NAME: Fitting Percentage of Body Fat to Simple Body Measurements

TYPE: Sample

SIZE: 252 observations, 19 variables

DESCRIPTIVE ABSTRACT:

Percentage of body fat, age, weight, height, and ten body circumference

measurements (e.g., abdomen) are recorded for 252 men. Body fat, a

measure of health, is estimated through an underwater weighing

technique. Fitting body fat to the other measurements using multiple

regression provides a convenient way of estimating body fat for men

using only a scale and a measuring tape.

SOURCE:

The data were generously supplied by Dr. A. Garth Fisher, Human

Performance Research Center, Brigham Young University, Provo, Utah

84602, who gave permission to freely distribute the data and use them

for non-commercial purposes. Reference to the data is made in Penrose,

et al. (1985).

VARIABLE DESCRIPTIONS:

Columns

3 - 5 Case Number

10 - 13 Percent body fat using Brozek's equation,

457/Density - 414.2

18 - 21 Percent body fat using Siri's equation,

495/Density - 450

24 - 29 Density (gm/cm^3)

36 - 37 Age (yrs)

40 - 45 Weight (lbs)

49 - 53 Height (inches)

58 - 61 Adiposity index = Weight/Height^2 (kg/m^2)

65 - 69 Fat Free Weight

= (1 - fraction of body fat) \* Weight,

using Brozek's formula (lbs)

74 - 77 Neck circumference (cm)

81 - 85 Chest circumference (cm)

89 - 93 Abdomen circumference (cm) "at the umbilicus

and level with the iliac crest"

97 - 101 Hip circumference (cm)

106 - 109 Thigh circumference (cm)

114 - 117 Knee circumference (cm)

122 - 125 Ankle circumference (cm)

130 - 133 Extended biceps circumference (cm)

138 - 141 Forearm circumference (cm)

146 - 149 Wrist circumference (cm) "distal to the

styloid processes"

SPECIAL NOTES:

The data are as received from Dr. Fisher. Note, however, that there

are a few errors.

REFERENCE:

Penrose, K., Nelson, A., and Fisher, A. (1985), "Generalized Body

Composition Prediction Equation for Men Using Simple Measurement

Techniques" (abstract), \_Medicine and Science in Sports and Exercise\_,

17(2), 189.