

## Survey of Program Dynamics 1998 Food Security Status File Technical Documentation and User Notes

Data File and Documentation Prepared by  
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### Revision history of this document:

May 31, 2000—original creation of document

August 24, 2000—changed “common screen” to “preliminary screen” in data dictionary, Appendix A

August 7, 2003—revised to include adult scale and child scale variables

**NOTE:** The data file was also revised as of this date to add the adult scale and child scale variables. The old data file is not compatible with the revised data dictionary and SAS code presented in this document.

However, analyses based on the previous file will not be affected by the revisions because none of the variable values in the superseded file were changed (except that scale scores are rounded to 2 decimal places rather than 3 in the revised file).

January 11, 2006—minor revisions to Background section

### Background

The Survey of Program Dynamics (SPD) 1998 Food Security Status File contains summary food security status information for households interviewed in the 1998 SPD. The food security status variables were calculated based on responses to the questions in the U.S. Household Food Security Survey Module included in the SPD. The SPD 1998 Food Security Status File matches to the main SPD data file at the household level.

The SPD 1998 Food Security Status File is intended to be used in conjunction with the SPD 1998 data file produced by the U.S. Census Bureau. After matching to the SPD 1998 Cross-Sectional File, the combined data file can also be matched to all other years' SPD data files and food security status files and to SIPP data for the 1992 and 1993 panels from which the SPD sample households were selected. The SPD 1998 data file contains basic demographic, economic, and social characteristics data for each member of interviewed households. Demographic data refers to the time of interview in mid-1998. Income and program participation information refers to the 1997 calendar year. The food security and hunger questions refer to the 12 months prior to the date of interview in mid-1998.

SPD data and further information on the SPD are available from the Census Bureau at:  
<http://www.bls.census.gov/spd/>

### Technical Description

The SPD 1998 Food Security Status File is an ASCII file containing 19,646 records. The length of each record is 42 characters. The data dictionary is included below as Appendix A. SAS code to read the data file and create a SAS file is included as Appendix B. Frequency tabulations of each of the four food security status variables are included as Appendix C.

### Matching to the SPD Data File

The SPD 1998 Food Security Status File contains one record for each 1998 household. It matches to the main SPD data file by SIPP\_PNL, PP\_ID, ADDIDU8. The SPD 1998 Food Security Status File is already sorted in this order *but the main SPD data file is not*. Also, note that the ADDIDU8 variable contains some non-numeric characters and must be treated as a character variable.

### **Not-in-Universe Records and Households with Missing Food Security Status**

Of the 19,646 unique current households in the SPD 1998 Food Security Status File, 3,261 are non-interview households (OUTCOMR8 >= 213). Records for these households are included in the Food Security Status File, but all food security status variables are coded -1 (not in universe). An additional 740 households apparently broke off the interview before the preliminary food security screener variable (FDSUFFU8) or did not provide a valid response to any of the 18 food security questions. The food security status of these households is unknown, and the food security status variables for these households are coded -9.

### **Food Security Status Variables**

Food security status variables were calculated based on the 18 core items in the food security module (FOOD01U8 through FOOD18U8). Calculations were carried out in accordance with the standard methods described in *Measuring Household Food Security, Revised 2000* (Bickel et al, 2000, available: <http://www.fns.usda.gov/oane/>). The children's food security variables were calculated in accordance with methods described in *Measuring Children's Food Security in U.S. Households, 1995-99* (Nord and Bickel 2002, available: <http://www.ers.usda.gov/briefing/foodsecurity>). Assessment of the food security items using Rasch measurement model methods indicated that relative item severities were very nearly identical to those in the 1998 Current Population Survey Food Security Supplement, so the use of the standard methods was appropriate.

Ten household food security summary variables are provided: 1 indicating screening status, and 9 indicating food security status (3 variables for each of three scales). The 3 scales are:

- **The Household Food Security Scale**, based on 18 items for households with children and 10 items for households without children.
- **The Adult Food Security Scale**, based on the 10 household and adult items in the 18 item scale. For households without children it is identical to the Household Food Security Scale. For households with children, it is calculated using the same methods as those used to calculate the Household Food Security Scale for households without children. **NOTE: For the 1999 SPD, only this scale is available.** Due to instrumentation problems, the child-referenced items were not asked of most households and will not be available on the data file. Variables based on the Adult Food Security Scale are provided in the 1998 file (and other SPD food security files) to facilitate comparisons and analyses that include the 1999 survey.
- **The Children's Food Security Scale**, based on the 8 items that ask specifically about conditions among children in the household.

