



1

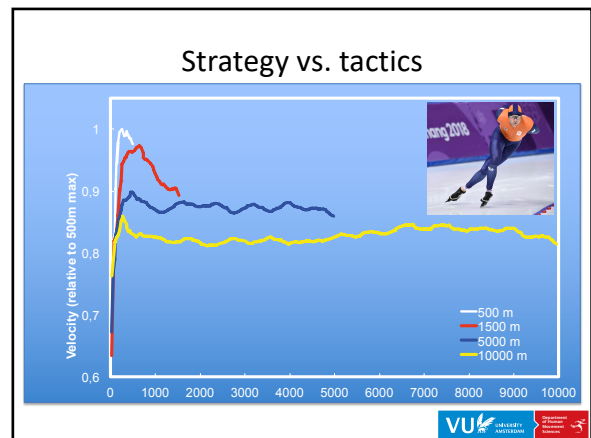


2

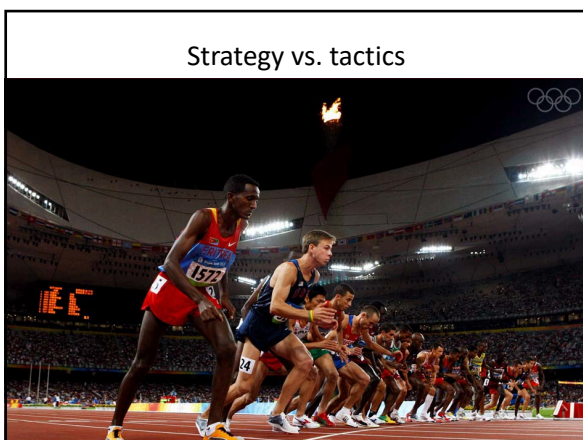
Pacing strategy:

- Pacing strategy is designed to allow optimization of the pattern of energy expenditure, so that the athlete can reach the finish line sooner.
- Race strategy versus race tactics

3



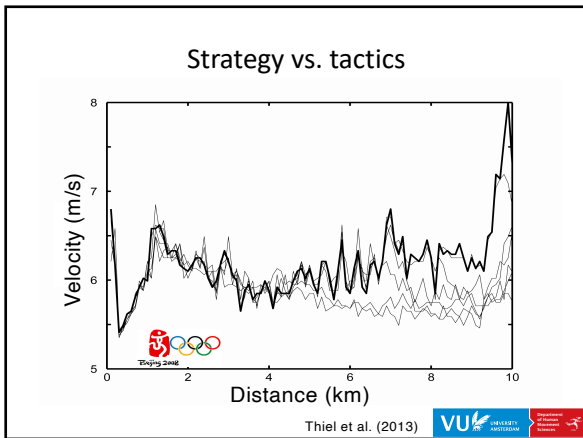
4



5



6



7

### Pacing Strategy:

- is organized in an anticipatory way designed not only to optimize performance but also to prevent unreasonably large homeostatic disturbances.
- is also regulated by some sort of peripheral feedback from physiological sensors.

8

### Rate of Perceived exertion (RPE)

RPE score	Description
0	No effort
1	Very easy
2	Easy
3	Moderate
4	Somewhat hard
5	Hard
6	
7	Very hard
8	
9	Very, very hard
10	Maximal

9

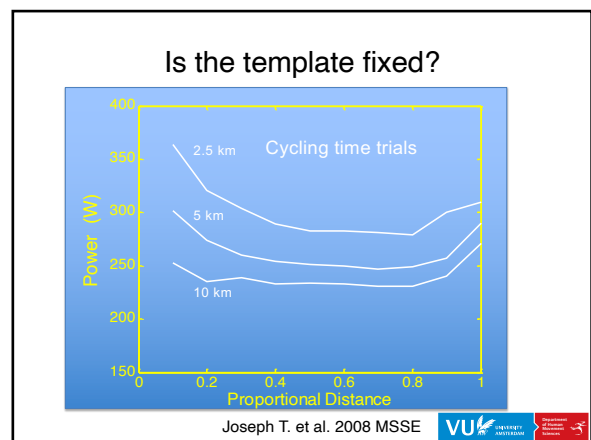
### Pacing template

- Management of fatigue
- Seems the same for different sports
- Is the template fixed?
- How to learn to pace?
- How robust will this be?

