

Dataset Integrity Check for the Studies of Pediatric Liver Transplant (SPLIT) Registry



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1 Standard Disclaimer

The intent of this DSIC is to provide confidence that the data distributed by the NIDDK repository is a true copy of the study data. Our intent is not to assess the integrity of the statistical analyses reported by study investigators. As with all statistical analyses of complex datasets, complete replication of a set of statistical results should not be expected on a first (or second) exercise in secondary analysis. This occurs for a number of reasons including differences in the handling of missing data, restrictions on cases included in samples for a particular analysis, software coding used to define complex variables, etc. Experience suggests that most discrepancies can ordinarily be resolved by consultation with the study data coordinating center (DCC), however this process is labor-intensive for both DCC and Repository staff. It is thus not our policy to resolve every discrepancy that is observed in an integrity check. Specifically, we do not attempt to resolve minor or inconsequential discrepancies with published results or discrepancies that involve complex analyses, *unless NIDDK Repository staff suspect that the observed discrepancy suggests that the dataset may have been corrupted in storage, transmission, or processing by repository staff*. We do, however, document in footnotes to the integrity check those instances in which our secondary analyses produced results that were not fully consistent with those reported in the target publication.

2 Study Background

The Studies of Pediatric Liver Transplant (SPLIT) is a prospective, longitudinal study of pediatric liver transplantation conducted at over 40 transplant centers in the United States and Canada. Originally started in 1995, the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) became the sponsor of SPLIT in 2004. SPLIT data archived in the NIDDK repository include study information on any participant enrolled under the NIDDK grant period and for participants that have any follow-up after the start of the grant period even if enrolled prior to the grant period. As a partial check of the SPLIT data archived in the NIDDK data repository, a dataset integrity check (DSIC) was performed. This DSIC consists of a small number of analyses performed in the publication by Gilmour et al (2010) in *Liver Transplantation* [1].

3 Archived Datasets

The DCC submitted 23 datasets which correspond to 22 study data collection forms. (The enrollment form, enr.sas7bdat, included only the date of enrollment and was not included in the repository). An analysis dataset that corresponds with results published by Gilmour et al. was not provided and reconstruction of the analysis dataset and derived variables was left to repository analysts. Datasets used to create this analysis file include: DEM (demographics), LTF (long-term post-transplant follow-up), TPP (transplant baseline), EDU (school attendance and performance survey), and S1L (status 1 listing).

The results of this DSIC do not match the published results for several reasons:

- The data supplied to the NIDDK repository represent a subset of all pediatric liver transplant recipients in the SPLIT data registry.
- The original SPLIT pediatric registry began in 1995. Starting in 2004, the NIDDK became the sponsor of SPLIT. Only data collected during the time that NIDDK sponsored the study, i.e. since 2004, are included in the repository.
- Data have been included for any participant enrolled under the NIDDK grant period. Additionally data have been included for participants that have any follow-up after the start of the grant period even if enrolled prior to the grant period.

- Dates are not provided. The date of birth has been recoded to year of birth. All other dates have been recoded to age at event (in days). This includes date of form completion, listing for transplantation, clinical and laboratory test dates, transplant dates, etc.

4 Statistical Methods

The publication by Gilmour et al examines several indicators of school attendance, performance, and educational outcomes. Eligible patients were defined as between 6 and 18 years of age, survived liver transplantation by at least 9 months, completed the school function questionnaire (School Attendance and Academic Performance Survey, SAAPS) between 1 June 2005 and 31 March 2008, and completed the SPLIT long-term follow-up form. If more than one SAAPS was completed, only data from the last SAAPS filed were included.

We present our DSIC results to published results in Table 1 (Characteristics of Participants versus nonparticipants), Table 2 (School Attendance) and Table 3 (Educational Outcomes by Age Group). For this DSIC, SAS datasets were converted to Stata using Stat/Transfer (Circle Systems Inc). Stata v11.1 was used for all analyses (Appendix 1).

