A. Aggregating Time Diary Data

The examples presented below provide a basic framework for aggregating data, and require some familiarity with SAS or SPSS programming syntax.

SAS Example of aggregating activity data for an individual

*Create SAS data file from inline data records;

DATA SMPL;
INFILE CARDS ;
INPUT
COLF 29-30 COLG_A 31-31 COLG_B 32-32 COLG_C 33-33 COLG_D 34-34 COLG_E 35-35
41-41 COLH_A 42-42 COLH_B 43-43 COLH_C 44-44 COLH_D 45-45 COLH_E 46-46
COLH_F 47-47 COLH_G 48-48 COLH_H 49-49 COLH_I 50-50 COLH_J 51-51 COLH_K
52-52 COLJ 53-55 WDAYWEND 56-56 DURATION 57-61;
IF COLD IN(9,0) THEN COLD=.;
IF COLF IN(99,0) THEN COLF=.;
IF COLG_A IN(8,9) THEN COLG_A=.;
IF COLG_B IN(8,9) THEN COLG_B=.;
IF COLG_C IN(8,9) THEN COLG_C=.;
IF COLG_D IN(8,9) THEN COLG_D=.;
IF COLG_E IN(8,9) THEN COLG_E=.;
IF COLG_F IN(8,9) THEN COLG_F=.;
IF COLG_G IN(8,9) THEN COLG_G=.;
IF COLG_H IN(8,9) THEN COLG_H=.;
IF COLG_I IN(8,9) THEN COLG_I=.;
IF COLG_J IN(8,9) THEN COLG_J=.;
IF COLG_K IN(8,9) THEN COLG_K=.;
IF COLH_A IN(8,9) THEN COLH_A=.;
IF COLH_B IN(8,9) THEN COLH_B=.;
IF COLH_C IN(8,9) THEN COLH_C=.;
IF COLH_D IN(8,9) THEN COLH_D=.;
IF COLH_E IN(8,9) THEN COLH_E=.;
IF COLH_F IN(8,9) THEN COLH_F=.;
IF COLH_G IN(8,9) THEN COLH_G=.;
IF COLH_H IN(8,9) THEN COLH_H=.;
IF COLH_I IN(8,9) THEN COLH_I=.;
IF COLH_J IN(8,9) THEN COLH_J=.;
IF COLH_K IN(8,9) THEN COLH_K=.;
FORMAT
COLA COLD COLF COLJ DAY WDAYWEND
COLG_A COLG_B COLG_C COLG_D COLG_E COLG_F COLG_G COLG_H COLG_I COLG_J COLG_K
COLH_A COLH_B COLH_C COLH_D COLH_E COLH_F COLH_G COLH_H COLH_I COLH_J COLH_K F3.
COLB COLC DURATION TIMES.;
CARDS;
0004-001-04-12459 025200010 125200
0004-001-04-12407250025500010 1 300
0004-001-04-124092550025800010 1 300
0004-001-04-124092580026100010 1 300
0004-001-04-1243926100270001011000000000000000000100 1 900
0004-001-04-124092700027300010 1 300
0004-001-04-1259727300276000200000000000001010000000000 1 300
0004-001-04-1259276004320008000000000000010000000001 0115600
0004-001-04-1259432005490008000000000000010000000001 0111700
0004-001-04-12595490005670002000000000000010000000009621 1800
0004-001-04-1248756700594000401000000000000000000100 01 2700
PROC SORT DATA=SMPL NODUP;
BY CASE_ID WDAYWEND COLA;
run;

proc summary data = smpl(where=(wdaywend= 1)); by case_id
cola ; var duration ;idday;outputout=weekday(drop= _type__freq_rename=(day=weekday))
sum(duration)=wdaytime ;
run ;

proc summary data = smpl(where=(wdaywend= 0)); by case_id
cola ; var duration ;idday;outputout=weekend(drop= _type__freq_rename=(day=weekend))
sum(duration)=wendtime ;
run ;
data act_time ;
merge weekday weekend ;
by case_id cola;
rename cola=act_code;
run;

* SAS-SQL Solution (more elegant);
proc sql;
create table weekday as
select case_id, cola, day as weekday, sum(duration) as wdaytime format=time5.
from smpl
where day between 1 and 5
group by case_id, day, cola;
create table weekend as
select case_id, cola, day as weekend, sum(duration) as wendtime format=time5.
from smpl
where day between 6 and 7
group by case_id, day, cola;
create table act_time as
select coalesce(a.case_id, b.case_id) as case_id,
coalesce(a.cola, b.cola) as act_code,
a.wdaytime, a.weekday, b.wendtime, b.weekend
from weekday a full join weekend b
on a.case_id = b.case_id and a.cola = b.cola;
quit;

B. SPSS Example of aggregating activity data for an individual

* Create SPSS system data file from inline data.

DATA LIST /
CASE_ID 1-13(A) DAY 14-14 COLA 15-17 COLB 18-22 COLC 23-27 COLD 28-28
COLF 29-30 COLG A 31-31 COLG B 32-32 COLG C 33-33 COLG D 34-34 COLG E 35-35
41-41 COLH A 42-42 COLH B 43-43 COLH C 44-44 COLH D 45-45 COLH E 46-46
COLH F 47-47 COLH G 48-48 COLH H 49-49 COLH I 50-50 COLH J 51-51 COLH K
52-52 COLJ 53-55 WDAYWEND 56-56 DURATION 57-61.
BEGIN DATA
0004-001-04-12459 025200010 125200
0004-001-04-124072520025500010 1 300
0004-001-04-124092550025800010 1 300
0004-001-04-124092580026100010 1 300
0004-001-04-1243926100270000101000000000000000000100 01 900
0004-001-04-124092700027300010 1 300
0004-001-04-12597273002760002000000000101000000000 01 300
0004-001-04-12599549000567000200000000010000000009621 1800
0004-001-04-12487567005940004010000000000000100100000000000000000100 01 900
0004-001-04-12488630006480001000000000100100000000009631 1800
0004-001-04-127996488006540002000000000000000100100000000000000000100 01 900
0004-001-04-1274695400682200600000000000111000000000014391 2820
0004-001-04-1274698220071100060000000000011100000000018771 2880
0004-001-04-12746971000738000600000000011100000000019621 2700
RECODE COLD (9,0=SYSMIS) /
COLF (0,99=SYSMIS) /
COLG_A TO COLH_K (8,9=SYSMIS).

FORMATS COLB COLC DURATION (TIME).

SORT CASES BY CASE_ID DAY COLA.

COMPUTE WEEKDAY = (WDAYWEND=1).

FILTER BY WEEKDAY. * select kids with weekday time only.
EXECUTE.

* Write activity aggregate data file.
AGGREGATE
/OUTFILE='[path]\WDAYTIME.sav'
/BREAK=case_id cola
/WEEKDAY= FIRST(day) /WDAYTIME= SUM(duration).

USE ALL. * reset cases to full file.

COMPUTE WEEKEND = (WDAYWEND=0).

FILTER BY WEEKEND. * select kids with weekend time only.
AGGREGATE
/OUTFILE='[path]\WENDTIME.sav'
/BREAK=case_id cola
/WEEKEND= FIRST(day) /WENDTIME= SUM(duration).

* merge weekday and weekend data files.
MATCH FILES /FILE='[path]\WDAYTIME.sav'
/FILE='[path]\WENDTIME.sav'
/BY case_id cola.

FORMATS WDAYTIME WENDTIME (TIME).
EXECUTE.