AEROBIC POWER ASSESSMENT

In this assignment, you will predict your $V_0^{2\text{max}}$ using the time to walk/run 1.5 miles. An individuals’ aerobic power (also termed the maximal oxygen consumption, maximal aerobic power, or, simply $V_0^{2\text{max}}$) provides a quantitative estimate of the capacity for the aerobic resynthesis of ATP. This makes $V_0^{2\text{max}}$ an important determinant of the ability to sustain high-intensity exercise for longer than 4 or 5 min. The aerobic power has been used as the single best indicator of a persons cardiovascular system and level of fitness.

HOW TO PREDICT $V_0^{2\text{max}}$ USING THE 1.5 MILE RUN TEST

You predict $V_0^{2\text{max}}$ using the time to run 1.5 miles as the predictor variable. This test is useful for testing in schools and for use with recreational runners. The test is not recommended for men over age 40 and women over age 50 without proper medical clearance.

THE TEST

1. Select a testing site; a school track (usually, each lap measures 1/4 of a mile) or premeasured 1.5 mile course can be used
2. Warm-up properly (slow stretching and light walking)
3. Initiate test and try to cover the 1.5 mile distance as fast as possible by walking, jogging or running; record run time in min:sec with a stopwatch
4. At the end of the test cool down for five minutes
5. Refer to Table 1 to find your predicted $V_0^{2\text{max}}$ in milliliters of oxygen per kilogram of body weight per min based on run time in min:sec

ASSIGNMENT

Put your name, an ID number (of your choice), your e-mail address and name of this assignment on the first page. On subsequent pages do not put your name, only our ID number.

Do the following:

1. Compute your aerobic power in milliliters per kilogram body mass per min ($\text{mL} \cdot \text{kg}^{-1} \cdot \text{min}^{-1}$) (obtained from table below). [show your work]
2. Compute your aerobic power in liters per min (L•min\(^{-1}\)) as follows:

- Multiply your aerobic power in milliliters per kilogram body mass per min (mL•kg\(^{-1}\)•min\(^{-1}\)) by your body weight to convert to mL•min\(^{-1}\).
- Divide by 1000 to convert to liters per min (L•min\(^{-1}\)).

### Answer the following questions:

1. Compare and contrast your data to the average for your age and gender (found in your text). You might want to make a table or graph showing these comparisons.

2. Devise a prescription to improve your aerobic power, if necessary. Be specific with respect to mode (types of activity), duration (how long), frequency (how often per week) and intensity (how hard) of exercise.

3. Is your exercise prescription sufficient to complement your weight management goals determined from your previous assignment? Explain.

4. Discuss what you discovered in this lab experience. How might this affect the way you think about physical activity and weight control as you become older.

### NOTE:

Your report will be at least (a minimum) 2-3 pages long [Show all your data; comparisons with reference values; calculations; Answers to questions]. The report can be longer if the spirit moves you.