5 Results

Table 1 presents the characteristics of patients who completed the SAAPS in the published manuscript and our DSIC calculations. The datasets and variables within those datasets that were used in deriving our DSIC estimates are indicated in the column, `dataset.variable`. Our DSIC calculations differ from the published results in at least two ways: Only subjects who completed the SAAPS between 1 June 2005 and 31 March 2008 were included in the Gilmour analyses. DSIC calculations are derived from all transplant patients registered in the NIDDK repository and represent a larger sample of registry participants. Furthermore, since dates were not included, it is not possible to restrict our analyses to patients registered during a specific time period as in Gilmour et al.

Table 1. Characteristics of Participants. Published results from Gilmour et al. (2010), Liver Transplantation 16(9): 1041-1048.

	Gilmour et al (2010)		DSIC		Dataset.Variable
Characteristic	N	%	N	%	
Sex					Dem.regsex
Male	389	47.3	516	46.4	
Female	434	52.7	596	53.6	
Race					Dem.regrace
White	514	62.5	515	62.1	
Black	128	15.6	139	16.8	
Hispanic	103	12.5	104	12.5	
Asian/ Pacific	34	4.1	27	3.3	
Aboriginal	9	1.1	9	1.1	
Other	31	3.7	35	4.2	
Primary Dx					Dem.regprdis
Bil. Atresia	307	37.3	421	37.9	
Other chol.	368	32.6	341	30.7	
Fulminant LF	115	14.0	145	13.0	
Cirrhosis	57	6.9	76	6.8	
Other	76	9.2	129	11.6	
Age @ Transp.					Tpp.tranage
0-6 mo	49	6.0	59	5.3	
6-12 mo	123	14.9	161	14.5	
1-5 yr	258	31.3	350	31.5	
5-13 yr	294	35.7	407	36.6	
13-17 yr	99	12.0	134	12.1	
Primary Payor					Tpp.tpppayor
Medicaid	278	33.8	405	41.4	
Prov. Govt.	74	9.0	^a		
HMO	162	19.7	219	22.4	
Priv. Ins.	220	26.7	303	31.0	
Military	12	1.5	14	1.4	
PELD					tppscore,tppalloc,
Mean	11.5±14.5		^b		Tppelda;s1score

Note:

^a provincial government not coded; tabulations exclude 36 values (3.8%) “self pay,” “donation,” “no funding,” and “other.”

^b Tabulations of PELD score were limited in the DSIC analysis to a subset of participants with complete TPP (Transplant Baseline) forms or S1L (Status 1 Listing) forms (n=213). Results were not presented for this smaller subset.

Table 2 in the published manuscript details the number of days of school that were missed due to illness or doctors' visits. Although the sample Ns differed between the two analyses, the percentages of patients attending school and days of school missed in the Gilmour analyses and DSIC were similar.

Table 2. Published results from Gilmour et al. (2010), Liver Transplantation 16(9): 1041-1048.

		Gilmour et al (2010)		DSIC		Data.variable
School Attendance		N	%	N	%	
Attended school in	No	36	4.4	43	3.9	Edu.edusch12
last 12 months	Yes	774	95.6	1050	96.1	
Missed >10 days	No	512	67.2	701	67.7	Edu.edumisse
of school	Yes	250	32.8	334	32.3	
School days missed						Edu.edumisse
0-4		277	36.4	375	36.2	
5-10		235	30.8	326	31.5	
11-20		116	15.2	165	15.9	
21-30		47	6.2	56	5.4	
31+		87	11.4	113	10.9	

Tables 3 and 4 tabulate educational outcomes by age group, for the Gilmour analyses (Table 3) and the DSIC (Table 4). Again, sample sizes in the DSIC vary from the published analyses although the percentages of patients with each selected outcome, total and by age group appear similar.

Table 3. Educational Outcomes by Age Group. Published results from Gilmour et al. (2010), Liver Transplantation 16(9): 1041-1048.

