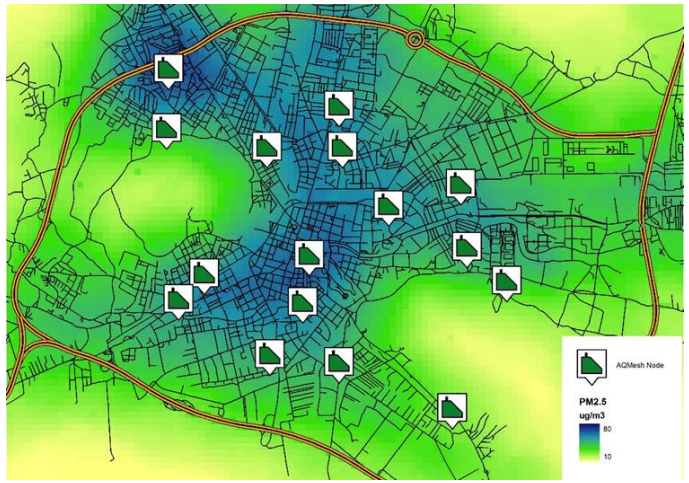
Projekti občanske znanosti s področja okoljskega zdravja: priložnosti in izzivi na stičišču disciplin

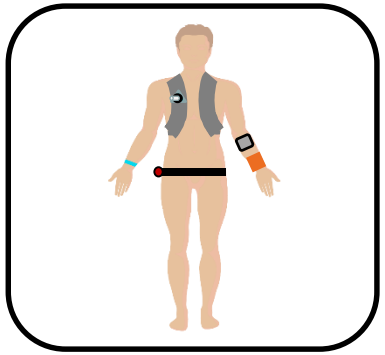
David Kocman, Rok Novak, Jure Ftičar, Johanna A. Robinson, Tjaša Kanduč, Davor Kontić, Janja Snoj Tratnik, Milena Horvat

Institut „Jožef Stefan“
Odsek za znanosti o okolju

Položaj občanske znanosti in umestitev v okvir financiranja znanstvenoraziskovalne dejavnosti, ARIS, 18.12.2023

Občanska znanost & znanosti o okolju

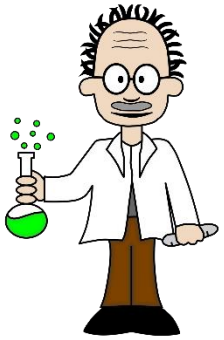




Poklicni *vs.* občanski raziskovalci: *vloge, pričakovanja, motivi, koristi, razumevanje, komunikacija…*

Sodelujoči

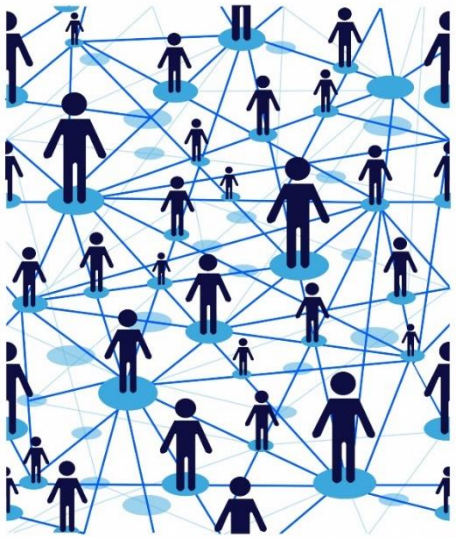
Raziskovalci



Prostovoljci

Nivoji

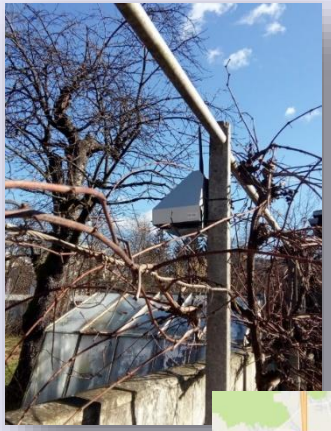
Nivo skupnosti

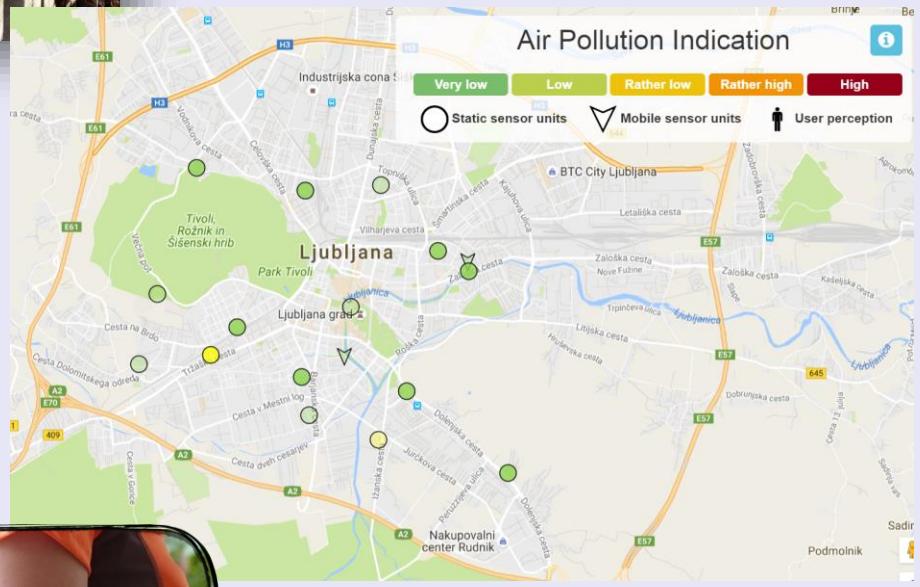


Individualni nivo


CitieS Health
URBANOME
Urban health, wellbeing, liveability
INQUIRE
RadoNorm-SLO
SMURBS
ERA-PLANET
ICARUS
CITI-SENSE
Testiranje & evaluacija orodij
Ocena izpostavljenosti na nivoju posameznika
Občanska znanost in *Earth Observation* sistemi
Občanska znanost in okoljska epidemiologija
Intervencije na osebni in na ravni mesta
Crowdsoursing
•Pasivno generiranje informacij
Collaborative Citizen Science
•Raziskovalno vprašanje, protokoli, zbiranje podatkov, analiza, interpretacija in razširjanje

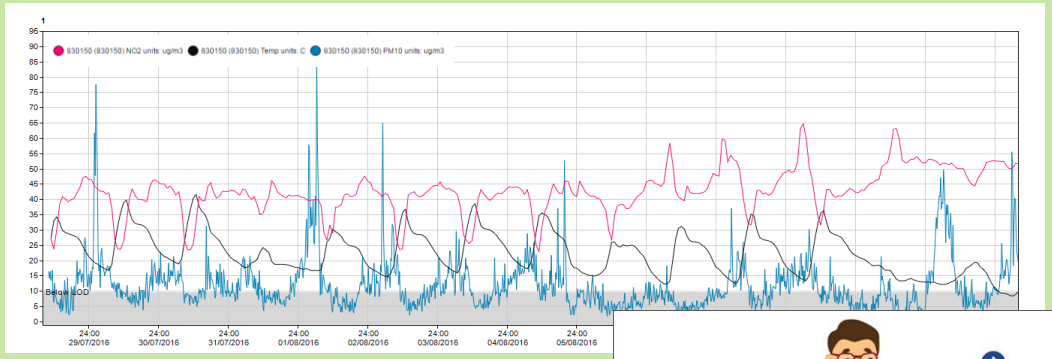
Vloga/vključenost:



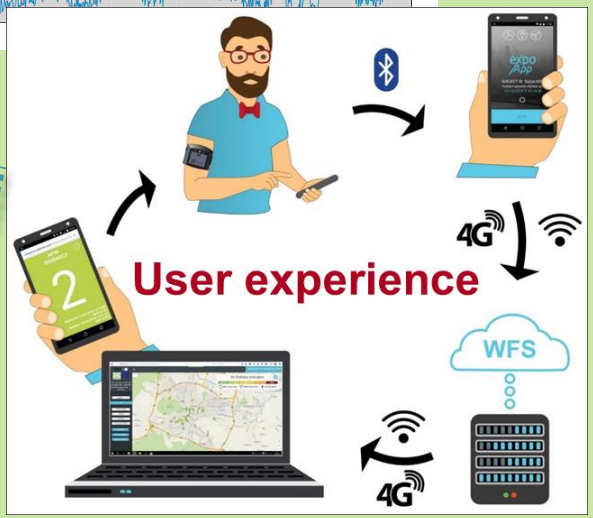


CITI-SENSE

Znanstveni rezultati:



Narejeno za raziskovalce in ne dovolj uporabniku prijazno→
Potrebno upoštevati uporabniško izkušnjo pri samem dizajnu



sensors

MDPI

Article

End-User Feedback on a Low-Cost Portable Air Quality Sensor System—Are We There Yet?

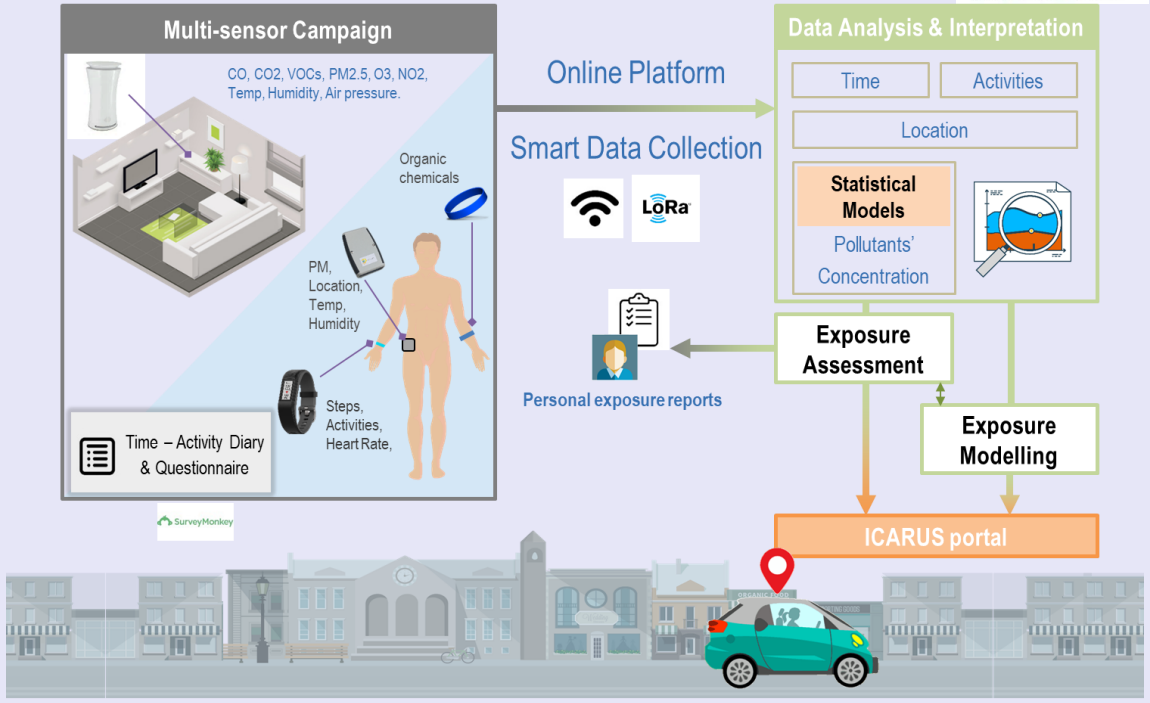
Johanna Amalia Robinson [1,2,*], David Kocman [1], Milena Horvat [1,2] and Alena Bartonova [3]

1 Department of Environmental Sciences, Jožef Stefan Institute, 1000 Ljubljana, Slovenia; david.kocman@ijs.si (D.K.); milena.horvat@ijs.si (M.H.)
2 Jožef Stefan International Postgraduate School, 1000 Ljubljana, Slovenia
3 NILU—Norwegian Institute for Air Research, 2007 Kjeller, Norway; alena.bartonova@nilu.no
* Correspondence: johanna.robinson@ijs.si

Received: 13 September 2018; Accepted: 1 November 2018; Published: 4 November 2018

check for updates

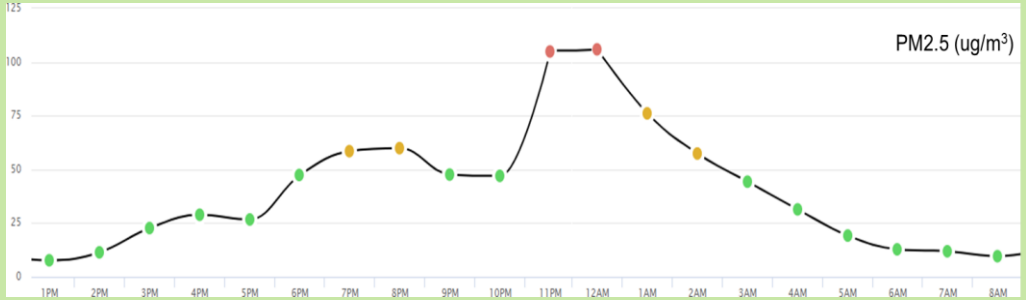
Vloga/vključenost:

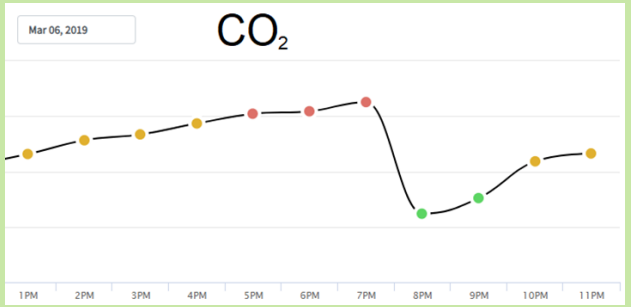


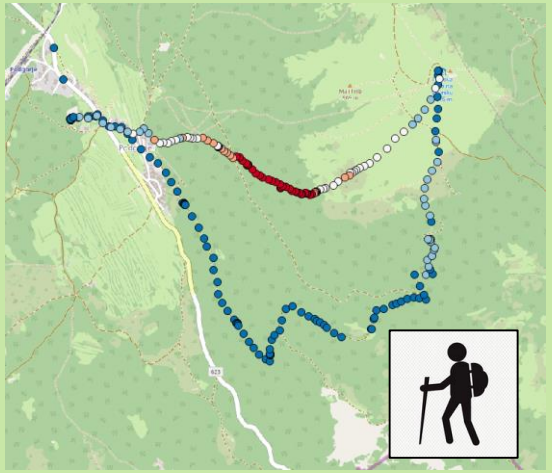
Vprašalniki
& Dnevniki aktivnosti &
Uporabnška izkušnja

ICARUS

Rezultati:

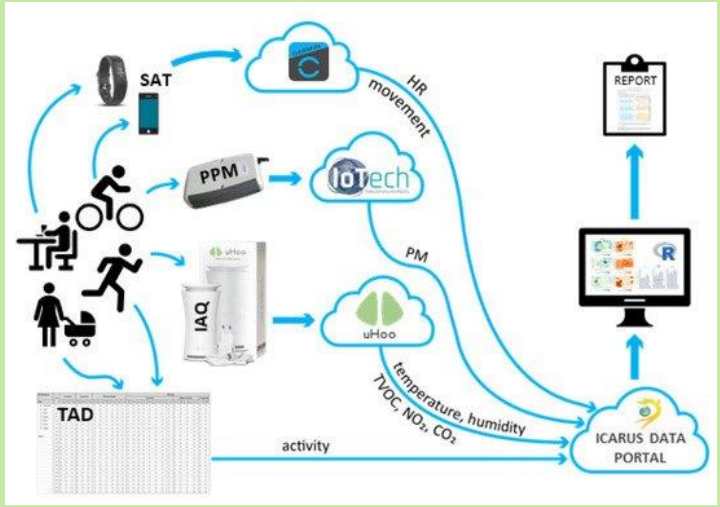


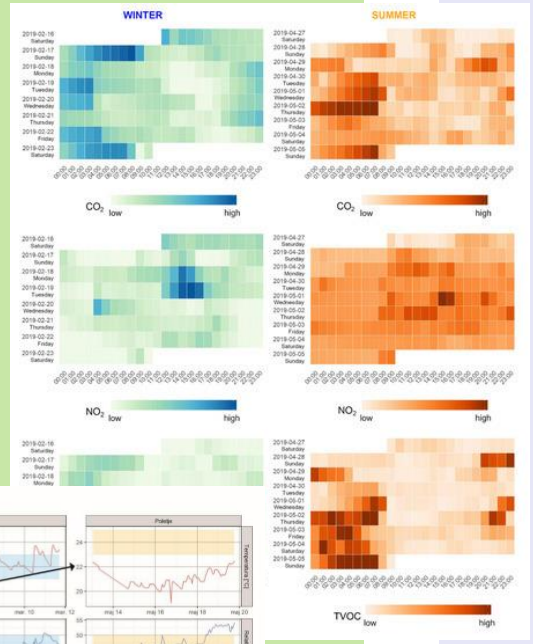


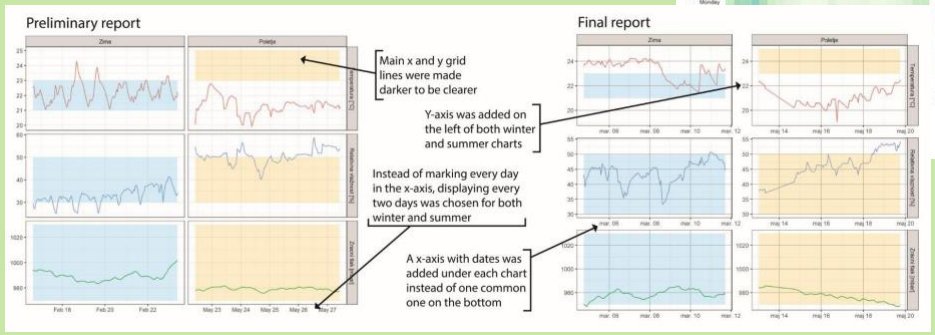


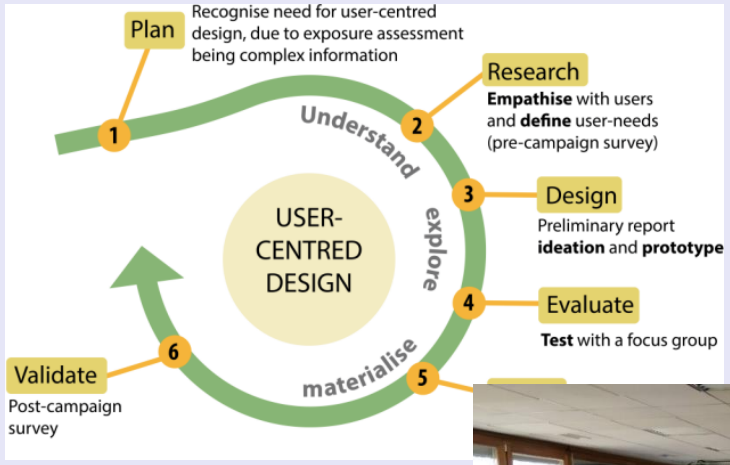
„Big data“ izzivi:

*Združevanje in usklajevanje raznolikih naborov podatkov iz več senzorskih tokov za pripravo **celovitega** in **razumljivega** poročila za udeležence.*









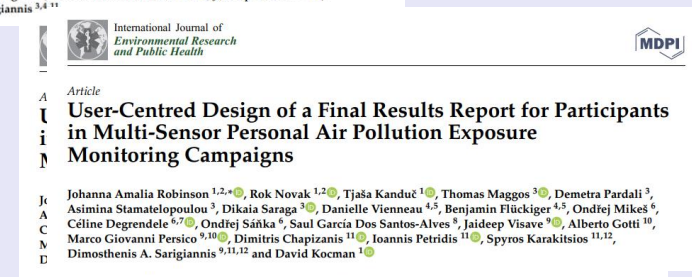
International Journal of *Environmental Research and Public Health* MDPI

Article

Harmonization and Visualization of Data from a Transnational Multi-Sensor Personal Exposure Campaign

Rok Novak [1,2,*], Ioannis Petridis [3], David Kocman [1], Johanna Amalia Robinson [1,2], Tjaša Kanduč [1], Dimitris Chapizanis [3], Spyros Karakitsios [3,4], Benjamin Flückiger [5,6], Danielle Vienneau [5,6], Ondřej Mikeš [7], Céline Degrendele [7,8], Ondřej Sáňka [7], Saul García Dos Santos-Alves [9], Thomas Maggos [10], Demetra Pardali [10], Asimina Stamatelopoulou [10], Dikaia Saraga [10], Marco Giovanni Persico [11,12], Jaideep Visave [11,12], Alberto Gotti [12] and Dimosthenis Sarigiannis [3,4,11]

Novak et al., Int. J. Environ. Res. Public Health 2021, 18(21), 11614.



