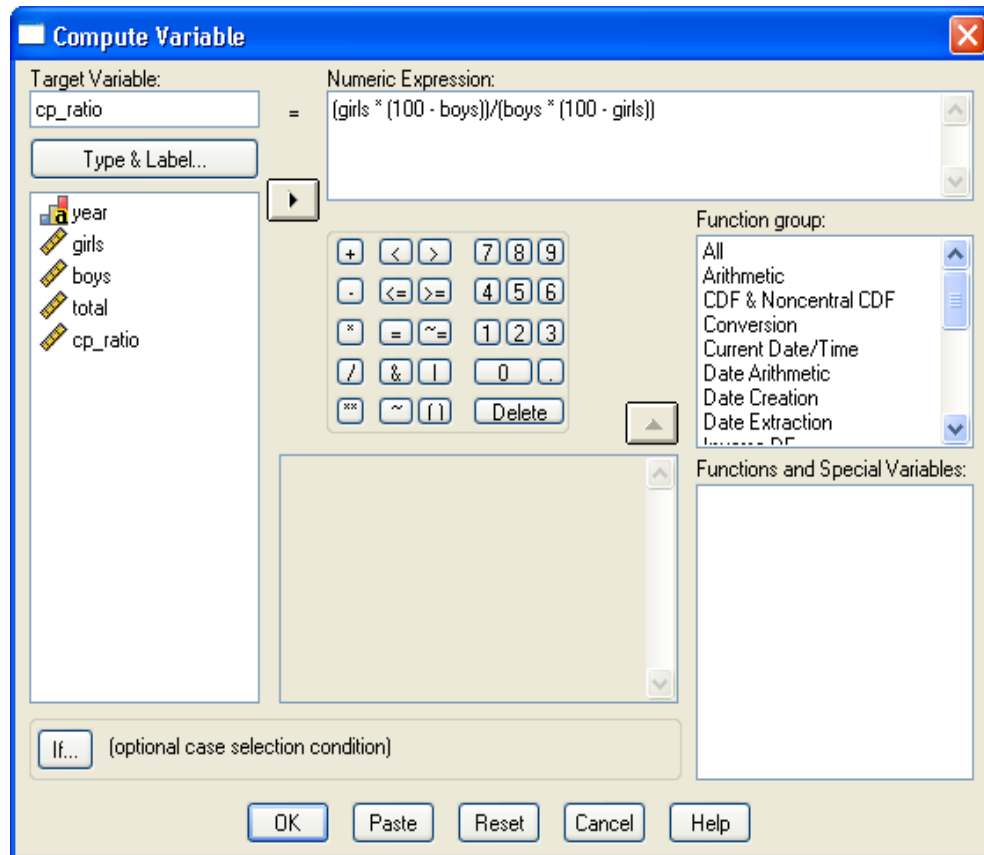


### Answers to Exercise 3.8 (p. 110)

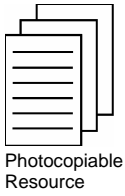
Before considering this exercise it is worth pointing out that there is a slightly easier way that you could have calculated the variable 'cp\_ratio' (the odds ratio) than shown on pp. 107-109. The longer method shown in the book was used to help you understand the calculations step-by-step. However, if you wanted to you could calculate the odds ratio directly just using the two original variables ('girls' and 'boys') by using the following expression as shown below:



Download a new version of the **timeseries.sav** dataset and try the above. Once you have done this, you can then compute a second new variable as requested in Exercise 3.8 that simply represents the percentage point gap between girls and boys (call it 'pointgap') and is calculated using the following expression:

$$\text{girls} - \text{boys}$$

The resultant dataset should be as overleaf (once you've amended the decimal places for the two new variables in Variable View).