	Age Groups							
	6-11 yr		12-14 yr		15-18 yr		Total	
	N=509		N=125		N=189		N=823	
Outcome	N*	%	N*	%	N*	%	N**	%
Curr. receiving special educ.	163	34.1	38	32.2	60	34.7	769	33.9
Testing for IEP	175	35.4	42	34.4	73	39.9	800	36.3
Hx of 504 Plan	44	8.9	14	11.5	29	16.2	796	10.9
Repeated grade	80	16.2	29	24.0	50	27.3	797	19.0
Attended school last 12 mos	480	95.6	119	96.7	175	94.6	810	95.6
Missed >10 days	140	29.8	36	30.8	74	43.0	762	32.8

N* Number and percent of patients with outcome among total evaluable

N** Number evaluable for each outcome

Table 4. Education Outcomes by Age Group: DSIC Results.

	Age Groups								
	6-11 yr		12-14 yr		15-18 yr		Total		
	N=657		N=189		N=266		N=1112		
Outcome	N*	%	N*	%	N*	%	N**	%	Variable*
Curr. receiving special educ.	222	35.9	66	37.3	76	30.9	1042	34.9	Edusped
Testing for IEP	228	37.0	75	42.1	86	37.2	1026	37.9	Eduiep
Hx of 504 Plan	62	11.2	32	20.9	36	16.7	921	14.1	Edu504p
Repeated grade	107	16.8	37	19.9	65	25.2	1080	19.4	Edurpt
Attend school last 12 mos	621	96.3	180	96.3	249	95.4	1093	96.1	Edusch12
Missed >10 days	184	30.1	52	29.1	98	40.2	1035	32.3	Edumisse

Note: All variables derived from the dataset, edu.sas7bdat.

N* Number and percent of patients with outcome among total evaluable

N** Number evaluable for each outcome

6 Conclusions

In conclusion, the SPLIT data in the NIDDK repository represent data collected during the NIDDK sponsorship of the SPLIT registry (since 2004). All dates have been removed; most dates are reflected as age (in days) of event. Our DSIC analyses cannot replicate the results in the Gilmour et al manuscript which restrict the sample to data collected during a specific time period, however our analyses provide confidence that the data provided to the NIDDK repository represent the range of study variables, data collection instruments, and study data that have been generated over the NIDDK grant period.

7 References

[1] Gilmour SM, Sorensen LG, Anand R, Yin W, Alonso E on behalf of the SPLIT Research Consortium. 2010. School outcomes in children registered in the studies for pediatric liver transplant (SPLIT) consortium. *Liver Transplantation* 16:1041-48

8 Appendix 1: Tabulations of Tables 1-3 from Gilmour et al. (2010).

```
. /* Tabulations of Tables 1-3 from Gilmour et al(2010) in Liver Transplantation
>Patient eligibility include age between 6 and 18 years, liver transplant 9 months ago,completed
SAAPS between 1 June 2005 and 31 March 2008, maintaining routine follow-up, 39 of 45 centers
participated in SAAPS*/
```

```
. /* Due to de-identification of data, center ID not included and dates have been
converted to age of event in days, can not determine date of data collection*/
```

```
. use "C:\Documents and Settings\smr\My Documents\SPLIT\Data\dem.dta", clear
```

```
. /* Demographic data */
```

```
. tab prot
```

prot	Freq.	Percent	Cum.
SPLIT	3,245	100.00	100.00
Total	3,245	100.00	

```
. keep if prot=="SPLIT"
```

```
(0 observations deleted)
```

```
. sort projid
```

```
. keep projid regrace regsex regprdis birthyr regagereg
```

```
. save "C:\Documents and Settings\smr\My Documents\SPLIT\DSIC\Gilmour_1.dta", replace
file C:\Documents and Settings\smr\My Documents\SPLIT\DSIC\Gilmour_1.dta saved
```

```
. merge 1:m projid using "C:\Documents and Settings\smr\My Documents\SPLIT\Data\tpp.dta"
```

Result	# of obs.
not matched	466
from master	466 (_merge==1)
from using	0 (_merge==2)
matched	3,026 (_merge==3)

```
. /* Transplant Baseline Data */
```

```
. tab1 visno regsex regprdis regrace
```

```
-> tabulation of visno
```

visit	Freq.	Percent	Cum.
number			
100	2,775	91.71	91.71
200	224	7.40	99.11
300	24	0.79	99.90
400	3	0.10	100.00
Total	3,026	100.00	

```
-> tabulation of regsex
```

sex	Freq.	Percent	Cum.
1	1,653	47.34	47.34
2	1,839	52.66	100.00
Total	3,492	100.00	

```
-> tabulation of regprdis
```

```
primary |
liver |
```

