports with hh children	71	Sports and physical activity
040105	Playing sports with nonhh children	71	
130101	Doing aerobics	71	
130102	Playing baseball	71	
130103	Playing basketball	71	
130104	Biking	71	
130105	Playing billiards	71	
130106	Boating	71	
130107	Bowling	71	
130108	Climbing, spelunking, caving	71	
130109	Dancing	71	
130110	Participating in equestrian sports	71	
130111	Fencing	71	
130112	Fishing	71	
130113	Playing football	71	
130114	Golfing	71	
130115	Doing gymnastics	71	
130116	Hiking	71	
130117	Playing hockey	71	
130118	Hunting	71	
130119	Participating in martial arts	71	
130120	Playing racquet sports	71	
130121	Participating in rodeo competitions	71	
130122	Rollerblading	71	
130123	Playing rugby	71	
130124	Running	71	
130125	Skiing, ice skating, snowboarding	71	
130126	Playing soccer	71	
130127	Softball	71	
130128	Using cardiovascular equipment	71	
130129	Vehicle touring/racing	71	
130130	Playing volleyball	71	
130131	Walking	71	
130132	Participating in water sports	71	

2008 ATUS	Description of ATUS code	DUST 2-digit code	Description of DUST code
130133	Weightlifting/strength training	71	
130134	Working out, unspecified	71	
130135	Wrestling	71	
130136	Doing yoga	71	
130199	Playing sports n.e.c. *	71	
130201	Watching aerobics	71	
130202	Watching baseball	71	
130203	Watching basketball	71	
130204	Watching biking	71	
130205	Watching billiards	71	
130206	Watching boating	71	
130207	Watching bowling	71	
130208	Watching climbing, spelunking, caving	71	
130209	Watching dancing	71	
130210	Watching equestrian sports	71	
130211	Watching fencing	71	
130212	Watching fishing	71	
130213	Watching football	71	
130214	Watching golfing	71	
130215	Watching gymnastics	71	
130216	Watching hockey	71	
130217	Watching martial arts	71	
130218	Watching racquet sports	71	
130219	Watching rodeo competitions	71	
130220	Watching rollerblading	71	
130221	Watching rugby	71	
130222	Watching running	71	
130223	Watching skiing, ice skating, snowboarding	71	
130224	Watching soccer	71	
130225	Watching softball	71	
130226	Watching vehicle touring/racing	71	
130227	Watching volleyball	71	
130228	Watching walking	71	
130229	Watching water sports	71	
130230	Watching weightlifting/strength training	71	
130231	Watching people working out, unspecified	71	

2008 ATUS	Description of ATUS code	DUST 2-digit code	Description of DUST code
130232	Watching wrestling	71	
130299	Attending sporting events, n.e.c.*	71	
	Waiting related to playing sports or		
130301	exercising	71	
	Waiting related to attending sporting		
130302	events	71	
	Waiting associated with sports, exercise,		
130399	& recreation, n.e.c.*	71	
	Security related to playing sports or		
130401	exercising	71	
	Security related to attending sporting		
130402	events	71	
	Security related to sports, exercise, &		
130499	recreation, n.e.c.*	71	
139999	Sports, exercise, & recreation, n.e.c.*	71	
	Travel related to participating in		
181301	sports/exercise/recreation	71	
	Travel related to attending		
181302	sporting/recreational events	71	
	Travel related to sports, exercise, &		
181399	recreation, n.e.c.*	71	
030110	Attending hh children's events	72	Arts & entertainment
040110	Attending nonhh children's events	72	
120401	Attending performing arts	72	
120402	Attending museums	72	
120403	Attending movies/film	72	
120404	Attending gambling establishments	72	
	Security procedures rel. to arts &		
120405	entertainment	72	
120499	Arts and entertainment, n.e.c.*	72	
	Waiting associated with arts &		
120504	entertainment	72	
181204	Travel related to arts and entertainment	72	
181205	Travel as a form of entertainment	73	Travel as leisure
140101	Attending religious services	81	Religious & spiritual practice
140102	Participation in religious practices	81	