International Journal of *Environmental Research and Public Health* MDPI

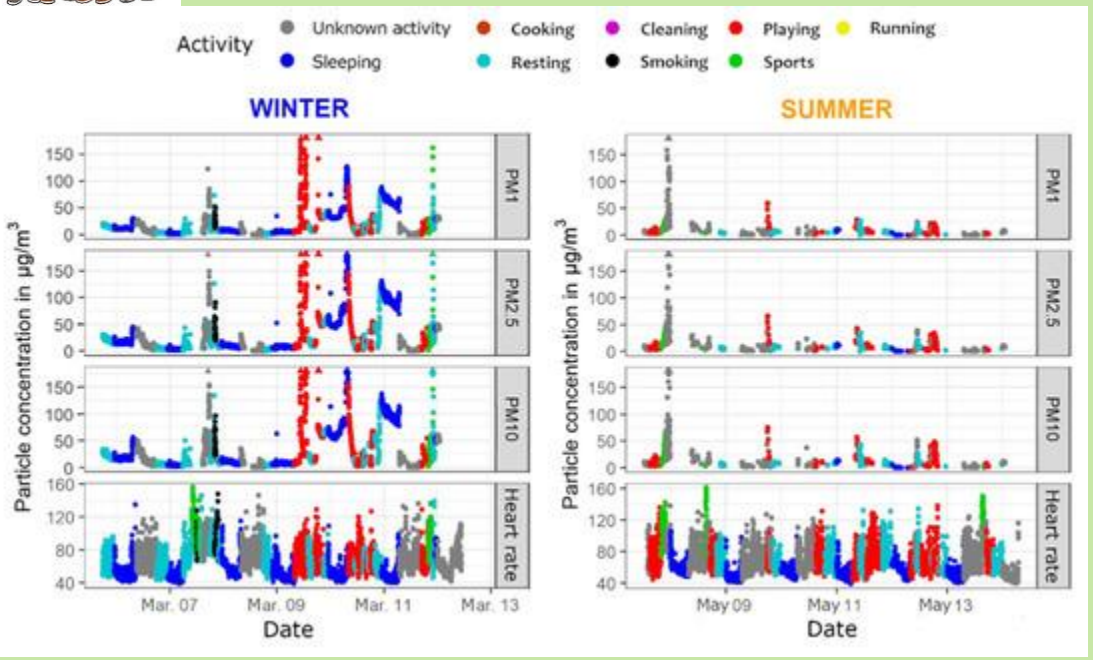
Article

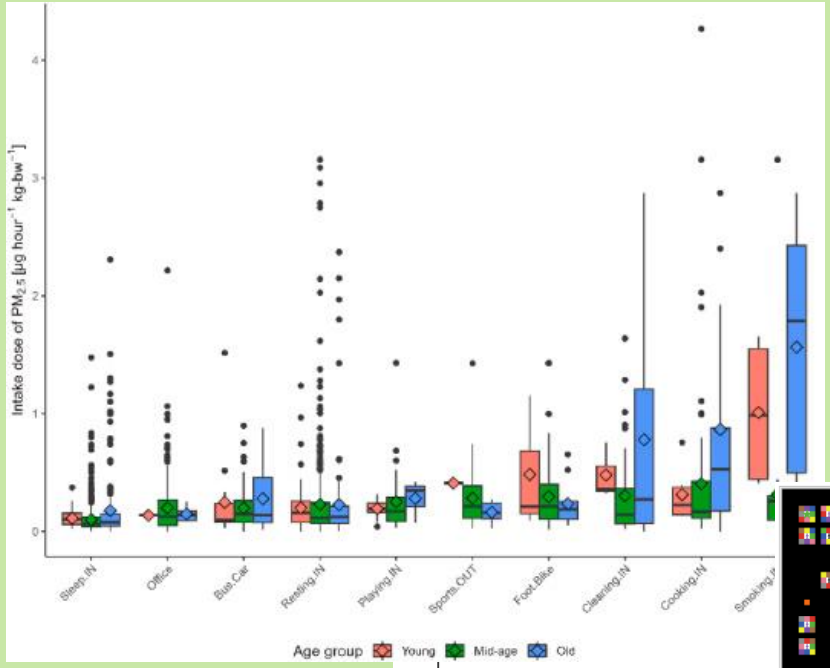
User-Centred Design of a Final Results Report for Participants in Multi-Sensor Personal Air Pollution Exposure Monitoring Campaigns

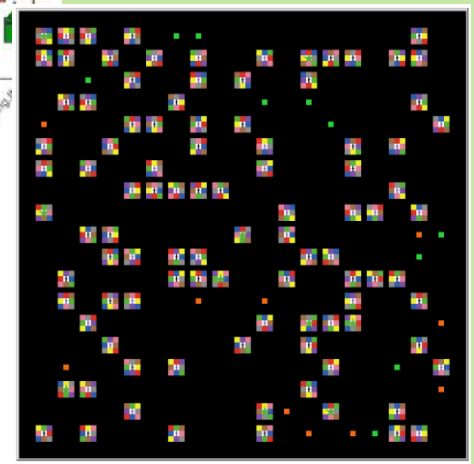
Johanna Amalia Robinson [1,2,*], Rok Novak [1,2], Tjaša Kanduč [1], Thomas Maggos [3], Demetra Pardali [3], Asimina Stamatelopoulou [3], Dikaia Saraga [3], Danielle Vienneau [4,5], Benjamin Flückiger [4,5], Ondřej Mikeš [6], Céline Degrendele [6,7], Ondřej Sáňka [6], Saul García Dos Santos-Alves [8], Jaideep Visave [9], Alberto Gotti [10], Marco Giovanni Persico [9,10], Dimitris Chapizanis [11], Ioannis Petridis [11], Spyros Karakitsios [11,12], Dimosthenis A. Sarigiannis [9,11,12] and David Kocman [1]

Robinson et al.,. Int. J. Environ. Res. Public Health 2021, 18, 12544

„Igranje s podatki“







Open Access Article

Assessment of Individual-Level Exposure to Airborne Particulate Matter during Periods of Atmospheric Thermal Inversion

by Rok Novak [1,2,*], Johanna Amalia Robinson [1,2,3], Tjaša Kanduč [1], Dimosthenis Sarigiannis [4,5,6] and David Kocman [1]

1 Department of Environmental Sciences, Jožef Stefan Institute, 1000 Ljubljana, Slovenia
2 Jožef Stefan International Postgraduate School, 1000 Ljubljana, Slovenia
3 Center for Research and Development, Slovenian Institute for Adult Education, Ulica Ambrožiča Novljana 5, 1000 Ljubljana, Slovenia
4 Environmental Engineering Laboratory, Department of Chemical Engineering, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece
5 HERACLES Research Centre on the Exposome and Health, Center for Interdisciplinary Research and Innovation, 54124 Thessaloniki, Greece
6 Department of Science, Technology and Society, University School of Advanced Study IUSS, 27100 Pavia, Italy
* Author to whom correspondence should be addressed.