The variables are described conceptually here, and additional detail is provided in the data dictionary in Appendix A.

**HFS: Food Security Screening Status (FSSCRNR8)** identifies the screening status of households relative to the food security module. To reduce respondent burden and avoid awkward interview situations, households with high income who gave no indication of food stress on the preliminary screening question (FDSUFFU8) were skipped over the rest of the food security module and deemed to be food secure. This variable is needed for analysis of individual items in the module, but is not needed if only the food security status variables are used.

**HFS: Household Food Security Raw Score (FSRAWR8)** is a count of the number of food security items in the Household Food Security Scale affirmed by the household respondent. This score along with presence or absence of children in the household determines the household food security scale score and food security status.

**HFS: Household Food Security Scale Score (FSSCALR8)** is a measure of the severity of food insecurity or hunger experienced in the household in the previous 12 months, based on the Household Food Security Scale. This is a continuous, interval-level measure based on the Rasch measurement model and is appropriate for associative analyses such as correlation, regression, or analysis of variance. It is on the standard

computational metric described in *Measuring Household Food Security, Revised 2000*. Valid values range from 1.43 to 13.03, with higher values indicating more severe food deprivation. Technically, the scale score is undefined for households that affirmed no items. These households are food secure, but the appropriate size of the interval from the score of households that affirmed one item is not known and varies from household to household. The variable is coded -6 for households that affirmed no items (or were screened out and deemed to be food secure) to remind users that these cases require special consideration in analyses.

**HFS: Household Food Security Status Category (FSSTATR8)** is a categorical measure of food security status based on the Household Food Security Scale that identifies households as food secure, food insecure without hunger, or food insecure with hunger. This variable is appropriate for comparing prevalence rates of food insecurity and hunger across subpopulations.

**HFS: Adult Food Security Raw Score (FSRAADR8)** is a count of the number of food security items in the Adult Food Security Scale affirmed by the household respondent. This score determines the adult food security scale score and food security status.

**HFS: Adult Food Security Scale Score (FSSCADR8)** is a measure of the severity of food insecurity or hunger experienced by adults in the household in the previous 12 months, based on the Adult Food Security Scale. This is a continuous, interval-level measure based on the Rasch measurement model and is appropriate for associative analyses such as correlation, regression, or analysis of variance. It is on the standard computational metric described in *Measuring Household Food Security, Revised 2000*. Valid values range from 1.72 to 11.05, with higher values indicating more severe food deprivation. Technically, the scale score is undefined for households that affirmed no items in the scale. These households are food secure, but the appropriate size of the interval from the score of households that affirmed one item is not known and varies from household to household. The variable is coded -6 for households that affirmed no items (or were screened out and deemed to be food secure) to remind users that these cases require special consideration in analyses.

**HFS: Adult Food Security Status Category (FSSTADR8)** is a categorical measure of food security status based on the Adult Food Security Scale that identifies households as food secure, food insecure without hunger, or food insecure with hunger. This variable is appropriate for comparing prevalence rates of food insecurity and hunger across subpopulations.

**HFS: Children's Food Security Raw Score (FSRACHR8)** is a count of the number of food security items in the Children's Food Security Scale affirmed by the household respondent. This score determines the children's food security scale score and food security status.

**HFS: Children's Food Security Scale Score (FSSCCHR8)** is a measure of the severity of food insecurity or hunger experienced by children in the household in the previous 12 months, based on the Children's Food Security Scale. This is a continuous, interval-level measure based on the Rasch measurement model and is appropriate for associative analyses such as correlation, regression, or analysis of variance. It is on the standard computational metric described in *Measuring Household Food Security, Revised 2000*. Valid values range from 4.11 to 12.25, with higher values indicating more severe food deprivation. Technically, the scale score is undefined for households that affirmed no child-referenced items. Children in these households are more food secure than those that affirmed 1 child-referenced item, but the appropriate size of the interval from the score of households that affirmed one item is not known and varies from household to household. The variable is coded -6 for households that affirmed no items (or were screened out and deemed to be food secure) to remind users that these cases require special consideration in analyses.

