

Results of the questionnaire “SHIP Citizen Science” (February 2020)

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Background

We want to strengthen the involvement of SHIP participants in our project “Life and Health in Western Pomerania” and the communication of our results. Using the “SHIP Citizen Science” survey, SHIP participants were able to give us their opinion so that we can respond to requests and suggestions.

The questionnaire was sent out at the end of January 2020 and was divided into two parts: In Part A, the respondents were able to indicate whether they wanted to take part in an information event at the beginning of March. Part B (Citizen Science) was divided into four sections:

- B1: General assessment (5 questions)
- B2: Assessment of options (5 questions)
- B3: Introducing your own suggestions (2 questions)
- B4: Assessment of possible examinations for the next wave of studies (2 questions)

A copy of the questionnaire is available as a separate download from the SHIP Bürgerwissenschaften website¹ (German version) or from the JoinUs4Health website² (English version).

Survey of SHIP participants

The questionnaire was sent to 6018 SHIP participants by post (62%) or email (38%). SHIP participants who accepted the invitation to the last SHIP examination are identified as active in this report. Active participants received the questionnaire more often by e-mail (54%) than non-active participants (3%) who did not accept the invitation to the last SHIP examination. No reminder was sent.

¹ <https://www2.medizin.uni-greifswald.de/cm/fv/ship/buergerwissenschaften-in-ship/umfrage/>

² see <http://www.joinus4health.eu> on cohort page (SHIP)

Description of respondents:

- Gender: 54% men and 46% women;
- Study wave: SHIP (first invitation: 1997 - 2000): 42%; TREND (first invitation: 2008-2012): 58%;
- Active participants who accepted the invitation to the last SHIP examination: 69%;
- Age in 2020: Initial examinations began in 1997 (SHIP) and 2008 (TREND). Therefore, 74% of the respondents were over 50 years old (active participants: 79%; Figure 1).

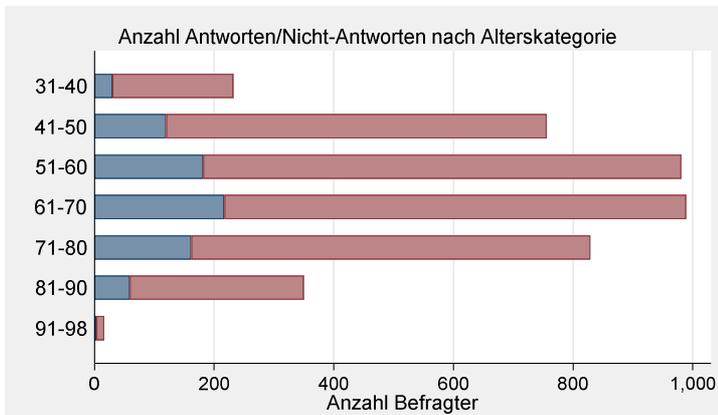


Figure 1. Number of participants / non-participants in the survey by age group for those 4153 SHIP participants who followed the last invitation to investigate (active participants)

Participation in the survey

Of the 6,018 contacted SHIP and TREND participants, 13.9% answered the SHIP Citizen Science questionnaire in full and agreed to the data protection declaration (Table 1). The proportion of those who answered the questionnaire was significantly higher in the group of active SHIP participants (18.6%) compared with non-active SHIP participants (3.5%). The response was similar among respondents in the 1st (SHIP: 14.2%) and 2nd study group (TREND: 13.7%) and men (13.9%) and women (13.8%). If the questionnaire was sent by post, the probability of an answer was 1.5 times higher than if it was sent by e-mail.

Table 1. Number of respondents as well as number and percent of responses to the SHIP Citizen Science survey

Group	Number of SHIP and TREND participants	Respondents	
		Number	Percentage
Study wave			
SHIP, first examination: 1997 – 2001	2503	355	14.2%
TREND, first examination: 2008 – 2012	3515	483	13.7%
Participation in last examination			
Yes (active)	4153	773	18.6%
No (passive)	1865	65	3.5%
Total	6018	838	13.9%

Part A: Participation in information event

297 respondents (5%) and 116 accompanying persons had registered for the information event by telephone or via a questionnaire. 547 respondents who took part in the survey but did not take part in the information event gave the following reasons (multiple choices were possible):

- No time: 70% (41% for work, 29% for other reasons)
- Too cumbersome to come to Greifswald: 24%
- No interest: 11%
- Physical restriction: 7%

Part B: SHIP Citizen Science

B1: General attitude to citizen science

Initially, participants were asked to rate five statements on citizen science with the following answer options:

I completely disagree <input type="checkbox"/>	I rather disagree <input type="checkbox"/>	I rather agree <input type="checkbox"/>	I completely agree <input type="checkbox"/>	Don't know <input type="checkbox"/>
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Table 2 shows the percentage of survey respondents who rated the statements as “rather agree” or “I completely agree” (green border). “Don't know” answers (grey dashed border) were excluded.

More than 60% of the respondents who decided on an answer option would like to experience how scientists work (statement 1), discuss research questions with them (statement 2) or look over their shoulder while interpreting the results (Statement 3). Interest in doing research as part of the SHIP study was lower (42%) (statement 4). However, 89% of the survey participants found it generally useful to offer public participation in SHIP (statement 5).

Table 2. Number¹ and percentage of respondents who selected “tend to agree” or “totally agree”

Id ²	Statement	Number of respondents	Percentage of respondents	Visual illustration
1	I would like to see how scientists work.	773	69%	
2	I would like to have a discussion with scientists about what is worth researching.	758	66%	
3	I would like to look over the shoulders of scientists to judge their results.	760	61%	
4	I would like to do some research as part of the SHIP study.	728	42%	
5	In general, I think it makes sense to offer public participation for interested SHIP participants.	787	89%	

¹ “don't know” responses were excluded.