Sensors **2022**, *22*(19), 7116; **https://doi.org/10.3390/s22197116**

Received: 12 August 2022 / Revised: 5 September 2022 / Accepted: 15 September 2022 / Published: 20 September 2022

ELSEVIER

Health & Place

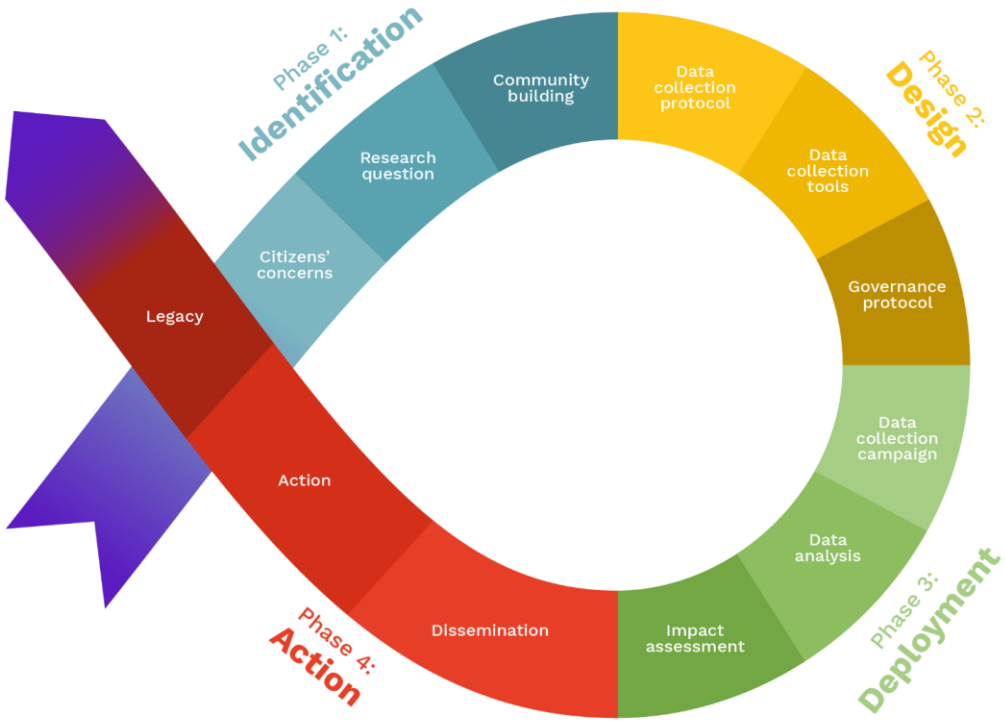
Volume 83, September 2023, 103111

Simulating the impact of particulate matter exposure on health-related behaviour: A comparative study of stochastic modelling and personal monitoring data

Rok Novak [a b], Johanna Amalia Robinson [a b c], Tjaša Kanduč [a], Dimosthenis Sarigiannis [d e f], David Kocman [a]

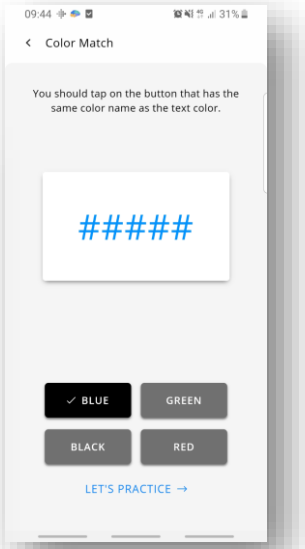
Soustvarjanje v okoljski epidemiologiji

Cilj: aktivno vključitev v vse faze raziskovanja



Raziskovalno vprašanje:

Kako kakovost življenjskega okolja (s poudarkom na hrupu) in življenjske navade vplivajo na (duševno) zdravje in dobro počutje posameznikov?

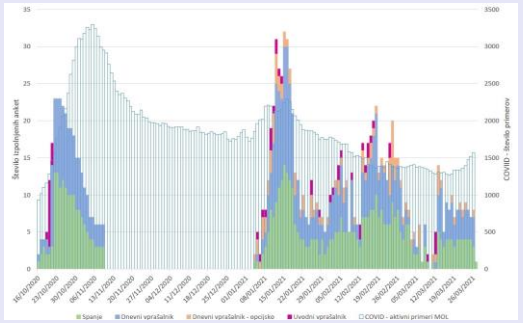


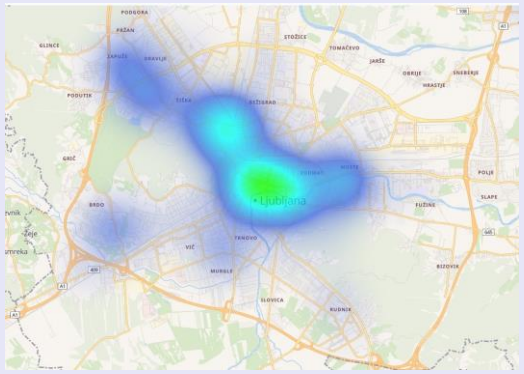
Vloga/vključenost:

<u>Splošna statistika:</u>

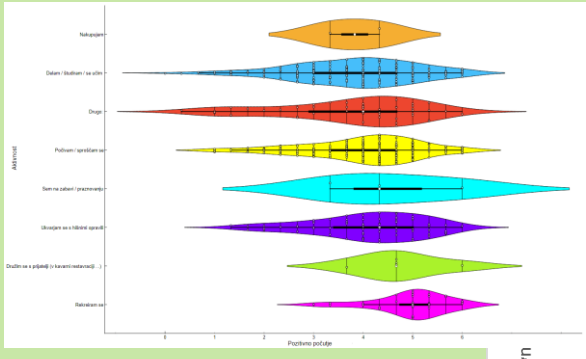
- 50 prostovoljcev
- Oktober 2020 – April 2021
- Udeležba posameznika: 7-14 dni

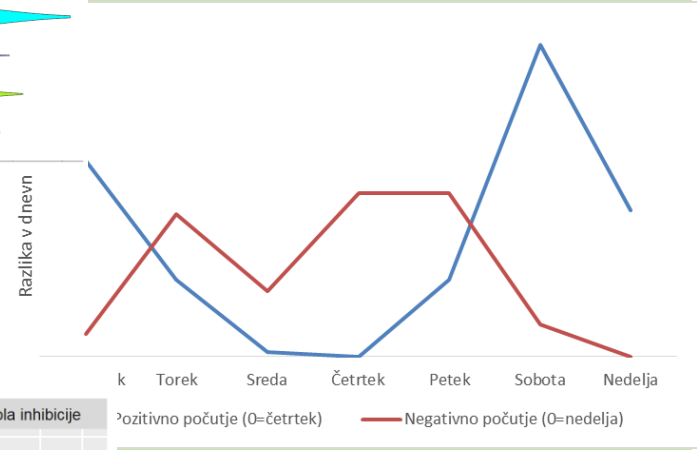
- 75 spremenljivk
  - Razpoloženje
  - Značilnosti lokacije
  - Kognitivna zmogljivost
  - Kakovost spanja
  - Okoljski hrup
  - Fizična aktivnost