**HFS: Children's Food Security Status Category (FSSTCHR8)** is a categorical measure that identifies households with hunger among children based on the Children's Food Security Scale. This variable is appropriate for comparing prevalence rates of hunger among children across subpopulations.

## Appendix A. Data Dictionary

\*\*\*\*\*  
\* HOUSEHOLD MATCH VARIABLES \*  
\*\*\*\*\*

DATA SIZE BEGIN  
D SIPP\_PNL 4 1  
T SC: SIPP Panel 1992 or 1993  
SIPP Panel Number  
U All Households  
V 1992 .Household part of 1992 SIPP  
V .panel  
V 1993 .Household part of 1993 SIPP  
V .panel

D PP\_ID 9 5  
T SC: Household Identification #  
Household Identification number  
U All Households  
V 001074069:  
V 999944294 .Number

D ADDIDU8 3 14  
T SC: Household address ID  
Household address ID  
U All Households  
V 011:125 .Character

\*\*\*\*\*  
\* HOUSEHOLD FOOD SECURITY SCALE VARIABLES \*  
\*\*\*\*\*

D FSSCRNR8 2 17  
T HFS: Food Security Screening Status  
Screening status, food security module  
U Interviewed households  
V 1 .Did not pass preliminary screen - assumed food secure  
V 2 .Skip out after Block 1  
V 3 .Skip out after Block 2  
V 4 .Entered Block 3  
V -1 .Not In Universe (not interviewed)  
V -9 .Missing--no valid food security items

D FSRWR8 2 19  
T HFS: Household Food Security Raw Score  
Household food security raw score (number of affirmative responses)  
U Interviewed households  
V 0 .No affirmative responses, or screened out  
V 1:18 .Number of affirmative responses  
V -1 .Not In Universe (not interviewed)  
V -9 .Missing--no valid food security items

D FSSCALR8 4 21  
T HFS: Household Food Security Scale Score  
Household food security scale score (Rasch)  
(2 implied decimal places)  
U Interviewed households  
V -6 .No affirmative responses, or screened out  
V .scale score undefined  
V 1.43:  
V 13.03 .Number  
V -1 .Not In Universe (not interviewed)  
V -9 .Missing--no valid food security items

D FSSTATR8 2 25  
T HFS: Household Food Security Status Category  
Household food security status category  
U Interviewed households  
V 1 .Food Secure  
V 2 .Food Insecure without Hunger  
V 3 .Food Insecure with Hunger  
V -1 .Not In Universe (not interviewed)  
V -9 .Missing--no valid food security items

\*\*\*\*\*  
\* ADULT FOOD SECURITY SCALE VARIABLES \*  
\*\*\*\*\*

D FSRAADR8 2 27  
T HFS: Adult Food Security Raw Score  
Adult food security raw score (number of affirmative responses)

U Interviewed households  
V 0 .No affirmative responses, or screened out  
V 1:10 .Number of affirmative responses  
V -1 .Not In Universe (not interviewed)  
V -9 .Missing--no valid food security items

D FSSCADR8 4 29  
T HFS: Adult Food Security Scale Score  
Adult food security scale score (Rasch)  
(2 implied decimal places)

U Interviewed households  
V -6 .No affirmative responses, or screened out  
V . scale score undefined  
V 1.72:  
V 11.05 .Number  
V -1 .Not In Universe (not interviewed)  
V -9 .Missing--no valid food security items

D FSSTADR8 2 33  
T HFS: Adult Food Security Status Category  
Adult food security status category

U Interviewed households  
V 1 .Food Secure  
V 2 .Food Insecure without Hunger  
V 3 .Food Insecure with Hunger  
V -1 .Not In Universe (not interviewed)  
V -9 .Missing--no valid food security items

\*\*\*\*\*  
\* CHILDREN'S FOOD SECURITY SCALE VARIABLES \*  
\*\*\*\*\*

D FSRACHR8 2 35  
T HFS: Children's Food Security Raw Score  
Children's food security raw score (number of affirmative responses)

