

Twelve Minute Run Report

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August 18, 2010

1. **Purpose.** The purpose of this experiment was to determine the cardiovascular fitness of the subjects in the class using the twelve minute run test.
2. **Data.** The data for the experiment is presented below.

| TWELVE MINUTE RUN--FALL 2003 | | | | | |
|------------------------------|-----|-----|---------|------|-----|
| NAME | SEX | AGE | WT (KG) | TMR | HR |
| Bryan | M | 22 | 91 | 1.63 | 160 |
| Billy | M | 22 | 66 | 1.53 | |
| Brian | M | 21 | 99 | 1.50 | |
| Rod | M | 22 | 116 | 1.50 | 184 |
| Trevor | M | 27 | 91 | 1.50 | |
| Wesley | M | 22 | 91 | 1.44 | |
| Brant | M | 23 | 73 | 1.44 | 160 |
| Chad | M | 21 | 95 | 1.19 | 180 |
| David | M | 27 | 111 | 1.13 | 184 |
| C | M | 23 | 68 | 1.75 | 108 |
| B | M | 22 | 82 | 1.72 | 164 |
| T | M | 22 | 85 | 1.66 | 164 |
| D | M | 22 | 89 | 1.63 | 196 |
| R | M | 22 | 82 | 1.59 | 168 |
| J | M | 27 | 77 | 1.56 | 180 |
| Tr | M | 24 | 91 | 1.56 | 180 |
| Jo | M | 21 | 107 | 1.53 | 180 |
| Br | M | 22 | 73 | 1.47 | 172 |
| Ja | M | 22 | 75 | 1.31 | 172 |
| M | M | 23 | 105 | 1.28 | 164 |
| S | M | 26 | 79 | 1.28 | 152 |
| Emily | F | 23 | 55 | 1.78 | 168 |
| Casey | F | 22 | 50 | 1.28 | 180 |
| Shea | F | 20 | 70 | 1.16 | |
| Beth Ann | F | 20 | 61 | 1.16 | 156 |
| Emily Mo | F | 22 | 57 | 1.13 | |
| Sara | F | 21 | 52 | 1.13 | 160 |
| Sharon | F | 22 | 61 | 1.13 | 160 |
| Stephanie | F | 20 | 57 | 1.03 | |
| Emily Ma | F | 22 | 55 | 0.91 | 160 |
| Joanna | F | 22 | 98 | 0.78 | |
| El | F | 24 | 61 | 1.03 | 172 |
| J | F | 21 | 57 | 1.47 | 176 |
| E | F | 20 | 82 | 1.41 | 168 |
| M | F | 20 | 66 | 1.34 | |
| Ma | F | 20 | 66 | 1.09 | 164 |
| D | F | 21 | 67 | 1.03 | 180 |
| H | F | 21 | 68 | 1.03 | 160 |
| C | F | 20 | 58 | 0.94 | 140 |
| K | F | 22 | 53 | 0.94 | 140 |
| Male Averages | | 23 | 88 | 1.49 | 169 |
| Female Averages | | 21 | 63 | 1.14 | 163 |

3. **Gender differences in TMR distance.** The average distance ran by male subjects was 1.49 miles, while the average female ran 1.14 miles, a difference of .35 miles. Since .35 miles represents getting lapped more than twice in 12 minutes, it is obvious that the male average was considerably greater than that of the females.
4. **Gender differences in fitness.** Both the male average and the female average were both in the “fair” category according the Cooper’s norms, although the male value was almost into the “good” category (1.49 miles vs. 1.50 miles) and the female value was barely above the “poor” category (1.11 miles vs. 1.14 miles).

It would be fair to say that the males in the class scored, on average, nearly a full fitness category higher than the females.

- 5. Heart rate analysis.** Because subjects were asked to refrain from increasing their running pace toward the end of the test, the heart rates recorded immediately following the run can be used as indicators of how hard subjects pushed themselves during the test. It should be noted that taking heart rate following the run (as well as asking subject not to increase their pace) is not normally a part of the TMR.

To illustrate the interpretation of heart rate, the data for male subjects “T” and “D” will be used. Since the subjects ran similar distances (1.66 miles vs. 1.63 miles) but had very different heart rates (164 vs. 196), it can be suggested that “D” was more motivated to run and thus scored closer to his “optimum” TMR distance. Subject “T” on the other hand, is probably in better condition than “D” since he could have covered a considerably greater distance had he pushed himself to the same degree as “D.” This analysis of heart rate assumes that the heart rates were recorded correctly.

- 6. Personal results.** My TMR distance was 1.50 miles, placing me at the beginning of the “good” fitness category for subjects my age and gender. Since I have only recently began a cardiovascular fitness program following recuperation from a broken ankle, I am pleased that my fitness is as high as it is. I believe that my fitness score on the TMR is a valid indication of my current condition.