



Running training habits and body weight – epidemiologic survey of sport newcomers aged 30 to 60 years

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Introduction

Regular physical training is associated with considerable preventive health effects (1). Reduction and control of body weight are relevant factors of prevention and frequently stated motives for exercise (2).

Aim

Aim of the cross-sectional analyses is to provide more detailed insights into training habits and their relationship to body weight in an epidemiologically relevant subsample of newcomers to running.

Methods

Registered participants of half- or marathon events took part at a nationwide survey (www.dshs-koeln.de/med-pace). The survey also offers an online medical check (using a modified PAR-Q questionnaire). The link to the survey is included during the online registration process to races organized by the "German-Road-Races e.V.". The present sample of male (m) and female (f) athletes was a selected subset from the entire data set of >160,000 participants.

The questionnaire (Fig. 1) covers, inter alia, following topics:

- Sociodemographic and anthropometric information (e.g. age, body weight (BW), height)
- Training habits (e.g. frequency (TF), volume (TV) of weekly training)
- Sport biography (e.g. "running history", time when individuals began with regular training)

Sample selection criteria:

- Age: 30 to 60 years
- Regular running training experience (TE): ≤ 5 years
- Sporting and running inactivity prior to regular training

Statistics:

- Multiple ANOVA & Multiple Regression Analysis

Results

Sample characteristics

- 7,314 males (41.9 ± 7.3 yrs; 82.4 ± 11.5 kg; BMI 25.2 ± 3.0)
- 4,456 females (40.2 ± 7.2 yrs; 66.3 ± 11.5 kg; BMI 23.5 ± 3.7)
- TE: 3.1 ± 1.2 yrs (m); 2.9 ± 1.2 yrs (f) (mean ± SD)

Training Experience: Group-differences of Volume and Body Weight

- TV (km/week) differs in an approximately e-functional shape from year 1 to 5: 14.1 ± 12.7 to 30.2 ± 16.8 km* (m) and 11.7 ± 11.1 to 23.1 ± 13.5 km* (f) (Fig. 2)
- BW differs from year 1 to 5: 86.4 ± 13.4 to 81.2 ± 10.5 kg* (m) and 69.2 ± 13.8 to 64.5 ± 9.5 kg* (f) (Fig. 2)

Effects (coef. β) of Training Experience and -Volume on Body Weight

- BW per year of training: -0.552 kg* (m); -0.835 kg* (f)
- BW per km run (week⁻¹): -0.122 kg* (m); -0.130 kg* (f)

*p<0.001

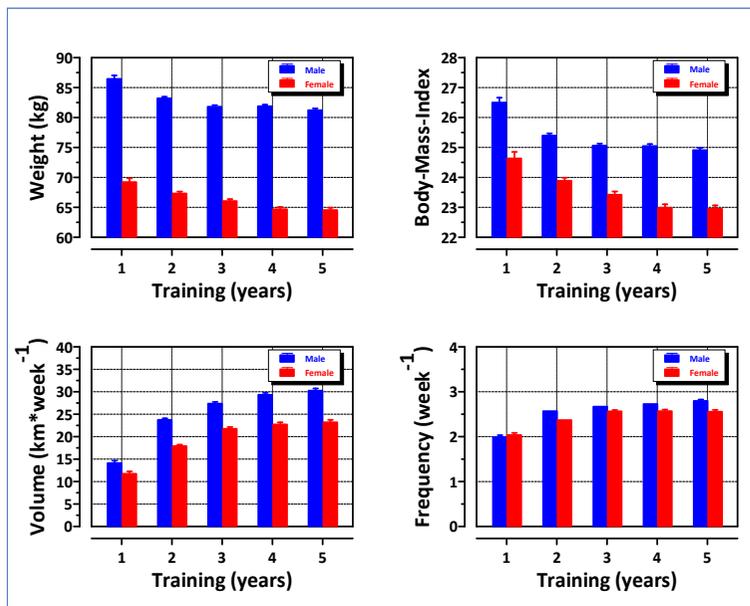


Fig. 2: BW (upper left: sex p<0.001, TE p<0.001, sex x TE p=0.085), BMI (upper right: sex p<0.001, TE p<0.001, sex x TE p<0.05), TV (lower left: sex p<0.001, TE p<0.001, sex x TE p<0.01), and TF (lower right: sex p<0.001, TE p<0.001, sex x TE p=0.001) of runners stratified by TE (mean ± SE).

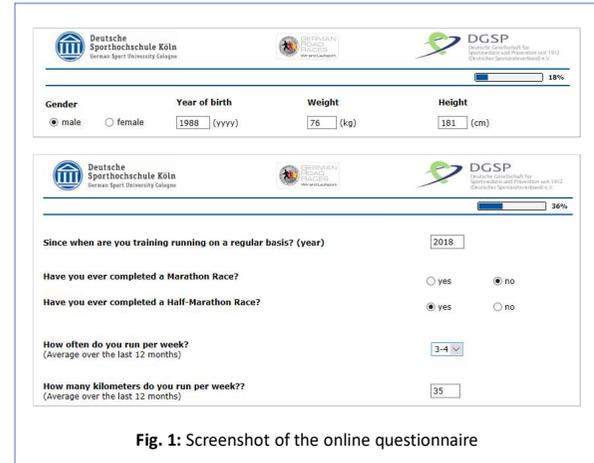


Fig. 1: Screenshot of the online questionnaire

Discussion

- A causal link cannot be inferred due to methodological constraints (e.g. cross-sectional study).
- However, the observed associations suggest systematic and additive long-term training effects on body weight.
- Results imply that formerly inactive, middle-aged subjects are motivated and able to realize progressive training.
- The outcomes reinforce the view about the enormous protective potential of regular training for ambitious sport beginners and returners to sport activity even later in life.

References

1. R ther et al. (2019) ECSS. Abstract 24th Annual Congress ECSS S:594
2. Leyk et al. (2017) Journal of Science and Medicine in Sport 20S: S33