U Interviewed households  
V 0 .No affirmative responses, or screened out  
V 1:8 .Number of affirmative responses  
V -1 .Not In Universe (not interviewed or no child present)  
V -9 .Missing--no valid child food security items

D FSSCCHR8 4 37  
T HFS: Children's Food Security Scale Score  
Children's food security scale score (Rasch)  
(2 implied decimal places)

U Interviewed households  
V -6 .No affirmative responses, or screened out  
V . scale score undefined  
V 4.11:  
V 12.25 .Number  
V -1 .Not In Universe (not interviewed or no child present)  
V -9 .Missing--no valid child food security items

D FSSTCHR8 2 41  
T HFS: Children's Hunger Status Category  
Children's hunger status category

U Interviewed households  
V 1 .Hunger Unlikely among Children  
V 2 .Food Insecure with Hunger among Children  
V -1 .Not In Universe (not interviewed or no child present)  
V -9 .Missing--no valid food security items

## Appendix B

### SAS Program to Read SPD 1998 Food Security Data File

\*SAS program to read spd98 food security data file;

```
data temp; infile 'd:\spd\spd98fs2.dat' lrecl=42;
```

```
*modify path and filename in accordance with file location in your system;
```

```
input
```

```
@1 sipp_pnl 4. /* first three variables are to match by 1998 household */
@5 pp_id 9. /* to SPD file */
@14 addidu8 $ 3.
@17 fsscrnr8 2. /* food security module screening status */
@19 fsrawr8 2. /* household food security raw score */
@21 fsscalr8 4. /* household food security scale score (interval-level measure) */
@25 fsstatr8 2. /* household food security status category (categorical measure) */
@27 fsraadr8 2. /* adult food security raw score */
@29 fsscadr8 4. /* adult food security scale score (interval-level measure) */
@33 fsstadr8 2. /* adult food security status category (categorical measure) */
@35 fsrchr8 2. /* children's food security raw score */
@37 fsscchr8 4. /* children's food security scale score (interval-level measure) */
@41 fsstchr8 2.; /* children's food security status category (categorical measure) */
```

```
if fsscalr8 gt 0 then fsscalr8=fsscalr8/100; /*to restore the 2 decimal places;
```

```
if fsscadr8 gt 0 then fsscadr8=fsscadr8/100; /*to restore the 2 decimal places;
```

```
if fsscchr8 gt 0 then fsscchr8=fsscchr8/100; /*to restore the 2 decimal places;
```

```
run;
```

```
proc freq data=temp; tables fsscrnr8--fsstchr8;
```

```
title1 'Run 21: HH, unweighted';
```

```
run;
```

\*This SAS data set will now match to the SPD 1998 file by SIPP\_PNL, PP\_ID, ADDIDU8;

\*Note that I have made ADDIDU8 a character variable because I found some characters in it;

\* even though the SPD documentation shows it as a numeric variable;

\*PP\_ID is stored with leading zeros as it is in the original SPD file, so it can be

\* read as either character or numeric and will match to the SPD file;

\*The 10 food security variables are not stored with leading zeros;

## Appendix C. Frequencies of Variables in SPD 1998 Food Security Data File

Run 21: HH, unweighted

The FREQ Procedure

fsscrr8	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	740	3.77	740	3.77
-1	3261	16.60	4001	20.37
1	5023	25.57	9024	45.93
2	7446	37.90	16470	83.83
3	1923	9.79	18393	93.62
4	1253	6.38	19646	100.00

fsrawr8	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	740	3.77	740	3.77
-1	3261	16.60	4001	20.37
0	12506	63.66	16507	84.02
1	753	3.83	17260	87.86
2	516	2.63	17776	90.48
3	483	2.46	18259	92.94
4	246	1.25	18505	94.19
5	247	1.26	18752	95.45
6	297	1.51	19049	96.96
7	136	0.69	19185	97.65
8	122	0.62	19307	98.27
9	96	0.49	19403	98.76
10	100	0.51	19503	99.27
11	45	0.23	19548	99.50
12	29	0.15	19577	99.65
13	23	0.12	19600	99.77
14	20	0.10	19620	99.87
15	9	0.05	19629	99.91
16	9	0.05	19638	99.96
17	2	0.01	19640	99.97
18	6	0.03	19646	100.00