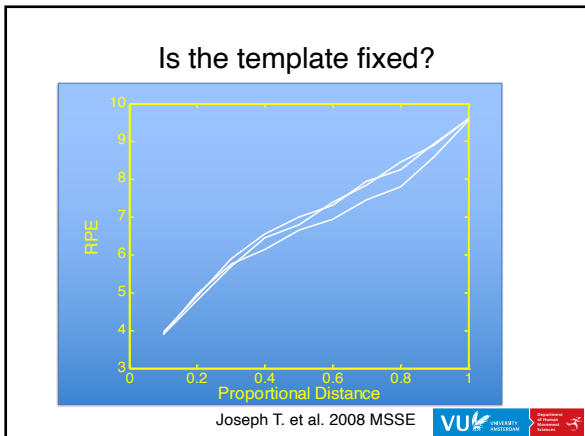
10



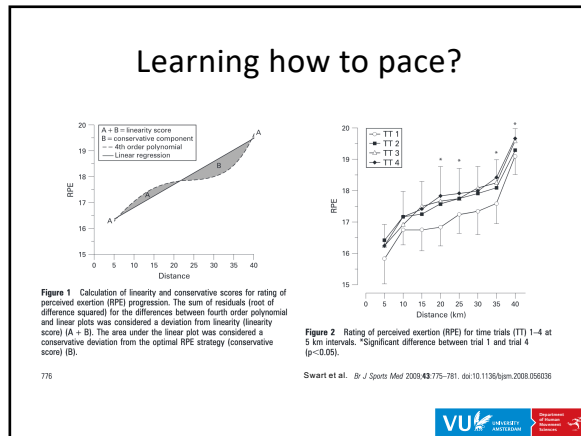
11



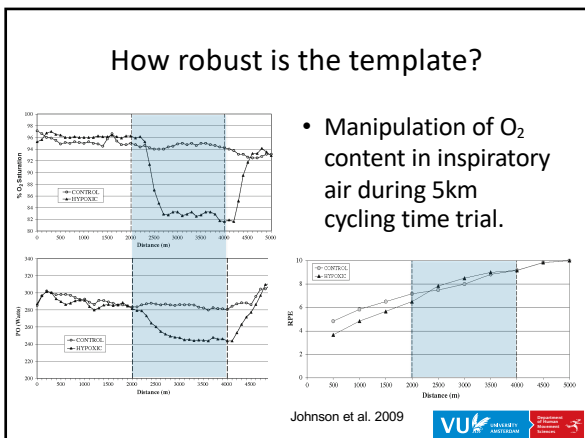
12



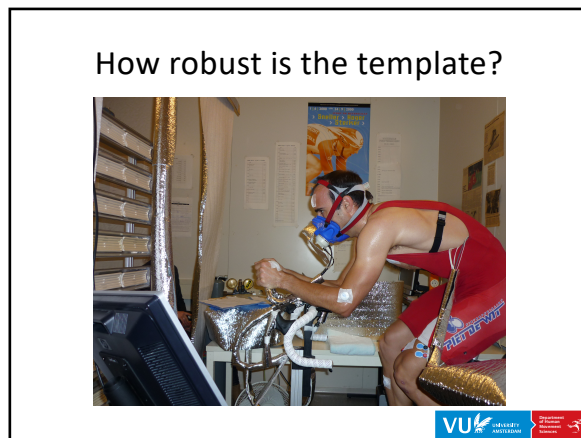
13



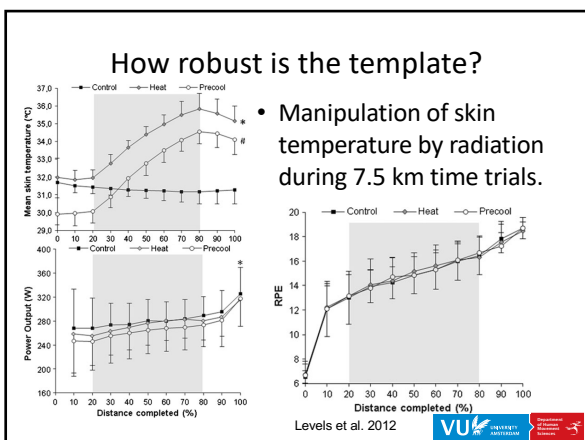
14



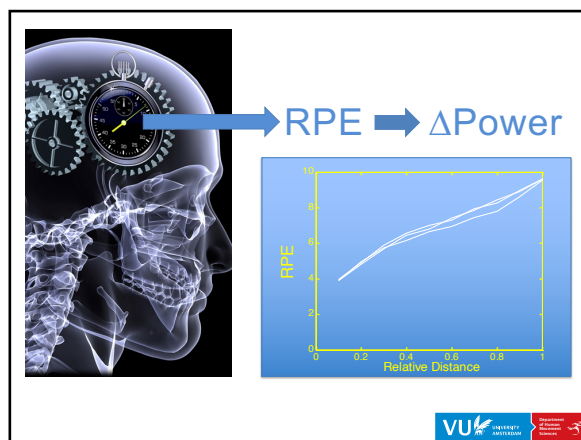
15



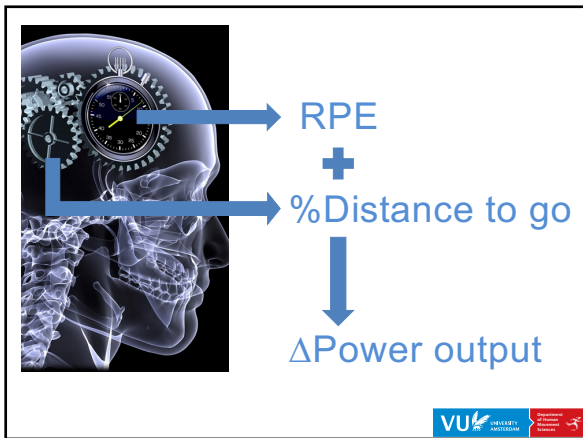