Studies of Pediatric Liver Transplant (SPLIT)

disease	Freq.	Percent	Cum.
1.01	1,450	41.52	41.52
1.02	92	2.63	44.16
1.04	52	1.49	45.65
1.05	42	1.20	46.85
1.07	56	1.60	48.45
1.08	93	2.66	51.12
1.09	5	0.14	51.26
1.10	40	1.15	52.41
1.99	52	1.49	53.89
2.01	3	0.09	53.98
2.02	2	0.06	54.04
2.03	2	0.06	54.10
2.06	2	0.06	54.15
2.07	310	8.88	63.03
2.08	56	1.60	64.63
2.09	12	0.34	64.98
2.99	44	1.26	66.24
3.01	90	2.58	68.81
3.02	29	0.83	69.64
3.03	40	1.15	70.79
3.04	18	0.52	71.31
3.05	65	1.86	73.17
3.06	86	2.46	75.63
3.07	22	0.63	76.26
3.08	21	0.60	76.86
3.09	14	0.40	77.26
3.10	4	0.11	77.38
3.99	100	2.86	80.24
4.01	20	0.57	80.81
4.02	179	5.13	85.94
4.03	14	0.40	86.34
4.99	22	0.63	86.97
5.01	6	0.17	87.14
5.02	6	0.17	87.31
5.03	6	0.17	87.49
6.01	9	0.26	87.74
6.03	1	0.03	87.77
6.04	15	0.43	88.20
6.05	98	2.81	91.01
6.06	46	1.32	92.33
6.99	43	1.23	93.56
7.01	18	0.52	94.07
7.02	36	1.03	95.10
9.99	171	4.90	100.00
Total	3,492	100.00	

-> tabulation of regrace

race	Freq.	Percent	Cum.
1	978	60.52	60.52
2	270	16.71	77.23
3	221	13.68	90.90
4	55	3.40	94.31
5	26	1.61	95.92
9	66	4.08	100.00
Total	1,616	100.00	

. summ regagereg tpppelda tpppayor tranage

Variable	Obs	Mean	Std. Dev.	Min	Max
regagereg	1007	1581.045	1747.473	-2	7669
tpppelda	217	29.53456	7.744171	3	50
tpppayor	0				
tranage	3026	1832.538	1940.545	10	7756

Studies of Pediatric Liver Transplant (SPLIT)

```
.
. /* tranage Age at transplant recorded in days */
. gen agetran_yr=tranage/365
(466 missing values generated)

. *tab agetran_yr
. recode agetran_yr (0/0.5 = 1 "0-6 mos") (0.501/1.0 = 2 "6-12 mos") (1.001/5 = 3 "1-5 yr") ///
> (5.001/13 = 4 "5-13 yr") (13.001/17 = 5 "13-17 yr") (17.001/22=.), gen(agetranr)
(3025 differences between agetran_yr and agetranr)

. tab1 agetranr

-> tabulation of agetranr
```

RECODE of agetran_yr	Freq.	Percent	Cum.
0-6 mos	237	8.04	8.04
6-12 mos	687	23.31	31.35
1-5 yr	1,016	34.48	65.83
5-13 yr	686	23.28	89.11
13-17 yr	321	10.89	100.00
Total	2,947	100.00	

```
.
. sort projid
. keep projid regrace regsex regprdis birthyr regagereg regagereg tpppelda tpppayor
tranage agetran_yr agetranr

. save "C:\Documents and Settings\smr\My Documents\SPLIT\DSIC\Gilmour_2.dta", replace
file C:\Documents and Settings\smr\My Documents\SPLIT\DSIC\Gilmour_2.dta saved

.
. /*merge with School Attendance and Performance Survey */
. merge m:m projid using "C:\Documents and Settings\smr\My Documents\SPLIT\Data\edu.dta",
gen (_merge2)

Result                                     # of obs.
-----
not matched                                2,130
   from master                             2,130  (_merge2==1)
   from using                               0    (_merge2==2)

matched                                    3,182  (_merge2==3)
-----

.
. summ eduage /* school status age in days */

Variable | Obs Mean Std. Dev. Min Max
-----+-----
eduage | 2787 4046.557 1349.047 1468 9294

. gen eduageyr=eduage/365
(2525 missing values generated)

. sum eduageyr /* eligible subjects 6 to 18 years of age */

Variable | Obs Mean Std. Dev. Min Max
-----+-----
eduageyr | 2787 11.08646 3.69602 4.021918 25.46301

. keep if eduageyr >=6 & eduageyr <=18
(2677 observations deleted)

. recode eduageyr (6/11.999=1) (12/14.999=2) (15/18=3), gen (agegroup)
(2635 differences between eduageyr and agegroup)

. label define age 1"6-11" 2"12-14 yr" 3"15-18yrs"

. label values agegroup age
```

