

2018-10

# Parkrun, activity and health: The public health potential of parkrun

Stevinson, C

<http://hdl.handle.net/10026.1/12653>

---

---

*All content in PEARL is protected by copyright law. Author manuscripts are made available in accordance with publisher policies. Please cite only the published version using the details provided on the item record or document. In the absence of an open licence (e.g. Creative Commons), permissions for further reuse of content should be sought from the publisher or author.*

# Public health outcomes of parkrun: a prospective 12-month study

Clare Stevinson<sup>1,2</sup>, Mary Hickson<sup>3</sup>

<sup>1</sup>School of Sport, Exercise and Health Sciences, Loughborough University, United Kingdom; <sup>2</sup>National Centre of Sport & Exercise Medicine East Midlands

<sup>3</sup>Institute of Health and Community, University of Plymouth, United Kingdom

## BACKGROUND

Mass participation sports events are recognised as a way of engaging low active individuals in health-enhancing physical activity.

One example of a mass participation event that takes place on a frequent basis is parkrun: a global network of free weekly 5km run/walks in outdoor public spaces.

Cross-sectional studies have identified perceived health and wellbeing benefits of parkrun participation<sup>1-4</sup>, but there is a need to assess sustained behaviour and health outcomes.

## AIM

To examine changes in self-reported physical activity, body mass index, and psychological wellbeing over 12 months among participants of parkrun.

## METHODS

**DESIGN:** Prospective cohort study with a 12 month follow up.

**SAMPLE:** 354 new adult registrants of a UK parkrun.

**MEASURES:** Self-reported measures of physical activity (International Physical Activity Questionnaire short form<sup>5</sup>), weight and height, happiness (Short Depression and Happiness Scale<sup>6</sup>), and stress (Perceived Stress Scale<sup>7</sup>), were completed at registration, 6 months and 12 months.

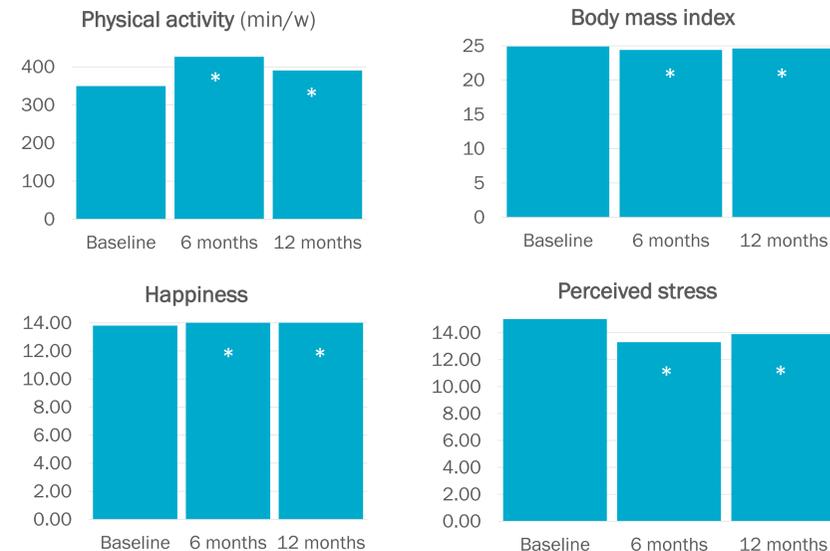
Objective data on attendance and fitness (i.e. run dates and finishing times) for the 12-month study period were obtained from the parkrun database.



## RESULTS

Age: 41.4 ± 10.9 years  
 Sex: 55.9% female; 44.1% male  
 Runner status: 44.1 regular runners; 24.3% occasional runners; 31.6% non-runners  
 Weight status: 61% normal overweight; 30.5% overweight; 8.5% obese

### CHANGES IN SELF-REPORTED OUTCOMES



\*significantly different from baseline

Physical activity increased by 76.9 min/w at 6 months and 39.4 min/w at 12 months. For the low active sub-group (n = 31) the increase at 12 months was 194.2 min/w.

Body mass index decreased with a relative weight loss of 1.1% at 12 months. For the overweight/obese sub-group (n = 138) relative weight loss was 2.4%.

Happiness increases and stress reductions at 6 months were maintained at 12 months. The sub-group with scores indicating possible depression reduced from 11.0% to 7.9%.