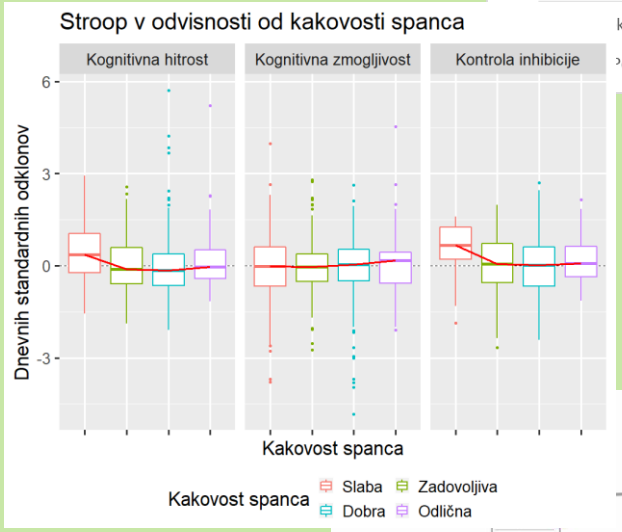


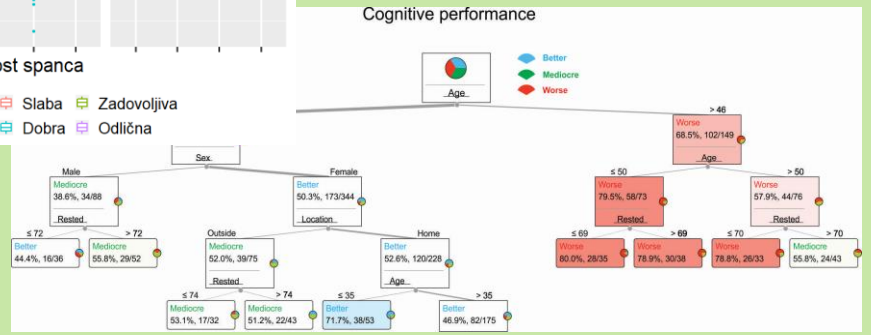


Znanstveni rezultati:







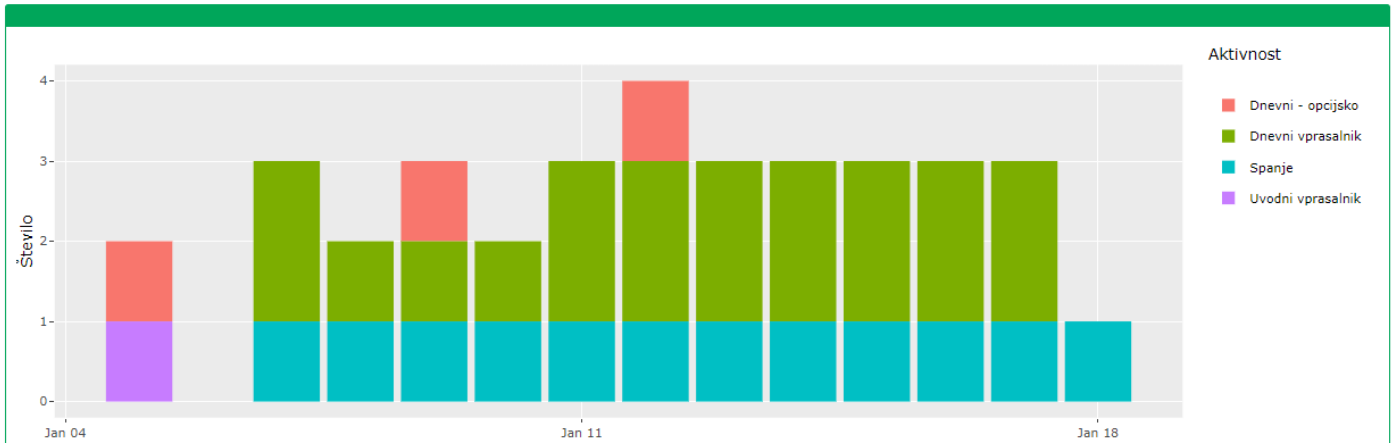


Rezultati na ravni posameznika - spletna aplikacija

Pregled aktivnosti

Prvi vprašalnik ste izpolnili **2021-01-05,** zadnjega pa **2021-01-18.**

Aktivni ste bili **13 dni,** skupno pa vprašalnike izpolnili **35-krat.**



Pregled podatkov v tabelah

Izberite spremenljivke za prikaz:

- INFO - Točen čas
- INFO - Datum
- INFO - Čas dneva
- INFO - Dan
- INFO - Čas tedna

Prenesi trenutno tabelo

Osnovne informacije | Počutje | Značilnosti lokacije | Samoocena lokacije | Zvok in hrup | Stroop | Spanje | Pametna ura

Show 10 entries Search:

INFO - Točen čas	INFO - Datum	INFO - Čas dneva	INFO - Dan	INFO - Čas tedna
2021-01-05T11:38:36Z	2021-01-05	Dop	torek	med tednom
2021-01-07T15:40:21Z	2021-01-07	Pop	četrtek	med tednom
2021-01-07T10:10:05Z	2021-01-07	Dop	četrtek	med tednom
2021-01-07T09:40:14Z	2021-01-07	Dop	četrtek	med tednom
2021-01-08T11:17:51Z	2021-01-08	Dop	petek	med tednom
2021-01-08T10:56:14Z	2021-01-08	Dop	petek	med tednom
2021-01-09T11:32:54Z	2021-01-09	Dop	sobota	vikend
2021-01-09T10:59:02Z	2021-01-09	Dop	sobota	vikend
2021-01-09T19:04:33Z	2021-01-09	Pop	sobota	vikend
2021-01-09T13:45:09Z	2021-01-09	Pop	sobota	vikend

Showing 1 to 10 of 32 entries Previous 1 2 3 4 Next

CitieS Health

Rezultati na ravni posameznika - spletna aplikacija

Pregled po skupinah

Na teh dveh gumbih lahko preklapljate med spremenljivkami, ki so na voljo za izbor. (Glavne = pet izbranih, Vse = vse, ki so na voljo)