Studies of Pediatric Liver Transplant (SPLIT)

```
. tab agegroup
```

RECODE of edUAGEyr	Freq.	Percent	Cum.
6-11	1,692	64.21	64.21
12-14 yr	483	18.33	82.54
15-18yrs	460	17.46	100.00
Total	2,635	100.00	

```
. sort projid
```

```
. /*eligible patients completed long-term follow-up form */
. merge m:m projid using "C:\Documents and Settings\smr\My Documents\SPLIT\Data\ltf.dta",
gen (_merge3)
```

Result	# of obs.
not matched	6,801
from master	8 (_merge3==1)
from using	6,793 (_merge3==2)
matched	8,521 (_merge3==3)

```
. /* calculate last visit */
. destring visno, gen(visit)
visno has all characters numeric; visit generated as int

. bysort projid (visit) : gen visdiff = visit - visit[_n-1]
(2545 missing values generated)

. * list projid visno visit visdiff in 10/53
. bys projid (visit) : gen nid= _n

. * list projid visno visit visdiff in 10/53, sepby(projid)
. bys projid (visit) : gen first = _n==1

. bys projid (visit) : gen last = _n==_N
. * list projid visit visdiff first last edupcg in 10/53, sepby(projid)
.
. tab nid
```

nid	Freq.	Percent	Cum.
1	2,545	16.61	16.61
2	2,351	15.34	31.95
3	2,129	13.90	45.85
4	1,931	12.60	58.45
5	1,622	10.59	69.04
6	1,294	8.45	77.48
7	1,030	6.72	84.21
8	784	5.12	89.32
9	583	3.80	93.13
10	405	2.64	95.77
11	266	1.74	97.51
12	175	1.14	98.65
13	112	0.73	99.38
14	60	0.39	99.77
15	18	0.12	99.89
16	9	0.06	99.95
17	8	0.05	100.00
Total	15,322	100.00	

```
. *tab visit last
```

```
. *tab visit first
```


Studies of Pediatric Liver Transplant (SPLIT)

```
. keep if first==1 | last==1
(10426 observations deleted)

. keep if last==1
(2351 observations deleted)

. *list projid visit visdiff first last eduage tranage agetranr in 10/53, sepby(projid)

      * list projid if _merge3==1 /*(id=2470 and 3706 do not have LTF data. remove from
gilmour3.dta)*/
      *drop if projid=="02470" | projid=="03706"
.      sort projid

.      /*remove cases with missing data*/ tab birthyr

      year of |
      birth   |      Freq.      Percent      Cum.
-----+-----
      1986 |           9       0.80       0.80
      1987 |          14       1.25       2.06
      1988 |          34       3.04       5.09
      1989 |          58       5.18      10.28
      1990 |          55       4.92      15.19
      1991 |          49       4.38      19.57
      1992 |          65       5.81      25.38
      1993 |          50       4.47      29.85
      1994 |          64       5.72      35.57
      1995 |          76       6.79      42.36
      1996 |          79       7.06      49.42
      1997 |          92       8.22      57.64
      1998 |         117      10.46      68.10
      1999 |         110       9.83      77.93
      2000 |         121      10.81      88.74
      2001 |          94       8.40      97.14
      2002 |          30       2.68      99.82
      2003 |           2       0.18     100.00
-----+-----
      Total |        1,119     100.00

.      keep if birthyr!=.
(1426 observations deleted)

.      gen timefromtrans=eduage-tranage
(5 missing values generated)

.      summ timefromtrans

      Variable |      Obs      Mean      Std. Dev.      Min      Max
-----+-----
timefromtr~s |     1114    2012.835    1083.29      -372     4776

.      if timefromtrans <270 timefromtrans=. /* eligible patients survived liver transplant
at least 9 months */

.      keep if timefromtrans!=.
(5 observations deleted)

.      keep projid regrace regsex regprdis birthyr regagereg regagereg tpppelda tpppayor
tranage agetran_yr agetranr ///
>      eduage eduageyr agegroup visit visdiff first last edupcg eduiep edu504p edurpt edusch12
edumisse edusped

.      save "C:\Documents and Settings\smr\My Documents\SPLIT\DSIC\Gilmour_3.dta",
replace
file C:\Documents and Settings\smr\My Documents\SPLIT\DSIC\Gilmour_3.dta saved

.      deststring regprdis, gen(primdx)
regprdis has all characters numeric; primdx generated as double
```

