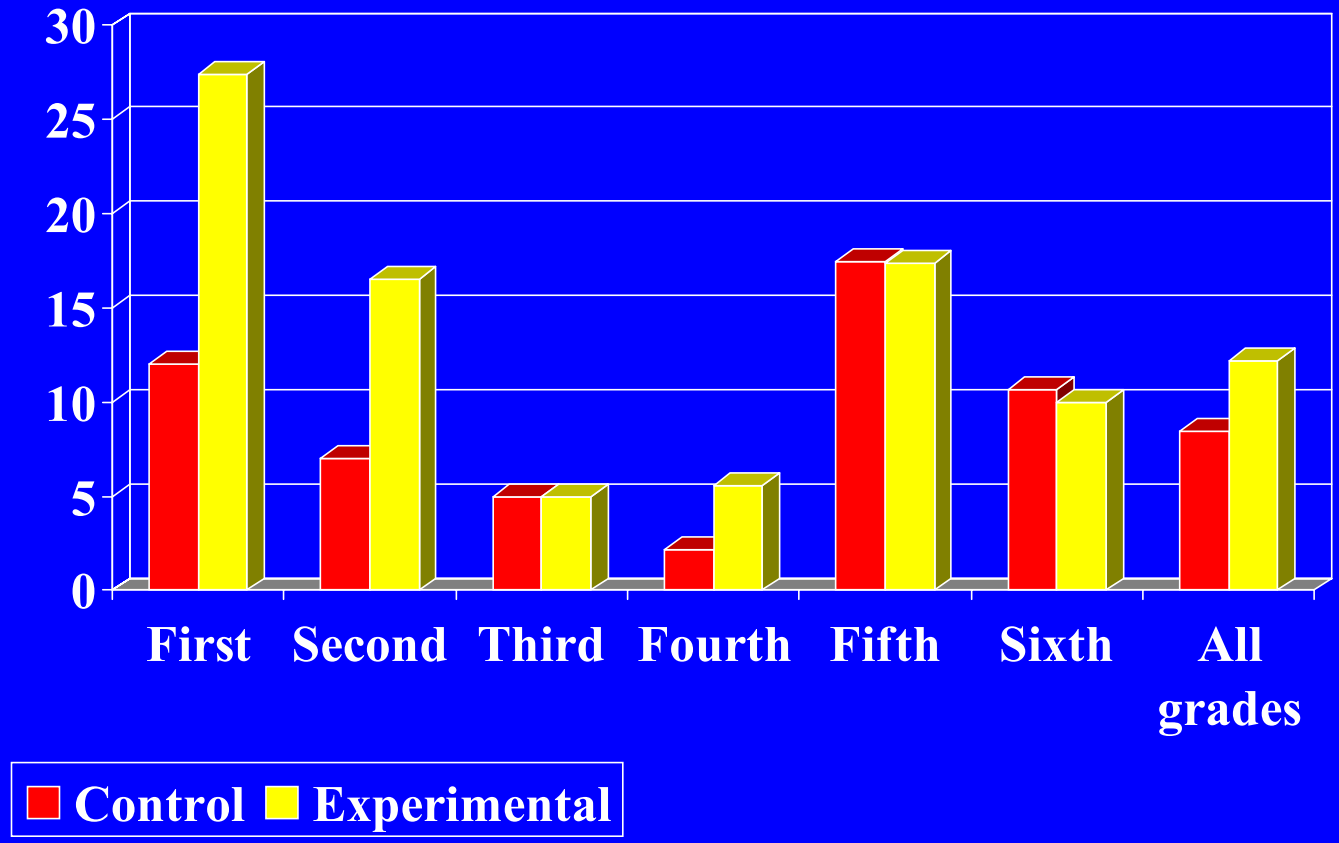
Classic experimental design

Classic experimental design		Time →			
		Pretest		Posttest	
Experimental group	R	O_1	X	O_2	$O_2-O_1=d_e$
Control group	R	O_3		O_4	$O_4-O_3=d_c$

Example: food aversion therapy

Classic experimental design		Time →			
		Pretest		Posttest	
Experimental group	R	$O_1=0$	X	$O_2=10$	$O_2-O_1=10$
Control group	R	$O_3=0$		$O_4=30$	$O_4-O_3=30$