2008 ATUS	Description of ATUS code	DUST 2-digit code	Description of DUST code
140103	Waiting associated w/religious & spiritual activities	81	Government & civic activities
140104	Security procedures rel. to religious & spiritual activities	81	
140105	Religious education activities	81	
149999	Religious and spiritual activities, n.e.c.*	81	
181401	Travel related to religious/spiritual practices	81	
181499	Travel rel. to religious/spiritual activities, n.e.c.*	81	
100101	Using police and fire services	83	
100103	Obtaining licenses & paying fines, fees, taxes	83	
100199	Using government services, n.e.c.*	83	
100201	Civic obligations & participation	83	
100299	Civic obligations & participation, n.e.c.*	83	Data issues
100304	Waiting associated with using government services	83	
100305	Waiting associated with civic obligations & participation	83	
100399	Waiting assoc. w/govt svcs or civic obligations, n.e.c.*	83	
100401	Security procedures rel. to govt svcs/civic obligations	83	
100499	Security procedures rel. to govt svcs/civic obligations, n.e.c.*	83	
109999	Government services, n.e.c.*	83	
160108	Telephone calls to/from government officials	83	
181001	Travel related to using government services	83	
181002	Travel related to civic obligations & participation	83	
181099	Travel rel. to govt svcs & civic obligations, n.e.c.*	83	
010401	Personal/Private activities	91	
010499	Personal activities, n.e.c.*	91	

2008 ATUS	Description of ATUS code	DUST 2-digit code	Description of DUST code
500101	Insufficient detail in verbatim	91	
500103	Missing travel or destination	91	
	Respondent refused to provide		
500105	information/"none of your business"	91	
500106	Gap/can't remember	91	
509999	Data codes, n.e.c.*	99	
	Security procedures rel. to		
080801	professional/personal svcs.	-	ATUS activities not in DUST
	Security procedures rel. to		
080899	professional/personal svcs n.e.c.*	-	
	Professional and personal service s,		
089999	n.e.c.*	-	
129999	Socializing, relaxing, and leisure, n.e.c.*	-	
	Telephone calls to/from professional or		
160105	personal care svcs providers	-	
160199	Telephone calls (to or from), n.e.c.*	-	
160201	Waiting associated with telephone calls	-	
	Waiting associated with telephone calls,		
160299	n.e.c.*	-	
169999	Telephone calls, n.e.c.*	-	
	Travel related to household activities,		
180299	n.e.c.*	-	
	Travel rel. to caring for & helping hh		
180399	members, n.e.c.*	-	
	Travel rel. to caring for & helping nonhh		
180499	members, n.e.c.*	-	
180599	Travel related to work, n.e.c.*	-	
	Travel rel. to using prof. & personal care		
180899	services, n.e.c.*	-	
	Travel related to using household services,		
180999	n.e.c.*	-	
	Travel rel. to socializing, relaxing, &		
181299	leisure, n.e.c.*	-	
181801	Security procedures related to traveling	-	
	Security procedures related to traveling,		
181899	n.e.c.*	-	
189999	Traveling, n.e.c.*	-	

2008 ATUS	Description of ATUS code	DUST 2-digit code	Description of DUST code
500107	Unable to code activity at 1st tier	-	
501004	Recorded simultaneous activities incorrectly	-	

