

Race results compared from Jerry Sharp

Fellrunners in general are, I suggest, a dogged group of individuals brought together by the love of a sport which allows the body to be tested, both mentally as well as physically, in an environment divorced of many of the comforts of modernity. The fact there is often a pub in the vicinity at the end of a long session on the hills and that the environment is often stunningly beautiful, quiet and populated by other likeminded individuals is purely coincidental ! While we participate in fell runs we are, by and large, not aggressively competitive. In general we leave the winning to the racing snake superheroes, who achieve feats we mortals consider unobtainable. Nevertheless we do enjoy pitting ourselves against ourselves.

While results over the same course are directly comparable just how do you compare your AM race result with that of the latest BL ? The AM race might have felt easier but was the overall result in the longer race more impressive ?

It struck me that an individual's average times for a unit distance (mins/mile, mins/km) and the rate of climb (feet/min, metres/min) could be independently ascertained. These values could then be applied to the distance and height figures provided for a given race and it should then be possible to calculate a predicted time.

By plotting the actual vs. predicted time for a series of races, and then constructing a best fit straight line, direct comparison of results for differing races becomes possible.

Points on the graph located above this "best fit" line represent better than expected results and vice versa. The distance away from the line reflecting just how good (or bad) the performance was.

This might sound complicated but bear with me ! –I will use my figures for illustration:-

I chose to calculate the min/mile and vertical feet/min rates using my results from

- a. The Roaches (BL 15/3700 : 148.5 min) and
- b. Shining Cliff (BM 6.75/1100 : 61.5min)

Therefore

$$\begin{aligned} \text{a.} \quad & 15.00m + 3700f = 148.50t \\ \text{b.} \quad & 6.75m + 1135f = 61.50t \\ & \text{where } m \text{ represents miles, } f \text{ feet and } t \text{ time} \end{aligned}$$

therefore

$$\begin{aligned} \text{a.} \quad & 15m + 3700f = 148.50t \\ 15/6.75 \times \text{b.} \Rightarrow & 15m + 2522f = 136.66t \end{aligned}$$

and so $a - b \Rightarrow 1178f = 11.74t$

and the rate of climb is therefore for all intents and purposes **100' / min**

Plumbing these values back into the equations gives

$$\text{a.} \quad 15m = (148.5 - 37)t = 111.5$$

and so

$$m = 111.5/15 = \mathbf{7.42 \text{ mins / mile}}$$

Using these 100'/min and 7.42 min/mile values I then plotted the expected vs. actual results for all my efforts over the last year or so on an Excel spreadsheet.

These runs vary over a very large range from local AS races (5m/900 32m.48s), via longer BL and KIMM efforts right up to long endurance runs like the Fellsman AM (61m/11,000 15h 56m) and the Bob Graham AL (72m/27,000 22h 44m).

It cannot be too difficult I did it ! The results are shown on the accompanying figure.

Excel also provides the facility to plot the best fit line and the results show surprisingly good correlation, with an R² value of 0.9691.

Obviously my times drop off from the expected value the longer the run but what appears remarkable is just how close the values are to the best fit line. This suggests that the rate of slowing relative to the predicted speed is directly proportional to distance and not progressively greater i.e. it is a linear and not a power function.

From the graph it appears my own personal best effort was the Old County Tops (37/10,000 486 mins) highlighted with open arrow, and the worst appears to be a Bob Graham attempt (21/8800 424mins), stopped due to bad weather, marked with a. black arrow.

The best fit line is a dynamic feature, changing with each new entry and therefore the best/ worst runs may change with time.

Once the principle has been established and your own individual min/mile and vertical climb/min values have been calculated, putting the results on the accumulated spreadsheet in the computer and generating the graph takes a matter of minutes. Try it and see if you have had any outstanding efforts which you can savour and similarly think of any reasonable (and unreasonable) excuse for your less good efforts !!

Race results from 2003