16



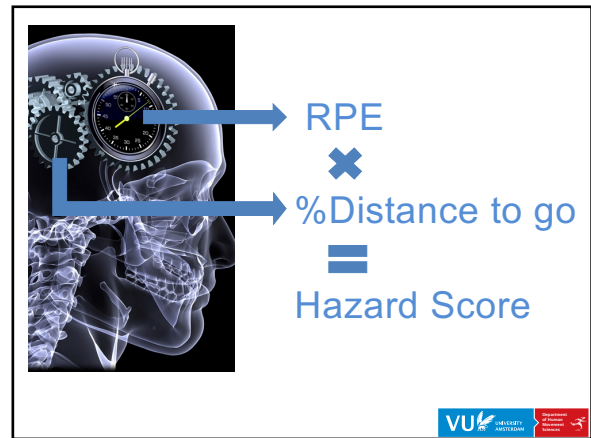
17



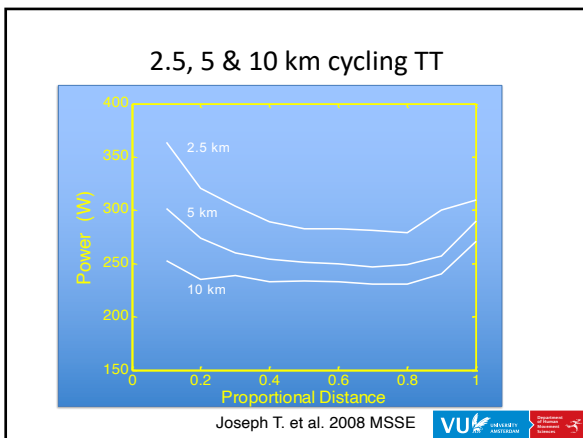
18



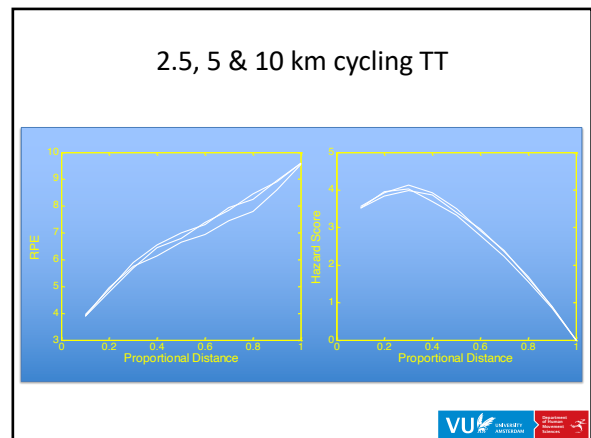
19



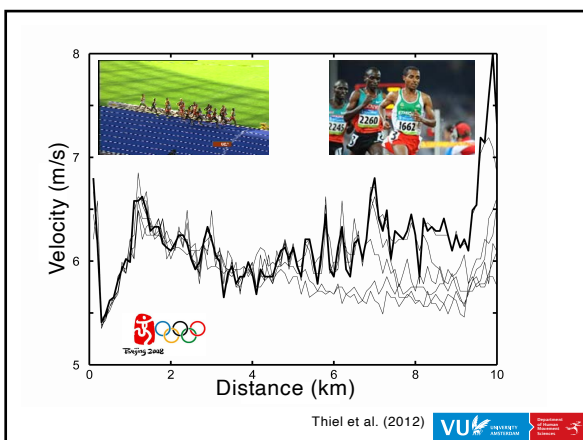
20



21



22



23

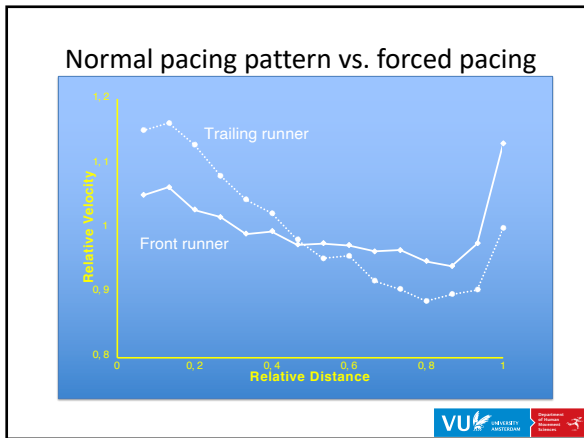
### RPE manipulations

- 3000m paired running races
- 10K - 15K deceptive cycling time trials
- Effect of break aways

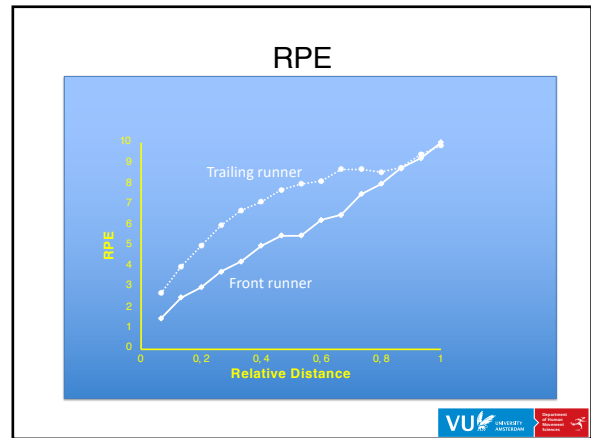
Two photographs are included: the left one shows an indoor cycling track with a green surface and a red track; the right one shows a cyclist on a stationary bike in a laboratory setting, with a computer monitor and other equipment visible.