Pygmalion in the Classroom: Gains in IQ points, by grade



Solomon 4-group design

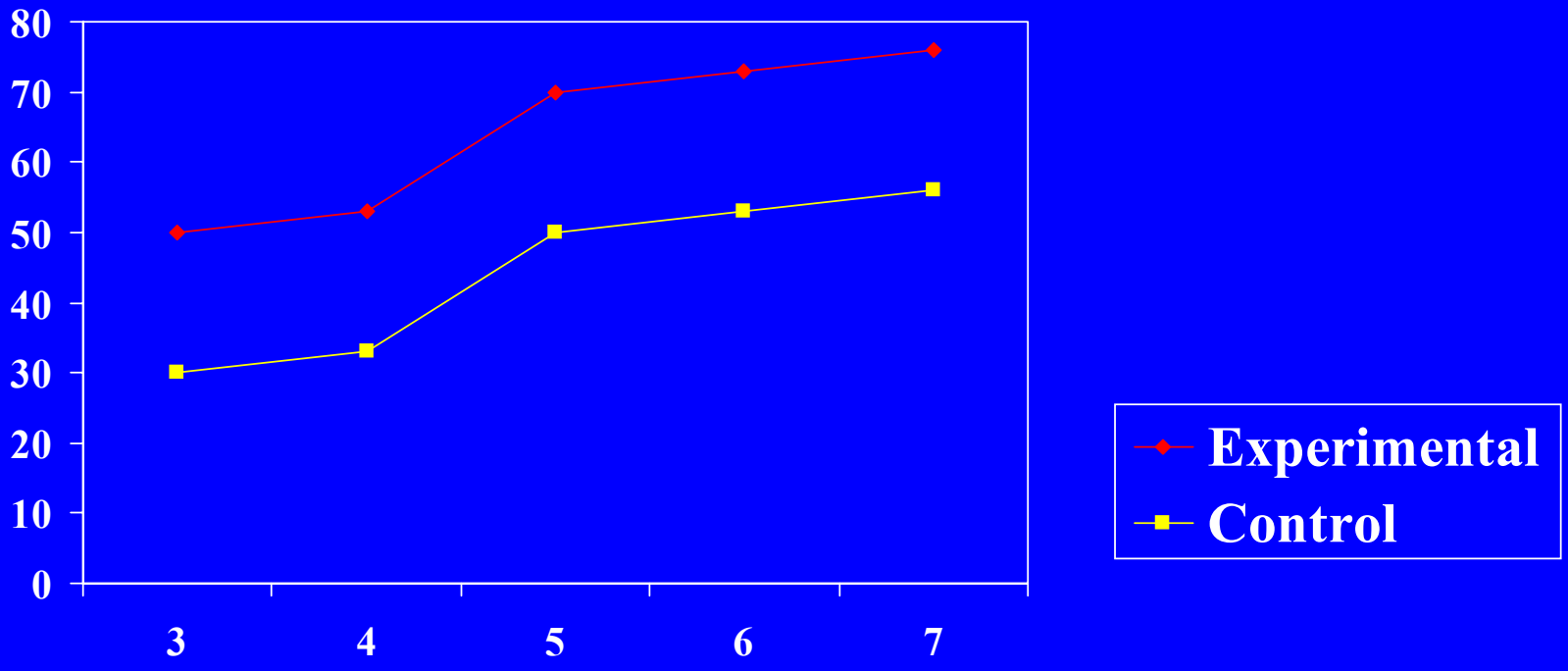
Solomon 4-group design		Time →		
		Pretest		Posttest
Experimental group I	R	O_1	X	O_2
Control group I	R	O_3		O_4
Experimental group II	R		X	O_5
Control group II	R			O_6

Solomon 4-group design
(hypothetical)

Solomon 4-group design		Time →		
		Pretest		Posttest
Experimental group I	R	O_1=3	X	O_2=10
Control group I	R	O_3=3		O_4=5
Experimental group II	R		X	O_5=8
Control group II	R			O_6=3