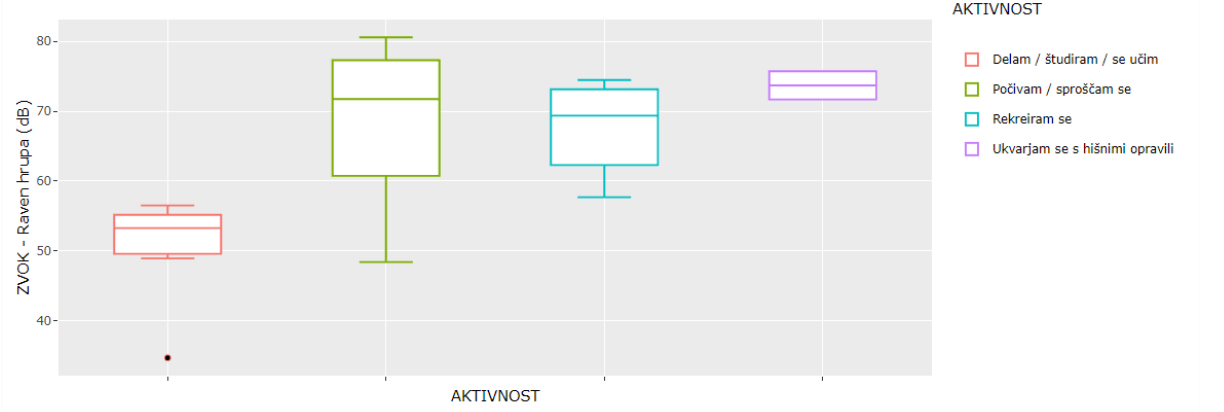
Glavne spremenljivke | Vse spremenljivke

Y os: ZVOK - Raven hrupa (dB)

Skupine: AKTIVNOST

Vrsta grafa: Boxplot

Graf | Pomoč



Razsevni diagram

Na teh dveh gumbih lahko preklapljate med spremenljivkami, ki so na voljo za izbor. (Glavne = pet izbranih, Vse = vse, ki so na voljo)

Glavne spremenljivke | Vse spremenljivke

X os: ZVOK - Raven hrupa (dB)

Rezultat meritve hrupa s pomočjo aplikacije na pametnem telefonu v decibelih (dB)

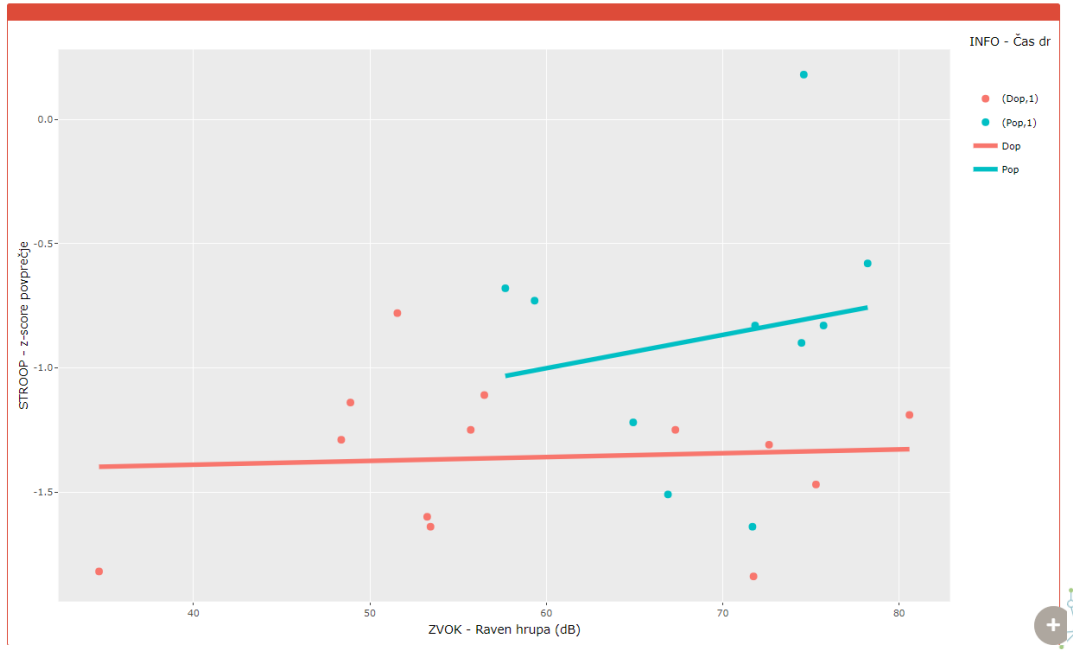
Y os: STROOP - z-score povprečje

Barva: INFO - Čas dneva

Regresijska premica: Linearna

Intervali zaupanja: Ne

Velikost točk: 0.5 — 2 — 4



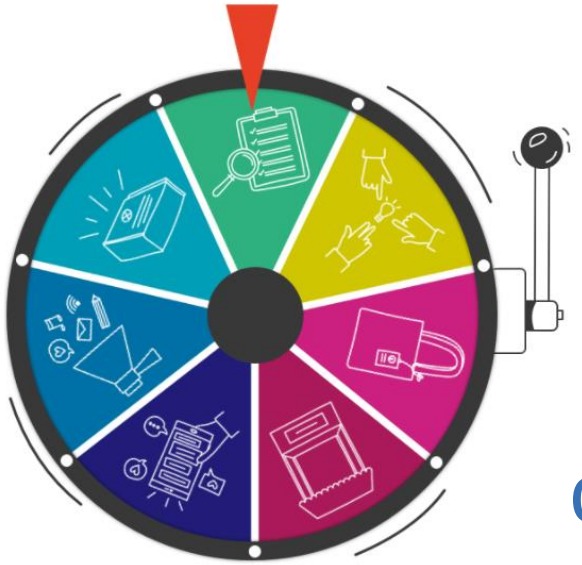
Cities-Health Toolkit: interaktivna zbirka orodij

Do you need inspiration?

Spin the roulette and discover new tools to get inspired!

In this toolkit you can find a collection of tools and video tutorials to engage citizens in different stages of a citizen science project. Download the resources needed to carry out the activities and adapt them to your own project goals.

BROWSE ALL TOOLS



citizensciencetoolkit.eu

Front. Environ. Sci., 09 May 2023
Sec. Environmental Citizen Science
Volume 11 - 2023 | https://doi.org/10.3389/fenvs.2023.1177413

Toolkit for conducting citizen science activities in environmental epidemiology

David Kocman[1*] Valeria Righi[2] Lucia Errandonea[2] Giovanni Maccani[2] Javier Creus[2]
Frederique Froeling[3] Gerard Hoek[3] Sandra Andrusaityte[4] Regina Grazuleviciene[4] Antonella Ficorilli[5]
Bruna De Marchi[5,6] Annibale Biggeri[5,7] Jure Ftičar[1] Florence Gignac[8,9,10] Raul Toran[8] Xavier Basagaña[8,9,10]