APPENDIX D: CROSSWALK BETWEEN MTUS⁶ AND DUST ACTIVITY CODES

MTUS	DUST da1mcode
1 imputed personal or household care	--
2 sleep and naps	111-114, 118, 199
3 imputed sleep	--
4 wash, dress, care for self	121-124, 128, 129, 141, 148, 149, 151, 161, 168, 169
5 meals at work or school or 12 work breaks or 13 other time at workplace	212 or (131, 138, or 139 and da1where=3,9)
6 other meals or snacks	(131, 138 or 139) and da1where=1,2,4,6,7,8 or >9
7 paid work - main job (not at home) or 9 second or other job not at home or 11 travel as a part of work	(211, 216, 218, 219) and da1where<>3
8 paid work at home	(211, 216, 218, 219) and da1where=3
10 unpaid work to generate household income	221, 226, 228, 229
14 look for work	231-234, 236, 238, 239
15 regular schooling, education or 17 leisure/other education or training	261, 262, 264, 266, 268, 269
16 homework	263
18 food preparation, cooking	411, 416, 418, 419
19 set table, wash/put away dishes	412
20 cleaning	431, 433, 436, 439
21 laundry, ironing, clothing repair	421, 426, 428, 429
22 home/vehicle maintenance/improvement	432, 434, 436, 438, 439, 451, 456, 458, 459
23 other domestic work	461, 462, 466, 468, 469, 471, 473, 476, 478, 479
24 purchase goods	311, 312, 316, 318, 319, 321, 326, 328, 328, 331, 336, 338, 339, 341, 346, 348, 349
25 consume personal care services	125, 145, 155, 156, 158, 159
26 consume other services	235, 255, 256, 258, 259, 265, 315, 345, 415, 425, 435, 445, 455, 465, 472, 475, 515, 525, 535, 615, 625, 645, 815, 835, 735
27 pet care (other than walk dog)	441, 448, 446, 449
28 physical, medical child care or 30 read to, talk or play with child or 31 supervise, accompany, other child care, or 32 adult care	511, 512, 513, 516, 518, 519, 521, 526, 528, 529,
29 teach, help with homework	531, 532, 536, 538, 539
33 voluntary work, civic, organization activity	241, 246, 248, 249, 821, 826, 828, 829,

⁶ For details on MTUS coding see Fisher, K. 2011. MTUS Coding Procedures 5.5 (Release 3) World 5.8 & World 6.0 (Release 1). Available at <http://www.timeuse.org/files/cckpub/828/mtus-coding-procedures.pdf>.

	831, 832, 836, 838, 839
34 worship and religious activity	811-813, 816, 818, 819
35 general out-of-home leisure	728, 729
36 attend sporting event	714
37 cinema, theatre, opera, concert or 38 other public event, venue	721-723, 729
39 restaurant, café, bar, pub	(131 or 611 or 651 or 652) and da1where=5
40 party, reception, social event, gambling	613, 632, 724
41 imputed time away from home	--
42 general sport or exercise or 44 cycling	711
43 walking	712
45 other out-of-doors recreation or 46* forage (e.g. pick mushrooms), hunt/fish (*see 23 for gardening)	713, 718, 719, ((651 or 652) and da1where=2 or 10)
47 walk dogs	442
48 receive or visit friends or 49 conversation (in person, phone)	(611 and da1where <>5) or 612, 618, 619
50 other in-home social, games	631, 638, 639
51 general indoor leisure	((651 or 652) and da1where<>5, 2, and 10) or 648, 649
52 artistic or musical activity or 54 knit, crafts or hobbies	641
53 written correspondence	614, 643
55 relax, think, do nothing	661, 662, 663, 669
56 read	642
57 listen to music, ipod, CD, audio book or 58 listen to radio	644
59 watch TV, DVD, video	621, 626, 628, 629
60 play computer games	636
61 send e-mail, surf internet, computing	646, 616, 716, 726, 736
62 no activity but mode of recorded travel	--
63 travel to or from work	217, 227, 237,
64 education-related travel	267
65 travel for voluntary/civic/religious activity	247, 817, 827, 837
66 child/adult care-related travel	517, 527, 537
67 travel for shopping, personal or household care	127, 137, 147, 157, 167, 317, 327, 337, 347, 417, 427, 437, 447, 457, 467, 477
68 travelling for other purposes	257, 617, 627, 637, 647, 717, 727, 737, 738, 739,
69 no recorded activity	912, 913, 999

APPENDIX E: SYNTAX FOR PSID/DUST DESIGN-BASED VARIANCE ESTIMATION

Appendix E provides a short overview of the general syntax and command file structure for computing sampling errors using Stata, SAS, SUDAAN, and SPSS programs that have been designed for the analysis of complex sample survey data. Analysts are referred to the user guides and the on-line help facilities of these four software systems for documentation of the individual programs.