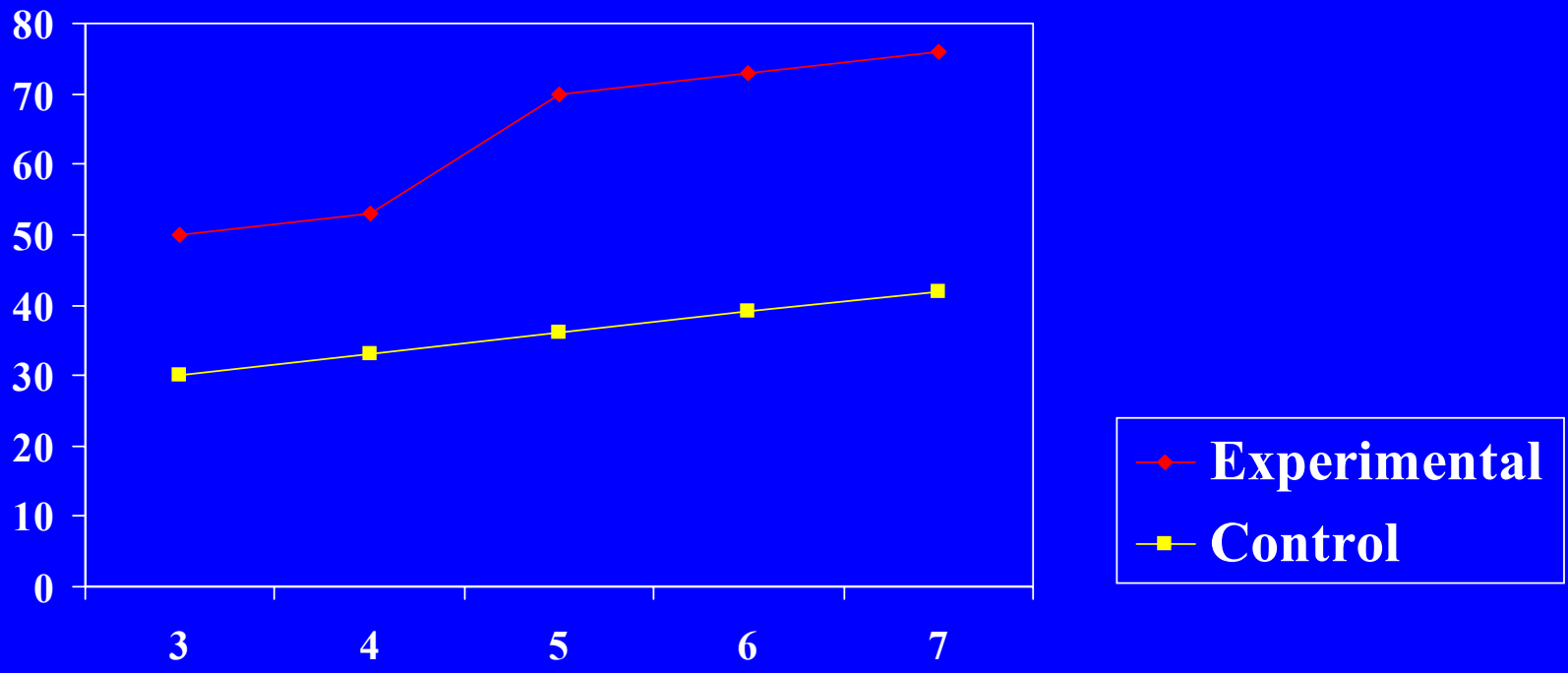
Contrasted groups design
(Babbie: nonequivalent control groups)

Figure A: Reading scores by grade



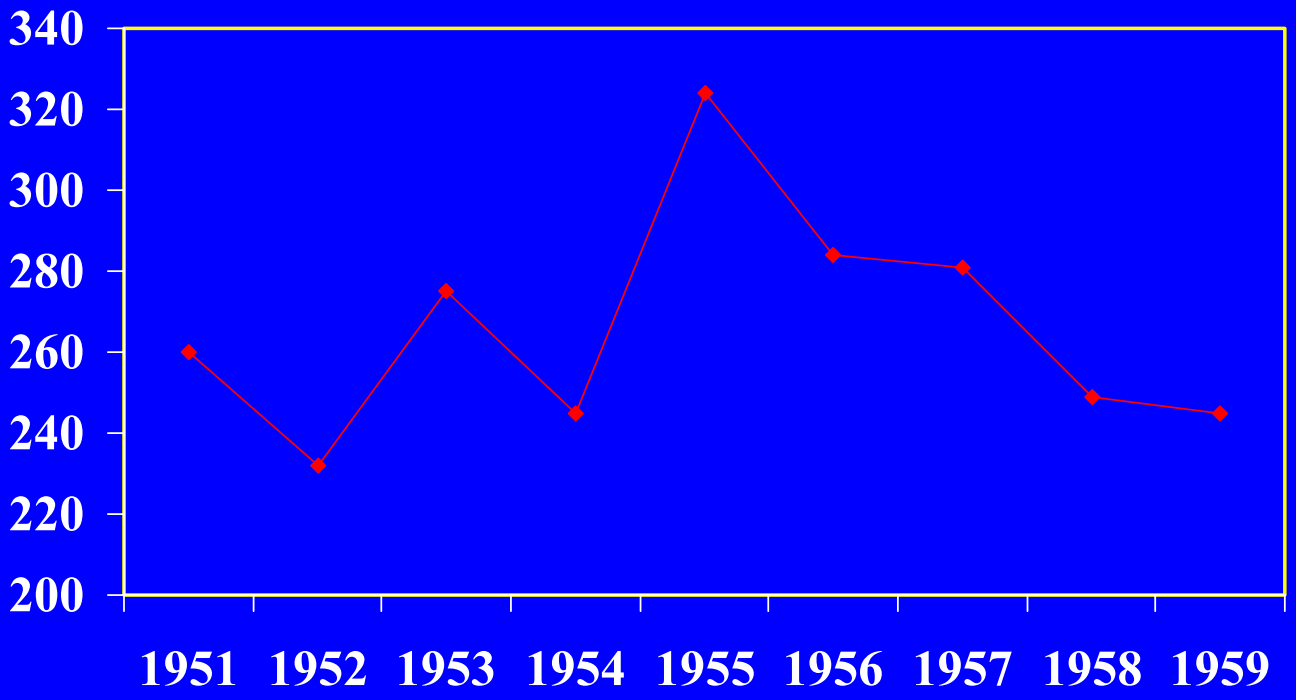
Contrasted groups design
(Babbie: nonequivalent control groups)

Figure B: Reading scores by grade



Time-series design

Figure B: Number of fatalities, CT., 1951-59



Control-series design
(Babbie: multiple time series)