

The "bpdata" Data Set

The file **bpdata.dat** contains sample data from a study of the effects of aerobic exercise and blood pressure status on cognitive function (based on data reported in "Effects of aerobic fitness on cognitive and psychosocial functioning in patients with mild hypertension" by Pierce, Madden, Blumenthal, & Siegel, 1993, *Health Psychology*, pp. 286-291 if you'd like a more detailed description of the study). Persons diagnosed as having high blood pressure (hypertension) and persons not diagnosed with hypertension were assigned to one of three exercise groups: aerobic fitness training for 16 weeks, strength and flexibility training for 16 weeks, and no training for 16 weeks. Measures of blood pressure, cognitive function, and mood were obtained both before and after the 16 week training period.

Variable names in the data set are given in boldface type. A "1" or a "2" in the variable name signifies whether the variable was obtained before ("1") or after ("2") the 16 week training session. The following dependent measures were obtained:

1. Digit-Symbol subtest from the WAIS-R (**digsym1 & digsym2**): a speed-of-performance task where subjects are shown a code key in which each of nine digits is paired with an abstract symbol. The subjects are then asked to draw the appropriate abstract symbol in empty boxes placed beneath each of 93 digits. The score from this test is the number of symbols correctly drawn in 90 seconds.
2. Digit Span from the WAIS-R (**digspan1 & digspan2**): The test measures the number of digits that a subject can store in short term memory.
3. Spielberger Trait Anxiety (**traitan1 & traitan2**): Measures the amount of anxiety subjects feel most of the time or in general.
4. Systolic blood pressure (**sysbp1 & sysbp2**): The high number for blood pressure. 140 mmHg is considered to be the cutoff for having high systolic blood pressure.
5. Diastolic blood pressure (**diabp1 & diabp2**): The low number for blood pressure. 90 mmHg is considered to be the cutoff for having high diastolic blood pressure.

The following were used as independent variables:

1. Blood Pressure Status (**bpstat**): normotensive (normal blood pressure) (coded as a "1") or hypertensive (coded as a "2").
2. Exercise Group (**exergrp**): Aerobic training group (coded as a "1"), strength and flexibility training group (coded as a "2"), or a no-exercise comparison group (coded as a "3").

The following variables were also entered into the data set:

1. Age in years (**age**).
2. Gender (**gender**): Females are coded as "1". Males are coded as "2".
3. Subject number (**subid**):