## RESULTS

### FITNESS CHANGE

Run times over 12 months was improved by 12.0% in the overall sample, and by 15.8% among initial non-runners (n = 110).

Linear regression identified three significant predictors of fitness change:

- total runs (B = -5.132,  $\beta$  = -0.299)
- first run time (B = -0.294,  $\beta$  = -0.528)
- weight change (B = 11.500,  $\beta$  = 0.299)

## CONCLUSIONS

Small significant positive changes were recorded in physical activity, body mass index, fitness, and wellbeing outcomes for the overall sample, with greater gains for those who were inactive, overweight, or depressed at baseline.

Based on the principle that significant public health benefit can be achieved through small changes for many people, or large improvements for fewer individuals, parkrun appears to have considerable potential impact on population health.

## REFERENCES

- Stevinson C, Hickson M. Exploring the public health potential of a mass community participation event. *Journal of Public Health* 2014;36:268-74.
- Stevinson C, Wiltshire G, Hickson M. Facilitating participation in health-enhancing physical activity: a qualitative study of parkrun. *International Journal of Behavioural Medicine* 2015;22:170-7.
- Wiltshire G, Stevinson C. Exploring the role of social capital in community-based physical activity: qualitative insights from parkrun. *Qualitative Research in Sport, Exercise and Health* 2018;10:47-62.
- Wiltshire G, Fullagar S, Stevinson C. Exploring parkrun as a social context for collective health practices: running with and against the moral imperatives of health responsabilisation. *Sociology of Health Illness* 2018;40:3-17.
- Craig CL, Marshall AL, Sjöström M, Bauman AE, Booth ML, Ainsworth BE, Pratt M, Ekelund U, Yngve A, Sallis JF, Oja P. International physical activity questionnaire: 12-country reliability and validity. *Medicine and Science in Sports and Exercise* 2003;35:1381-95.
- Joseph S, Linley PA, Harwood J, Lewis CA, McCollam P. Rapid assessment of well-being: The Short Depression-Happiness Scale. *Psychology and Psychotherapy* 2004;77:463-78.
- Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. *Journal of Health and Social Behaviour* 1983;24:385-96.

# Public health outcomes of parkrun: a prospective 12-month study

Clare Stevinson<sup>1,2</sup>, Mary Hickson<sup>3</sup>

<sup>1</sup>School of Sport, Exercise and Health Sciences, Loughborough University, United Kingdom; <sup>2</sup>National Centre of Sport & Exercise Medicine East Midlands

<sup>3</sup>Institute of Health and Community, University of Plymouth, United Kingdom

## BACKGROUND

Mass participation sports events are recognised as a way of engaging low active individuals in health-enhancing physical activity.

One example of a mass participation event that takes place on a frequent basis is parkrun: a global network of free weekly 5km run/walks in outdoor public spaces.

Cross-sectional studies have identified perceived health and wellbeing benefits of parkrun participation<sup>1-4</sup>, but there is a need to assess sustained behaviour and health outcomes.

## AIM

To examine changes in self-reported physical activity, body mass index, and psychological wellbeing over 12 months among participants of parkrun.

## METHODS

**DESIGN:** Prospective cohort study with a 12 month follow up.

**SAMPLE:** 354 new adult registrants of a UK parkrun.

**MEASURES:** Self-reported measures of physical activity (International Physical Activity Questionnaire short form<sup>5</sup>), weight and height, happiness (Short Depression and Happiness Scale<sup>6</sup>), and stress (Perceived Stress Scale<sup>7</sup>), were completed at registration, 6 months and 12 months.

Objective data on attendance and fitness (i.e. run dates and finishing times) for the 12-month study period were obtained from the parkrun database.

