



An i4ThePlanet:



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Introducing a new mobile app for behavioral change to mitigate climate change

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Background:

Would individual action make a difference in mitigating climate change and can psychology help?

A survey by the American Psychological Association in 2019 showed that seven in ten American adults say they wish they could do more to combat climate change, but 51% say they don't know where to start (2020). Knowing and understanding what to do to mitigate climate change could help pro-environmental behavior.



Numerous studies over the past two decades have examined the role of individual behavior in mitigating climate change. Some of this work focused on targeted interventions (e.g., incentives) to reduce individual and household carbon footprint through various ways of decreasing energy use.



Households emit 72% of all greenhouse gases. The potential in reducing energy consumption by households is very large (Stankuniene et al., 2020).



Many reports and studies have also noted a gap between intentions to take pro-environmental behaviors and actual behaviours of significant individual action to mitigate climate change (Dimitrova et al, 2021).

Background:

Would individual action make a difference in mitigating climate change and can psychology help?

(Cont'd)

Many individuals engage in pro-environmental behaviors, but most could do more (Gifford, 2011). In addition to structural barriers (e.g., inadequate infrastructure), individual psychological barriers to action - "dragons of inaction" - are powerful and numerous. These, mostly subconscious barriers hinder action to mitigate climate change and limit behavioral change (Gifford, 2011).



In a recent study, one self-serving bias, the "Better than Average Estimate" was shown to reduce intent to engage in future of pro-environmental behaviors (Bergquist, 2020).



No consensus exists regarding the most effective strategies to promote individual action on climate change (Nisa et al, 2019). Individual behavior change, however, is recognized as "an inexpensive and rapid intervention to achieve climate change mitigation goals (Stankuniene et al., 2020).



Work by psychologists in collaboration with other scientists and other technical experts is needed to help individuals overcome those barriers. A recent review of how psychology can help mitigate climate change argues for "more innovative and integrated interventions for behavioral change" to reduce climate footprints (Nielson et al., 2021).

The Mobile App: Why a mobile app for behavioral change?



A mobile app may be simple and inexpensive intervention strategy to promote and motivate individual behavioral change (Sullivan et al., 2016).

Research is needed to assess the potential of mobile apps to evoke behavioral change in support of mitigating climate change (Sullivan et al., 2016).



It is generally established that the more people reduce their carbon footprint, the stronger our collective capacity to mitigate climate change will be. In addition to government policies, individuals as consumers can play a strong role in mitigating climate change through their decisions and actions (Masson-Delmotte et al., 2021).

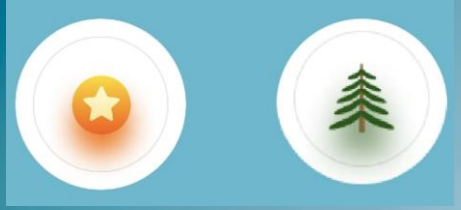


Healthy lifestyles are widely promoted but not widely adopted. If benefits to the individual are made explicit, mitigation actions may increase (Dimitrova et al., 2021). Making the individual part of the solution through a readily available tool (the mobile phone) may be empowering and effective mitigation intervention.

Most people in developed countries have smartphones today. Individuals could take more environmental action if they had more readily available support via their mobile phones.



The i4ThePlanet: Features



The i4ThePlanet (eye for the Planet) was designed by Dr. Aida Warah, in response to the 2019 APA survey results. The app is intended to make it easy for people to take pro-environmental action.



The main purpose of the app is to support individuals in reducing their GHG emissions to help mitigate climate change. It provides lists of 101 pro-environmental actions with known GHG reduction potential under four lifestyle categories:
Food, Fashion/Electronics, Materials, Travel & Energy.

It also provides lists of **wellness** and **leadership** actions known to promote wellness in self and in others, and to reduce GHGs indirectly. The first four categories have three or four subcategories each. Each action under the first four categories is supported with links/references for additional tips and information about the topic.

The app has basic interactive features intended to keep users engaged and informed about their actions. It responds to users' environmental actions with psychological rewards such as positive feedback, "trophies" and stars that can be "redeemed" towards planting trees. Users can also set one of three personal tree planting challenges such as planting 12 trees within 30 days.


The app's main features are inspired by the general principles of Nudge, which provide options for numerous pro-environmental actions to facilitate decision-making. It has no "pushy" or guilt provoking interventions – no commercial goals whatsoever, no ads, and no counting of carbon footprint.

The app also has one feature that enables users to redeem their collected stars into trees. Two external organizations provide **tree planting at a reduced cost.**

The app users can monitor their individual and age-group performance on a community performance chart. There are three age groups: 18-29; 30-49 and 50+.

The App's Categories of GHG Reducing Actions:



| CATEGORIES | FOOD | FASHION/ ELECTRONICS | MATERIALS | TRAVEL/ENERGY | LEADERSHIP | WELLNESS |
|--|---|---|--|---|--|---|
| ACTIONS (samples)  | I ate a plant-based meal <i>(Consumption)</i> | I chose clothes made from natural fibres <i>(Consumption)</i> | I replaced a plastic container with metal or glass <i>(Consumption)</i> | I combined my travel trips <i>(Car Travel)</i> | I showed inclusive behaviour | I took time to meditate |
| | I used the compost bin <i>(Disposal)</i> | I mended an article of clothing <i>(Maintenance)</i> | I used reusable utensils outside of the house <i>(Reuse)</i> | I rode public transportation <i>(Alternatives)</i> | I sought honest feedback on my behaviour | I took breaks during work to recharge |
| | I said 'no' to animal cruelty <i>(Knowledge)</i> | I found a new use for old fabric <i>(Reuse/ Knowledge)</i> | I changed the shape of my waste to limit its impact <i>(Disposal)</i> | I inflated my vehicle's tires <i>(Maintenance)</i> | I served the common good/ community | I took time to appreciate and feel grateful for what I have |
| | | I kept the lights off <i>(Electronics)</i> | | | | |

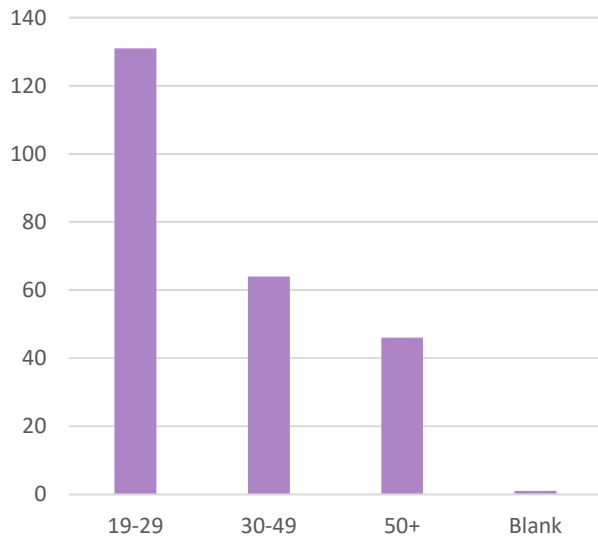
Patterns of Use and Observations

(April to August 2021)



Sign-ups: 242
Active Users: 40

i4ThePlanet Users by Age:



Users Comments:

“The app is an excellent resource, fun and easy to use”

“Enables learning about the environment”

“The trees should be free”

Research Questions & Next Steps:

How effective is this tool in enabling individuals to begin taking pro-environmental action?

Would it help those who begin taking pro-environmental action to develop and maintain the habit?

Does this tool have the right features?

What personal or contextual conditions would make it effective?

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