24

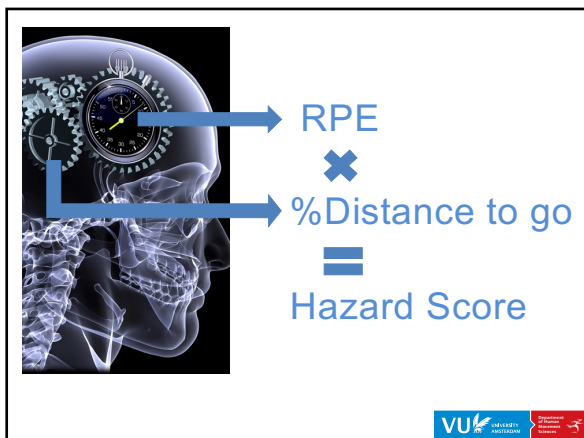




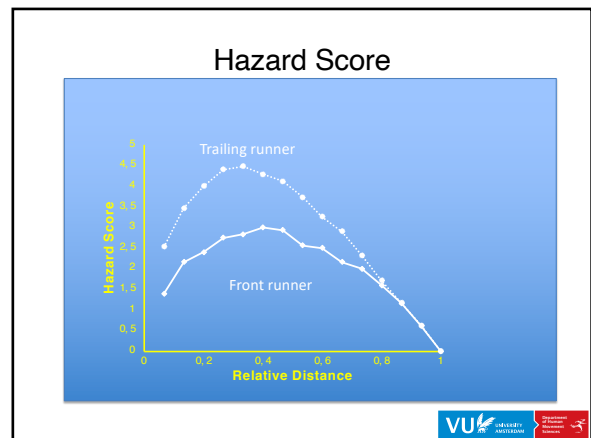
25



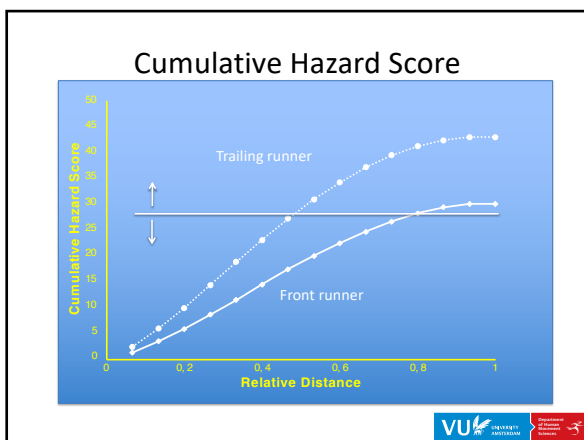
26



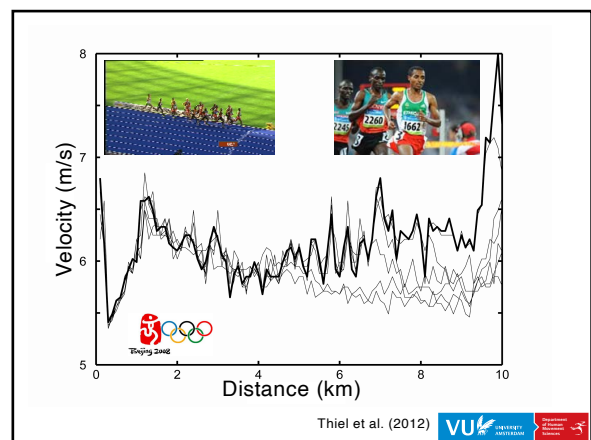
27



28



29




30



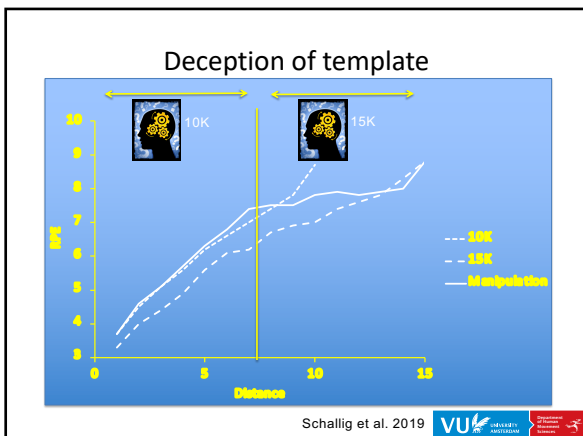
31

### Practical application

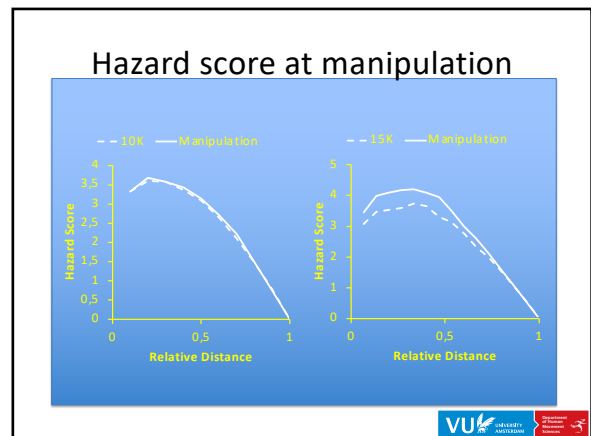
- Deviating from individual template harms performance by some sort of cumulative proces