Studies of Pediatric Liver Transplant (SPLIT)

```
.      recode primdx (1.01=1) (1.02/1.99=2) (2.0/2.99=3) (3.0/3.99=2) (6.01/6.99=4) (else=5)
(primdx: 1114 changes made)
```

```
.l define dx 1"atresia" 2"cholestatic" 3"fulminant" 4"cirrhosis" 5"other"
.      label values primdx dx
.      tab primdx
```

primary liver disease	Freq.	Percent	Cum.
atresia	421	37.79	37.79
cholestatic	341	30.61	68.40
fulminant	146	13.11	81.51
cirrhosis	76	6.82	88.33
other	130	11.67	100.00
Total	1,114	100.00	

```
.
.      /*Table 1. characteristics of participants */
.      deststring tpppayor, gen(payor)
tpppayor has all characters numeric; payor generated as byte
(135 missing values generated)
.      recode payor (6/99=6)
(payor: 21 changes made)
.      label define payor 1"medicaid" 3"HMO" 4"priv ins" 5"military" 6"other"
.      label values payor payor
```

```
. tab1 regsex regrade primdx agetranr payor
```

-> tabulation of regsex

sex	Freq.	Percent	Cum.
1	517	46.41	46.41
2	597	53.59	100.00
Total	1,114	100.00	

-> tabulation of regrade

race	Freq.	Percent	Cum.
1	515	62.12	62.12
2	139	16.77	78.89
3	104	12.55	91.44
4	27	3.26	94.69
5	9	1.09	95.78
9	35	4.22	100.00
Total	829	100.00	

-> tabulation of primdx

primary liver disease	Freq.	Percent	Cum.
atresia	421	37.79	37.79
cholestatic	341	30.61	68.40
fulminant	146	13.11	81.51
cirrhosis	76	6.82	88.33
other	130	11.67	100.00
Total	1,114	100.00	

-> tabulation of agetranr

RECODE of |

Studies of Pediatric Liver Transplant (SPLIT)

agetran_yr	Freq.	Percent	Cum.
0-6 mos	57	5.12	5.12
6-12 mos	159	14.29	19.41
1-5 yr	351	31.54	50.94
5-13 yr	408	36.66	87.60
13-17 yr	138	12.40	100.00
Total	1,113	100.00	

-> tabulation of payor

payor	Freq.	Percent	Cum.
medicaid	407	41.57	41.57
2	3	0.31	41.88
HMO	220	22.47	64.35
priv ins	302	30.85	95.20
military	14	1.43	96.63
other	33	3.37	100.00
Total	979	100.00	

```
.
.      destring edumisse, gen(daysmiss)
edumisse has all characters numeric; daysmiss generated as byte
(77 missing values generated)
.      label define days 1"0-4" 2"5-10" 3"11-20" 4"21-30" 5"31+"
.      label values daysmiss days

.      tab1 edusch12 daysmiss edusped eduiep edu504 edurpt
-> tabulation of edusch12
```

attend school past 12 mos	Freq.	Percent	Cum.
0	43	3.93	3.93
1	1,052	96.07	100.00
Total	1,095	100.00	