Stata Command Syntax

Analysts who are familiar with the Stata software system (version 9+) can utilize “svy” commands for the analysis of complex sample survey data. To define the sample design variables use the following statement:

```
svyset DF1CLUST [pweight= (DUST weight of choice) ], strata(DF1STRAM)
```

Any “svy” commands issued after this statement will automatically incorporate these design specifications.

To estimate statistics or models for subpopulations of the survey population in STATA, the following optional syntax is used:

```
svy, subpop(subsetting variable name): svy command
```

where subsetting variable is a binary variable that equals “1” for the subpopulation for which separate estimates are desired (e.g. males) and “0” for all other cases.

See the Stata documentation or the Applied Survey Data Analysis website for examples of svy commands, <http://www.isr.umich.edu/src/smp/asda/>.

SAS Command Syntax

SAS Version 9.2 and later includes five procedures for the analysis of complex sample survey data: PROC SURVEYMEANS, PROC SURVEYFREQ, PROC SURVEYREG, PROC SURVEYLOGISTIC and PROC SURVEYPHREG. The general syntax for specifying the DUST design structure in the SAS system is as follows:

```
PROC SURVEYMEANS;  
STRATA DF1STRAM;  
CLUSTER DF1CLUST;  
WEIGHT (DUST WEIGHT OF CHOICE);  
VAR (VARIABLE TO BE ANALYZED);  
additional program specific statements here;  
RUN;
```

To estimate simple descriptive statistics or regression models for subpopulations of the survey population in SAS, the following optional syntax is used (illustrated for PROC SURVEYMEANS):

```
PROC SURVEYMEANS;  
STRATA DF1STRAM;  
CLUSTER DF1CLUST;  
WEIGHT (DUST WEIGHT OF CHOICE);  
VAR (VARIABLE TO BE ANALYZED);  
DOMAIN var;  
additional program specific statements here;  
RUN;
```

Where 'var' is a categorical variable that has one level for each subpopulation of interest.

Users are referred to the current SAS/STAT® User's Guide or SAS On-line Help for documentation on program specific statements, keywords and options.

SUDAAN Command Syntax

SUDAAN (all versions) includes numerous procedures for the analysis of complex sample survey data: PROC DESCRIPT, PROC CROSSTAB, PROC RATIO, PROC REGRESS, PROC LOGIST (PROC RLOGIST for SAS callable SUDAAN), PROC MULTILOG, PROC LOGLINK, PROC SURVIVAL and SURVEYPHREG.

The general syntax for specifying the PSID design structure in the SUDAAN system is as follows:

```
PROC DESCRIPT design=wr ;  
NEST DF1STRAM DF1CLUST;  
WEIGHT (DUST WEIGHT OF CHOICE) ;  
additional program specific statements here;  
RUN;
```

Users are referred to the current SUDAAN Language and Examples Manuals for additional help and use of the **SUBPOPN** statement for subpopulation analyses.

SPSS Command Syntax

SPSS (versions 14+) includes numerous procedures for the analysis of complex sample survey data as part of the Complex Samples Module: CSDESCRIPTIVES, CSTABULATE, CSFREQUENCIES, CSRATIOS, CSGLM, CSLOGISTIC, CSORDINAL, and CSCOXREG.