32




33



34

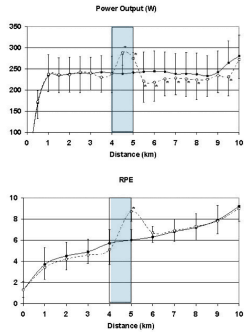
### Practical application

- Deviating from individual template harms performance by some sort of cumulative proces
- It is important to have knowledge of the race
  - Exercising with reserve
  - Misleading information



35

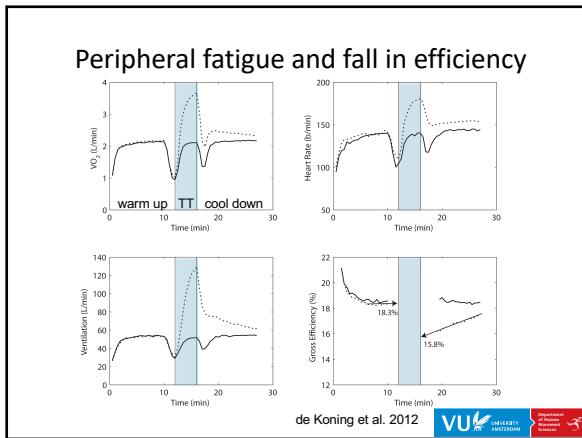
### Effect of break away



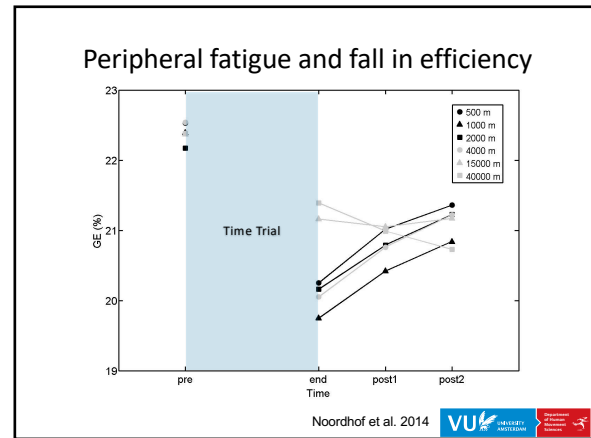
- Manipulation of speed by 'break away' during 10 km time trials.

Cohen et al. 2013

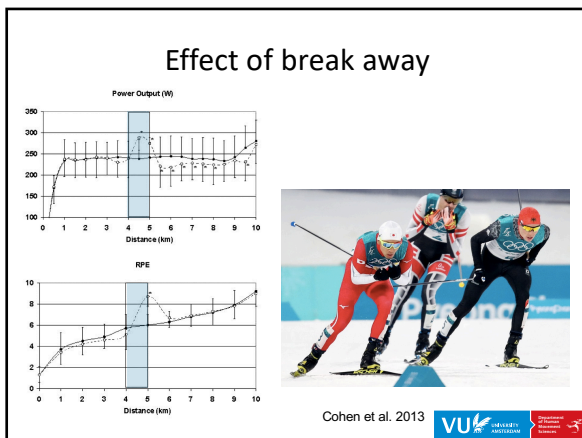
36



37



38



39

### Practical application

- Deviating from individual template harms performance by some sort of cumulative proces
- It is important to have knowledge of the race
  - Exercising with reserve
  - Misleading information
- Early peak power output has an effect on the cumulative proces and on efficiency

40



41

### Conclusion

- Pacing strategy is designed to allow optimization of the pattern of energy expenditure, to manage the cumulative process of fatigue, so that the athlete can reach the finish line sooner.

42

Thank You

VU UNIVERSITY AMSTERDAM

Department of Human Movement Sciences