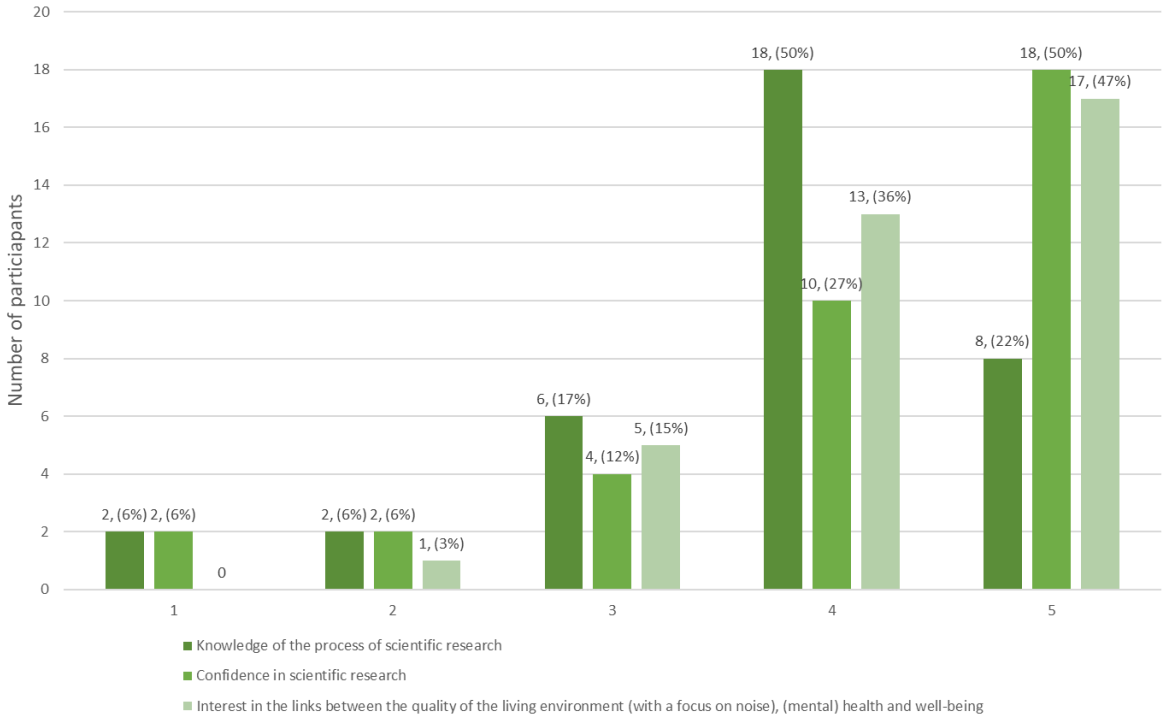
ELSEVIER
Environmental Research
Volume 240, Part 2, 1 January 2024, 117469

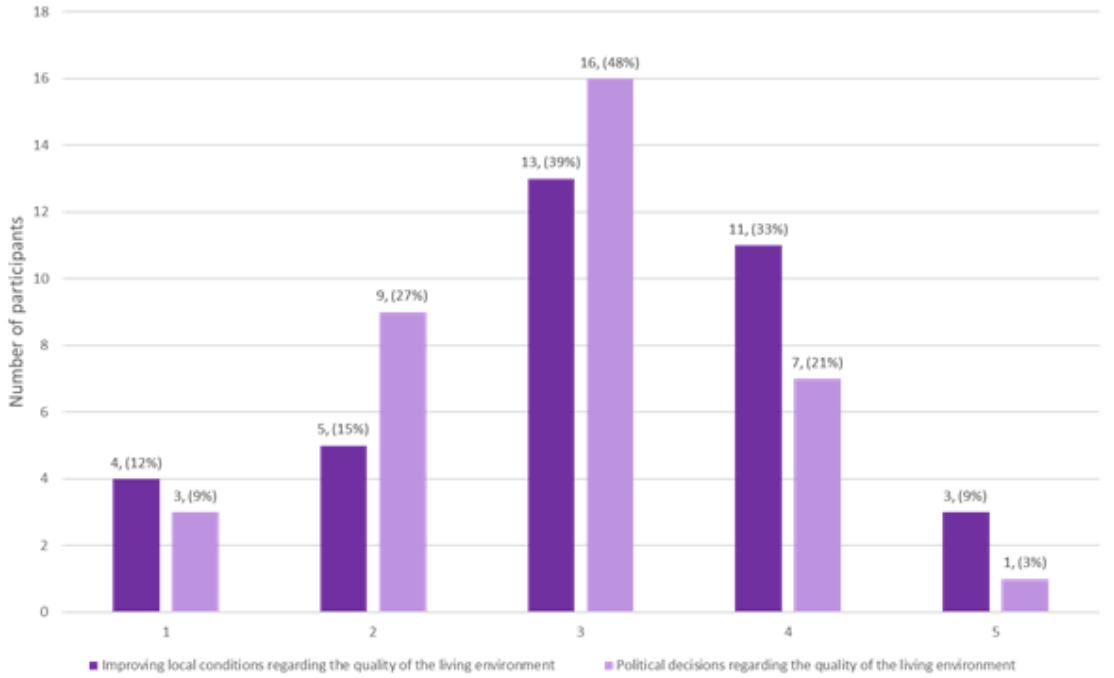
Implementing co-created citizen science in five environmental epidemiological studies in the CitieS-Health project

Frederique Froeling [a], Florence Gignac [b c d], Raul Toran [b c d], Rodney Ortiz [b c d], Antonella Ficorilli [f], Bruna De Marchi [f g], Annibale Biggeri [f h], David Kocman [i], Jure Ftičar [i], Janja Snoj Tratnik [i], Sandra Andrusaityte [k], Regina Grazuleviciene [k], Lucía Errandonea [l], Roel Vermeulen [a e], Gerard Hoek [a 1], Xavier Basagaña [b c d 1]

Občanska znanost in ocena učinka

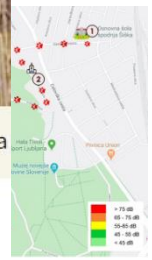
- Vidiki:
  - Uporabniška izkušnja, interes, motivacija
  - Spremembe v znanju, zanimanju in spretnostih
  - Družbeni, politični in znanstveni vplivi





Občanska znanost in šolski kurikulum

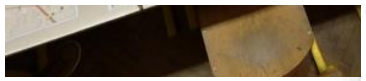
Osnovni podatki Organiziranost Dejavnosti Dokumenti Za starše PŠ Utik Galerija



Ljubiteljski raziskovalci na OŠ Vodice

4. 1. 2023 Nerazvrščeno Barbara Kermavner

V šolskem letu 2022/23 smo na OŠ Vodice pričeli z raziskovalno dejavnostjo »Ljubiteljski raziskovalec«. Z opazovanjem in pomočjo senzorskih tehnologij raziskujemo značilnosti okolja, opazujemo in merimo hrup, kakovost zraka, porazdelitev toplote v prostoru ter kako vsi ti dejavniki vplivajo na naše zdravje in počutje -> več.



Tehnični dnevi

Open Access Article

Citizen Science as Part of the Primary School Curriculum: A Case Study of a Technical Day on the Topic of Noise and Health

by David Kocman [1,*], Tjaša Števanec [1], Rok Novak [1,2] and Natalija Kranjec [3]

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Namesto zaključka…

- Umestitev občanske znanosti v okvir financiranja:
  - ARIS/ERC raziskovalna področja
  - Interdisciplinarnost na stičišču naravoslovja in družboslovja

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  - Privzem rezultatov s strani odločevalcev
  - ….

http://www.environment.si/en/services/center-for-participatory-research

Hvala za pozornost!

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