fsscalr8	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	740	3.77	740	3.77
-6	12506	63.66	13246	67.42
-1	3261	16.60	16507	84.02
1.43	406	2.07	16913	86.09
1.72	347	1.77	17260	87.86
2.56	273	1.39	17533	89.24
3.1	243	1.24	17776	90.48
3.4	217	1.10	17993	91.59
4.14	150	0.76	18143	92.35
4.23	266	1.35	18409	93.70
4.81	160	0.81	18569	94.52
5.23	96	0.49	18665	95.01
5.43	182	0.93	18847	95.93
6.02	65	0.33	18912	96.26
6.16	87	0.44	18999	96.71
6.61	56	0.29	19055	96.99
7.07	115	0.59	19170	97.58
7.18	69	0.35	19239	97.93
7.74	50	0.25	19289	98.18
8	71	0.36	19360	98.54
8.28	45	0.23	19405	98.77
8.79	29	0.15	19434	98.92
8.98	66	0.34	19500	99.26
9.31	23	0.12	19523	99.37
9.84	20	0.10	19543	99.48
10.15	27	0.14	19570	99.61
10.42	9	0.05	19579	99.66
11.05	50	0.25	19629	99.91
11.13	9	0.05	19638	99.96
12.16	2	0.01	19640	99.97
13.03	6	0.03	19646	100.00

fsstatr8	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	740	3.77	740	3.77
-1	3261	16.60	4001	20.37
1	13775	70.12	17776	90.48
2	1223	6.23	18999	96.71
3	647	3.29	19646	100.00

fsraadr8	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	743	3.78	743	3.78
-1	3261	16.60	4004	20.38
0	12591	64.09	16595	84.47
1	800	4.07	17395	88.54
2	581	2.96	17976	91.50
3	625	3.18	18601	94.68
4	228	1.16	18829	95.84
5	184	0.94	19013	96.78
6	201	1.02	19214	97.80
7	157	0.80	19371	98.60
8	127	0.65	19498	99.25
9	59	0.30	19557	99.55
10	89	0.45	19646	100.00

fsscadr8	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	743	3.78	743	3.78
-6	12591	64.09	13334	67.87
-1	3261	16.60	16595	84.47
1.72	800	4.07	17395	88.54
3.1	581	2.96	17976	91.50
4.23	625	3.18	18601	94.68
5.23	228	1.16	18829	95.84
6.16	184	0.94	19013	96.78
7.07	201	1.02	19214	97.80
8	157	0.80	19371	98.60
8.98	127	0.65	19498	99.25
10.15	59	0.30	19557	99.55
11.05	89	0.45	19646	100.00

fsstadr8	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	743	3.78	743	3.78
-1	3261	16.60	4004	20.38
1	13972	71.12	17976	91.50
2	1037	5.28	19013	96.78
3	633	3.22	19646	100.00

fsrchr8	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	453	2.31	453	2.31
-1	11379	57.92	11832	60.23
0	6680	34.00	18512	94.23
1	477	2.43	18989	96.66
2	281	1.43	19270	98.09
3	251	1.28	19521	99.36
4	58	0.30	19579	99.66
5	20	0.10	19599	99.76
6	14	0.07	19613	99.83
7	21	0.11	19634	99.94
8	12	0.06	19646	100.00

fsscchr8	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	453	2.31	453	2.31
-6	6680	34.00	7133	36.31
-1	11379	57.92	18512	94.23
4.11	477	2.43	18989	96.66
5.85	281	1.43	19270	98.09
7.54	251	1.28	19521	99.36
8.79	58	0.30	19579	99.66
9.62	20	0.10	19599	99.76



10.45	14	0.07	19613	99.83
11.5	21	0.11	19634	99.94
12.25	12	0.06	19646	100.00

fsstchr8	Frequency	Percent	Cumulative Frequency	Cumulative Percent
-9	453	2.31	453	2.31
-1	11379	57.92	11832	60.23
1	7747	39.43	19579	99.66
2	67	0.34	19646	100.00