The general syntax for specifying the DUST design structure in the SPSS system is done within the CSPLAN file, which is set up prior to analysis:

```
CSPLAN ANALYSIS
```

```
/PLAN FILE='(PATH OF LOCATION AND NAME OF PLAN FILE)'  
/PLANVARS ANALYSISWEIGHT=(DUST WEIGHT OF CHOICE)  
/SRSESTIMATOR TYPE=WR  
/PRINT PLAN  
/DESIGN STRATA=DF1STRAM CLUSTER=DF1CLUST  
/ESTIMATOR TYPE=WR.
```

Once the plan file is set with the correct complex sample variables, the analysis the syntax would be similar to the following:

```
CSDSCRIPTIVES  
/PLAN FILE='(INSERT PATH/NAME OF PLAN FILE HERE)'  
/SUMMARY VARIABLES=(DUST VARIABLES OF CHOICE)  
additional program specific statements here
```

Users are referred to the current SPSS Manuals and online tutorials for additional help including subpopulation analyses.

APPENDIX F: OBTAINING RELATIONSHIP INFORMATION FROM DUST HOUSEHOLD FILES

Linking Relationship Information in the DUST Household File to the DUST Activity File

This example STATA program merges relationship information from the DUST household file to the DUST activity file to create a new variable indicating relationship to respondent of the first mentioned person in the who active series (DA1WACT1). The program first merges household file information to the heads in the activity file, then household file information to the wives in the activity file, and then appends heads and wives back into a single file. The program can be modified to bring in information on relationship of the other mentions in the “who active” series (DA1WACT2-DA1WACT6) and to the other “who variables” in the activity file (DA1WPAS1-DA1WPAS6, DA1WHOF1-DA1WHOF6). To merge relationship for other who active variables in the activity file, replace “DA1WACT1” with the appropriate who variable and rename “WHOINHH1” accordingly.

```
**keep HH file variables of interest**  
use "[file location]DUST09_HH.dta"  
keep DH1PAIR DH1AQSN DH1RTH DH1RTW
```

```
**keep HH members 3 to 10 (e.g. not spouse or individuals living outside the HH)**  
keep if DH1AQSN>=3 & DH1AQSN<=10
```

```
**create variables in the HH file to match to activity file**
```

```
gen DA1PAIR=DH1PAIR  
gen DA1WACT1=DH1AQSN  
sort DA1PAIR DA1WACT1  
save "[file location]merge_hh2.dta", replace
```

```
**keep heads from the activity file and merge on HH file**
```

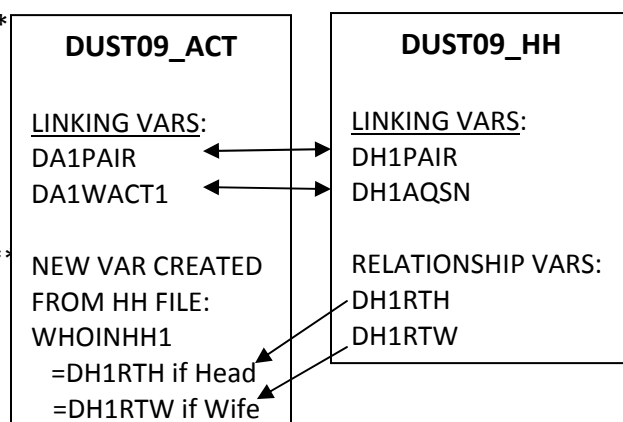
```
use "[file location]DUST09_ACT.dta"  
keep if DA1HDWF==1  
sort DA1PAIR DA1WACT1  
save "[file location]merge_act2_h1.dta", replace  
merge m:1 DA1PAIR DA1WACT1 using "[file location]merge_hh2.dta"  
tab _merge  
drop if _merge==2
```

```
**create who variable (first mention) by assigning relationship to head**
```

```
gen WHOINHH1=DH1RTH  
save "[file location]whoH1.dta", replace  
clear
```

```
*keep wives from the activity file and merge on HH file*
```

```
use "[file location]merge_act2.dta"
```



```

keep if DA1HDWF==2
sort DA1PAIR DA1WACT1
save "[file location]merge_act2_w1.dta", replace
merge m:1 DA1PAIR DA1WACT1 using "[file location]merge_hh2.dta"
tab _merge
drop if _merge==2