\*timeseries[1].sav [DataSet3] - SPSS Data Editor

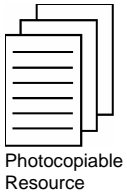
File Edit View Data Transform Analyze Graphs Utilities Window Help

36 : Visible:

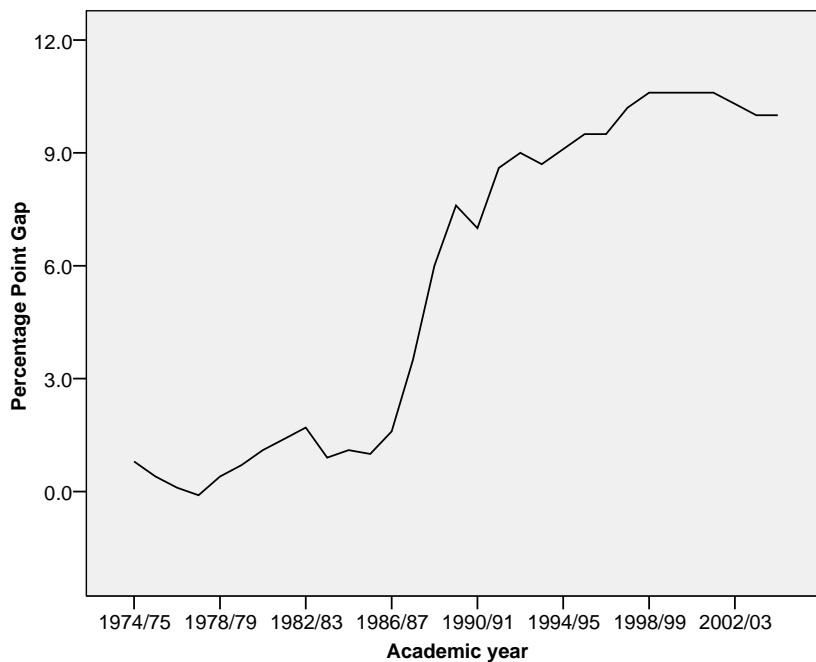
	year	girls	boys	total	cp_ratio	pointgap	vs
1	1974/75	23.0	22.2	22.6	1.047	.8	
2	1975/76	23.1	22.7	22.9	1.023	.4	
3	1976/77	23.5	23.4	23.5	1.006	.1	
4	1977/78	23.6	23.7	23.7	.994	-.1	
5	1978/79	23.9	23.5	23.7	1.022	.4	
6	1979/80	24.4	23.7	24.1	1.039	.7	
7	1980/81	25.6	24.5	25.1	1.060	1.1	
8	1981/82	26.8	25.4	26.1	1.075	1.4	
9	1982/83	27.1	25.4	26.3	1.092	1.7	
10	1983/84	27.2	26.3	26.8	1.047	.9	
11	1984/85	27.4	26.3	26.9	1.058	1.1	
12	1985/86	27.2	26.2	26.7	1.052	1.0	
13	1986/87	27.2	25.6	26.4	1.086	1.6	
14	1987/88	31.7	28.2	30.0	1.182	3.5	
15	1988/89	35.8	29.8	32.8	1.314	6.0	
16	1989/90	38.4	30.8	34.6	1.401	7.6	
17	1990/91	40.3	33.3	36.8	1.352	7.0	
18	1991/92	42.7	34.1	38.4	1.440	8.6	
19	1992/93	45.8	36.8	41.3	1.451	9.0	
20	1993/94	47.8	39.1	43.5	1.426	8.7	
21	1994/95	48.1	39.0	43.6	1.450	9.1	
22	1995/96	49.4	39.9	44.7	1.471	9.5	
23	1996/97	50.0	40.5	45.3	1.469	9.5	
24	1997/98	51.5	41.3	46.4	1.509	10.2	
25	1998/99	53.4	42.8	48.1	1.531	10.6	
26	1999/00	54.6	44.0	49.3	1.531	10.6	
27	2000/01	55.4	44.8	50.1	1.531	10.6	
28	2001/02	57.0	46.4	51.7	1.531	10.6	
29	2002/03	58.2	47.9	53.1	1.514	10.3	
30	2003/04	58.4	48.4	53.4	1.497	10.0	
31	2004/05	60.8	50.8	55.7	1.502	10.0	
32							

Data View Variable View

SPSS Processor is ready



Now, finally, use the **Graphs → Legacy Dialogs → Line...** procedure to do a simple line graph for the new percentage point variable. You should get the graph below:



For comparison, here's the one created in the book (p. 110) for the alternative odds ratio measure. As can be seen, while the percentage point gap measure can be misleading as explained in the book (pp. 105-7), in this case it does tend to give a fairly reliable picture of trends over time that is very similar to that gained using the odds ratio:

