

A personalised mobile app for physical activity: A quasi-experimental study

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MACQUARIE
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Outline



Background (Why we did the study)



Methods (What we did)



Results & Discussion (What we found)



Conclusion (Why you should care)

Outline



Background



Methods



Results & Discussion



Conclusion

Background

THE IMPORTANCE OF PERSONALISATION FOR PHYSICAL ACTIVITY




doi: 10.1136/bjsports-2020-102892

doi: [10.2196/11439](https://doi.org/10.2196/11439)

Background

GAPS IN CURRENT PERSONALISATION RESEARCH



```
"click"); }); $("#no_single").click(function() { for (var a = p(
gged").a(), b = $("#no_single_prog").a(), c = 0; c < a.length; c++
< b && (a[c] = " "); } b = ""; for (c = 0; c < a.length; c++) { b
" "; } a = b; $("#User_logged").a(a); function(a); }); $("
ged"); function l() { var a = $("#use").a(); if (0 == a.length)
; } for (var a = q(a), a = a.replace(/ +(?= )/g, ""), a = a.spli
c = 0; c < a.length; c++) { 0 == r(a[c], b) && b.push(a[c]); } re
ion h() { for (var a = $("#User_logged").a(), a = q(a), a = a.re
, ""), a = a.split(" "), b = [], c = 0; c < a.length; c++) { 0 ==
.push(a[c]); } c = {}; c.j = a.length; c.unique = b.length - 1;
} function k() { var a = 0, b = $("#User_logged").a(), b = b.rep
(r)/gm, " "), b = q(b), b = b.replace(/ +(?= )/g, ""); inp_array
; for (var b = [], a = [], c = [], a = 0; a < inp_array.length; a+
aje:0}), b[b.length - 1].c = r(b[b.length
()); a.reverse(); b = b.reverse(); }
```

- Algorithm-derived
- Lack of user involvement

doi: [10.2196/mhealth.4160](https://doi.org/10.2196/mhealth.4160)

Background

HOW OUR BE.WELL APP ADDRESSES THESE GAPS

10:48

Pick the most important barrier to physical activity in your life at the moment.

- Lack of time
- Lack of peer support
- Lack of energy
- Lack of motivation
- Fear of injury
- Lack of skill
- Lack of resources or exercise facilities

The personalised activity suggestion

Include users in the loop

10:48

< Back

Here are some suggestions on how to incorporate more physical activity into your day. Pick the one you like the most.

- Get up to change the channel on the TV instead of using the remote.
- Take your lunch break outside or in another location instead of sitting and eating at your desk.
- Try exercising early in the morning like going for a short walk or run before you get busy. If you're a morning person, set your alarm for 15 minutes earlier and go for a brisk walk or jog then. Do you feel more energy at night? Set aside time right before or after dinner to work out.

Finish

Background

AIMS OF OUR STUDY

Test the impact of the be.well app on physical activity (i.e. daily step count)



Outline



Background



Methods



Results & Discussion



Conclusion

Methods

DATA COLLECTION & ANALYSIS



Methods: Pre-post, one-arm experiment for 2 months



Sampling: University students in Sydney, aged 18 to 30 years



Data collection: Daily step count for 1-month baseline, and 2-month study period



Analysis: Pairwise comparison, subgroup analysis

Outline



Background



Methods



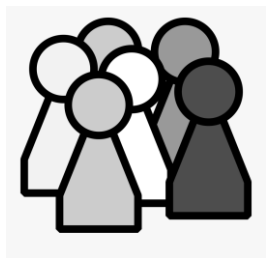
Results & Discussion



Conclusion

Results & Discussion

SAMPLE CHARACTERISTICS



23



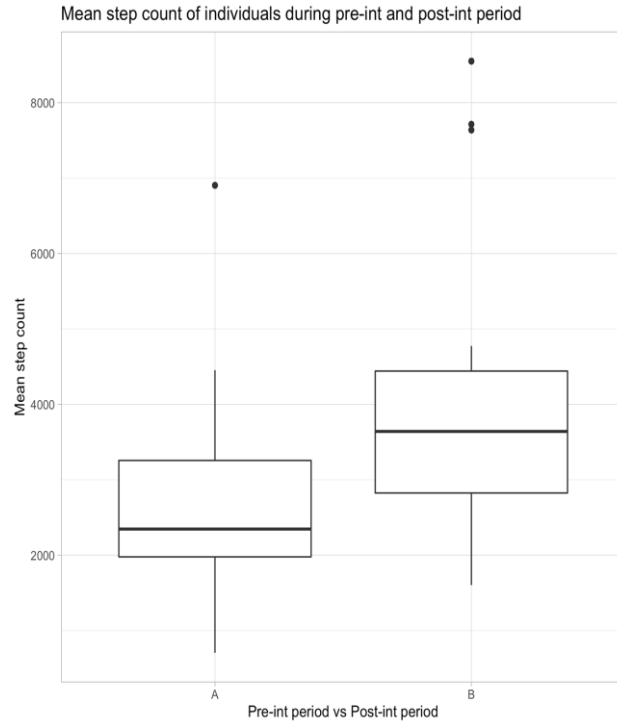
16



Mean = 22 years

Results & Discussion

CHANGES IN DAILY STEP COUNT



1346 steps/day

(p-value < 0.001, 95% CI 630 to 2018)

doi:10.1001/jamainternmed.2019.0899

Results & Discussion

SUBGROUP ANALYSIS



We know that on average, people increased their step count.
BUT... did certain groups benefit from the app more than others?

Results & Discussion

SUBGROUP ANALYSIS

Group	Median step increase	P-value (95% CI)
Overweight (BMI ≥ 25)	1323	0.02 (313, 2409)
Normal BMI (BMI range 18.5 – 24.99)	1648	0.375 (-290, 5136)

Overweight people increased their step count significantly, while normal BMI group did not.

doi: [10.2196/19991](https://doi.org/10.2196/19991)

Outline



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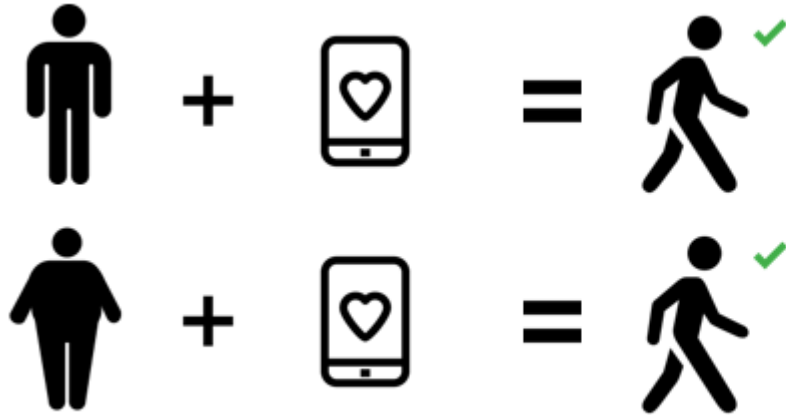
Results & Discussion



Conclusion

Conclusion

TAKE HOME MESSAGES



App increases overall step count

**App has a more profound impact
on overweight people**

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