```

```

**create who variable (first mention) by assigning relationship to wife **
gen WHOINHH1=DH1RTW
save "[file location]whoW1.dta", replace

```

```

**combine results from merging data for heads and wives**
append using "[file location]whoH1.dta"
save "[file location]who1.dta", replace
tab WHOINHH1

```

Linking Relationship Information in the DUST Household File to the DUST Flat File

This example STATA program merges relationship information from the DUST household file to the DUST flat file to create a new variable indicating relationship to respondent for DF1C1B. The program first merges household file information to the heads in the flat file, then household file information to the wives in the flat file, and then appends heads and wives back into a single file. The program can be modified to bring in information on relationship of for other “who variables” in the flat file (DF1C2B, DF1HH1B1-DF1HH1B6, DF1HH3B1-DF1HH3B6, DF1HH4B1-DF1HH4B6). To merge relationship for other who variables in the flat file, replace “DF1C1B” with the appropriate who variable and rename “WHOCAREFOR” accordingly.

```

**keep HH file variables of interest**
use "[file location]DUST09_HH.dta"
keep DH1PAIR DH1AQSN DH1RTH DH1RTW

```

```

**keep HH members 3 to 10 (e.g. not spouse or individuals living outside the HH)**
keep if DH1AQSN>=3 & DH1AQSN<=10

```

```

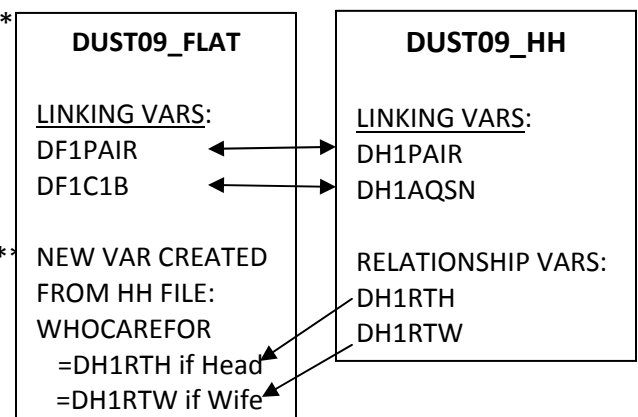
**create variables in the HH file to match to activity file**
gen DF1PAIR=DH1PAIR
gen DF1C1B=DH1AQSN
sort DF1PAIR DF1C1B
save "[file location]merge_hh2.dta", replace

```

```

**keep heads from the activity file and merge on HH file**
use "DUST09_FLAT.dta"
keep if DF1HDWF==1
sort DF1PAIR DF1C1B

```




```
save "[file location]merge_flat2_h1.dta", replace
merge m:1 DF1PAIR DF1C1B using "[file location]merge_hh2.dta"
tab _merge
drop if _merge==2
```

```
**create who variable (first mention) by assigning relationship to head**
gen WHOCAREFOR=DH1RTH
save "[file location]whoH1.dta", replace
clear
```

```
*keep wives from the activity file and merge on HH file*
use "[file location]merge_act2.dta"
keep if DF1HDWF==2
sort DF1PAIR DF1C1B
save "[file location]merge_act2_w1.dta", replace
merge m:1 DF1PAIR DF1C1B using "[file location]merge_hh2.dta"
tab _merge
drop if _merge==2
```

```
**create who variable (first mention) by assigning relationship to wife **
gen WHOCAREFOR=DH1RTW
save "[file location]whoW1.dta", replace
```

```
**combine results from merging data for heads and wives**
append using "[file location]whoH1.dta"
save "[file location]who1.dta", replace
tab WHOCAREFOR
```