-> tabulation of daysmiss

missed school days	Freq.	Percent	Cum.
0-4	376	36.26	36.26
5-10	326	31.44	67.70
11-20	165	15.91	83.61
21-30	56	5.40	89.01
31+	114	10.99	100.00
Total	1,037	100.00	

-> tabulation of edusped

special education	Freq.	Percent	Cum.
0	680	65.13	65.13
1	364	34.87	100.00
Total	1,044	100.00	

-> tabulation of eduiep

individual education plan	Freq.	Percent	Cum.

Studies of Pediatric Liver Transplant (SPLIT)

0	639	62.16	62.16
1	389	37.84	100.00
Total	1,028	100.00	

-> tabulation of edu504p

504 plan received	Freq.	Percent	Cum.
0	793	85.92	85.92
1	130	14.08	100.00
Total	923	100.00	

-> tabulation of edurpt

repeated grade	Freq.	Percent	Cum.
0	873	80.68	80.68
1	209	19.32	100.00
Total	1,082	100.00	

sort agegroup
tab agegroup edusped, row chi2

Key
frequency
row percentage

RECODE of eduageyr	special education		Total
	0	1	
6-11	398	222	620
	64.19	35.81	100.00
12-14 yr	111	66	177
	62.71	37.29	100.00
15-18yrs	171	76	247
	69.23	30.77	100.00
Total	680	364	1,044
	65.13	34.87	100.00

Pearson chi2(2) = 2.5242 Pr = 0.283

. tab agegroup eduiep, row chi2

Key
frequency
row percentage

RECODE of eduageyr	individual education plan		Total
	0	1	
6-11	390	228	618
	63.11	36.89	100.00
12-14 yr	103	75	178
	57.87	42.13	100.00

Studies of Pediatric Liver Transplant (SPLIT)

15-18yrs	146 62.93	86 37.07	232 100.00
Total	639 62.16	389 37.84	1,028 100.00

Pearson chi2(2) = 1.6900 Pr = 0.430

. tab agegroup edu504, row chi2

Key
frequency
row percentage

RECODE of eduageyr	504 plan received		
	0	1	Total
6-11	491 88.79	62 11.21	553 100.00
12-14 yr	121 79.08	32 20.92	153 100.00
15-18yrs	181 83.41	36 16.59	217 100.00
Total	793 85.92	130 14.08	923 100.00

Pearson chi2(2) = 10.7966 Pr = 0.005

. tab agegroup edurpt, row chi2

Key
frequency
row percentage

RECODE of eduageyr	repeated grade		
	0	1	Total
6-11	530 83.20	107 16.80	637 100.00
12-14 yr	149 80.11	37 19.89	186 100.00
15-18yrs	194 74.90	65 25.10	259 100.00
Total	873 80.68	209 19.32	1,082 100.00

Pearson chi2(2) = 8.1852 Pr = 0.017

. tab agegroup eduschl2, row chi2

Key
frequency
row percentage

| attend school past 12

Studies of Pediatric Liver Transplant (SPLIT)

RECODE of eduageyr	mos		Total
	0	1	
6-11	24 3.72	622 96.28	646 100.00
12-14 yr	7 3.74	180 96.26	187 100.00
15-18yrs	12 4.58	250 95.42	262 100.00
Total	43 3.93	1,052 96.07	1,095 100.00

```

Pearson chi2(2) = 0.3898 Pr = 0.823
. recode daysmiss (1/2=1) (3/5=2), gen(daysmissr)
(661 differences between daysmiss and daysmissr)

```

```

. tab agegroup daysmissr, row chi2

```

Key
frequency
row percentage

RECODE of eduageyr	RECODE of daysmiss (missed school days)		Total
	1	2	
6-11	428 69.82	185 30.18	613 100.00
12-14 yr	127 70.95	52 29.05	179 100.00
15-18yrs	147 60.00	98 40.00	245 100.00
Total	702 67.70	335 32.30	1,037 100.00

```

Pearson chi2(2) = 8.7672 Pr = 0.012

```