² Statements 1-4 were taken from the “Science Barometer” telephone survey carried out across Germany

B2: Evaluation of proposals

We had suggested three ways in which SHIP participants could become more involved in the study in the future:

- Suggestion 1: Interactive, internet-based system
- Suggestion 2: Online registration of infectious diseases
- Suggestion 3: Contact person for new participants

Suggestions 1 and 2 require internet access, which 29% of the survey participants did not have. Table 3 shows the percentage of survey participants who could imagine making a contribution themselves (suggestions 1 and 3) or using the results (suggestions 1 and 2).

- Suggestion 1: 79% of the survey participants with internet access would use an interactive, internet-based system to obtain information (50%) or to actively participate (29%). Half of those survey participants who would actively participate would also be willing to participate in the further development of the concept.
- Suggestion 2: 44% of the survey participants would be interested in being able to see the chronological progression of infectious diseases (e.g. gastrointestinal infections) in our study region.
- Suggestion 3: 51% of the survey participants would be willing to make themselves available as a contact person for future SHIP participants, whereby an exchange by telephone (39.7%) or by e-mail / online (38.6%) was preferred (personal exchange: 21.7%).

Table 3. Number¹ and percent of respondents who expressed interest in suggestions on citizen science

Id	Interest or use ...	Number of respondents	Percentage of respondents	Visual illustration
1	... an interactive, internet-based system	597	79%	
1a	for information	597	50%	
1b	to actively participate	597	29%	
1c	to help develop the concept	174	53%	
2	... an online recording of infectious diseases	597	44%	
3	... to be the contact person for new participants	838	51%	

¹ "don't know" responses were excluded. In addition, in proposals 1 and 2, participants without internet access were excluded.

B3: Introduce your own suggestions

We asked the respondents for suggestions on how to convince as many of the newly selected participants as possible to take part in the SHIP surveys. We also asked which questions are currently of most interest when it comes to health.

In total, 20% of the survey participants made 260 suggestions on how to increase participation in SHIP surveys. Furthermore, 32% of the survey participants suggested 566 topics or studies.

Based on the list of suggested topics and the options, the participants of the information event were presented with the following topics for voting:

- Environmental aspects such as environmental samples (e.g. drinking water) or tests for microplastics
- Nutrition: nutrition log to show nutrition in more detail

- Investigation of the influence of media use on health

The volume of the respective applause was recorded on each of the three days of the event on several mobile phones using the Soundmeter app. Based on these recordings, nutrition received the highest approval rating on average, followed by the environment. Nine survey participants had specifically suggested the use of a nutrition protocol and were therefore selected as winners (25 euros voucher each; total value: 225 euros).

B4: Assessments of possible examinations for the next wave of studies

In the questionnaire, an innovative data collection procedure and a new evaluation study were presented:

1. Wearing a measuring device to record the activity (actimeter) and the location (GPS) over a period of seven days
2. Taking a smear from the anus to enable reliable pathogen detection

80% of the survey participants rated the approval of new SHIP participants to these investigations as likely or very likely.

Table 4. Number and percent of respondents who considered it likely or very likely that new SHIP participants of their age and gender would agree **to the respective investigation**

Id	Examination	Number of respondents	Percentage of respondents	Visual illustration
1	Carrying a measuring device to record the activity (actimeter) and the location (GPS) over seven days	772	79,9%	
2	Having an anal swab taken	768	79,6%	

¹ „Don't know“ answers were excluded

Our conclusion

Getting citizens more involved in science is an approach that is still in its infancy. The participation of SHIP participants in our first survey as well as the participation in the information events and the voting on future topics gave us important impulses. Work on topics that are of interest to you and important to us as researchers has started. You are always invited to participate via the contact on our website with further suggestions, comments and questions.

Participation in the events was less than we expected, but the event was very positively received by the participants. We try to take possible reasons for non-participation (e.g. time reasons) into account at the next events. In addition, all content was also made available online in order to make the information accessible to all interested parties.

It is important for us to emphasize once again that participation in SHIP in the form of citizen science is voluntary. Participation in the SHIP studies, on the other hand, is of tremendous value for the study and the population, albeit just as voluntarily. Can we achieve added value for SHIP participants through citizen participation and more targeted communication of the results? With more citizen participation, will we possibly also reach some of the people who have not yet found their way to us? The results of the SHIP Citizen Science survey provided initial insights into these questions.

Outlook

The suggestions received will be processed in more detail in the coming months. A follow-up report will be made available on our website in the second half of 2020.

Funding would be necessary for the “interactive, internet-based system” (proposal 1) and the “online recording of infectious diseases” (proposal 2). For proposal 2, no funds are currently applied for after feedback on the SHIP Citizen Science survey.

For proposal 1, we have received funding from the European Commission under the H2020 programme (JoinUs4Health project; see www.joinus4health.eu).

For proposal 2, funds were granted for a seed-financing period of 12 months to implement the PIA app³ in SHIP (Seed financing of bi-/multilateral projects between the HZI Braunschweig, HIRI, HIPS, BRICS, CSSB or CiiM and the Greifswald partners UG, UMG or FLI from a common strategy fund).

Proposal 3, recruiting contacts for new participants in the SHIP study, can also be implemented without additional funding. We will offer this option as part of the JoinUs4Health platform from December 2021 onwards. Many thanks to all those participants who have agreed to participate. We will take this into account in further planning.

Acknowledgements

Many thanks to all colleagues and private contacts who contributed to the questionnaire (revision, dispatch) and the information event. A big thank you to all SHIP participants for answering and participating in the information event.

³ <https://info-pia.de/pia-english-2/>