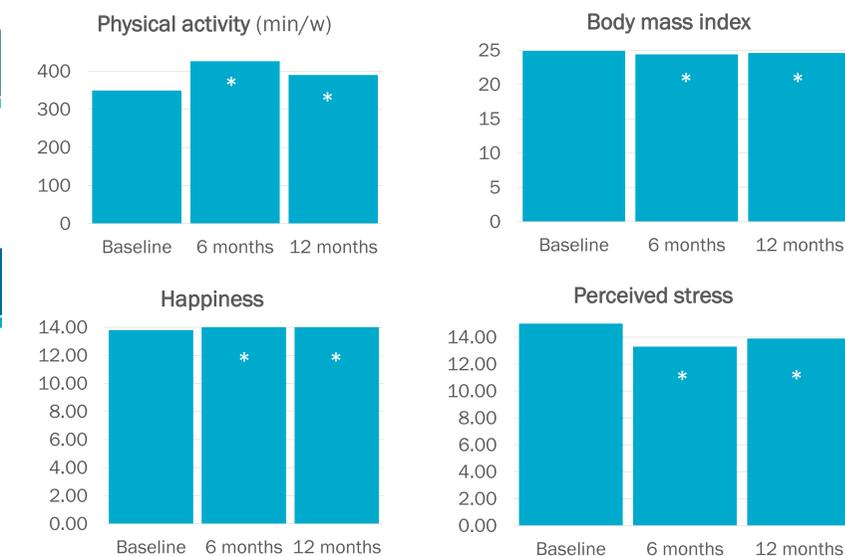
**DATA ANALYSIS:** Analysis of variance (ANOVA) was used to assess changes in self-reported outcomes between baseline, 6-months and 12 months. Linear regression was used to identify predictors of fitness change over 12 months.

**ETHICAL APPROVAL:** Approval was granted by the Loughborough University Ethics Approvals (Human Participants) sub-committee.

## RESULTS

Age: 41.4 ± 10.9 years  
 Sex: 55.9% female; 44.1% male  
 Runner status: 44.1 regular runners; 24.3% occasional runners; 31.6% non-runners  
 Weight status: 61% normal overweight; 30.5% overweight; 8.5% obese

### CHANGES IN SELF-REPORTED OUTCOMES



\*significantly different from baseline

Physical activity increased by 76.9 min/w at 6 months and 39.4 min/w at 12 months. For the low active sub-group (n = 31) the increase at 12 months was 194.2 min/w.

Body mass index decreased with a relative weight loss of 1.1% at 12 months. For the overweight/obese sub-group (n = 138) relative weight loss was 2.4%.

Happiness increases and stress reductions at 6 months were maintained at 12 months. The sub-group with scores indicating possible depression reduced from 11.0% to 7.9%.

## RESULTS

### FITNESS CHANGE

Run times over 12 months was improved by 12.0% in the overall sample, and by 15.8% among initial non-runners (n = 110).

Linear regression identified three significant predictors of fitness change:

- total runs (B = -5.132,  $\beta$  = -0.299)
- first run time (B = -0.294,  $\beta$  = -0.528)
- weight change (B = 11.500,  $\beta$  = 0.299)

## CONCLUSIONS

Small significant positive changes were recorded in physical activity, body mass index, fitness, and wellbeing outcomes for the overall sample, with greater gains for those who were inactive, overweight, or depressed at baseline.

Based on the principle that significant public health benefit can be achieved through small changes for many people, or large improvements for fewer individuals, parkrun appears to have considerable potential impact on population health.

## REFERENCES

- Stevinson C, Hickson M. Exploring the public health potential of a mass community participation event. *Journal of Public Health* 2014;36:268-74.
- Stevinson C, Wiltshire G, Hickson M. Facilitating participation in health-enhancing physical activity: a qualitative study of parkrun. *International Journal of Behavioural Medicine* 2015;22:170-7.
- Wiltshire G, Stevinson C. Exploring the role of social capital in community-based physical activity: qualitative insights from parkrun. *Qualitative Research in Sport, Exercise and Health* 2018;10:47-62.
- Wiltshire G, Fullagar S, Stevinson C. Exploring parkrun as a social context for collective health practices: running with and against the moral imperatives of health responsabilisation. *Sociology of Health Illness* 2018;40:3-17.
- Craig CL, Marshall AL, Sjöström M, Bauman AE, Booth ML, Ainsworth BE, Pratt M, Ekelund U, Yngve A, Sallis JF, Oja P. International physical activity questionnaire: 12-country reliability and validity. *Medicine and Science in Sports and Exercise* 2003;35:1381-95.
- Joseph S, Linley PA, Harwood J, Lewis CA, McCollam P. Rapid assessment of well-being: The Short Depression-Happiness Scale. *Psychology and Psychotherapy* 2004;77:463-78.
- Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. *Journal of Health and Social Behaviour* 1983;24:385-96.