# Appendix A: Questionnaire

**Block 1: Introduction**

Welcome to this questionnaire!

With this questionnaire we aim to find out researchers’ perspectives towards openly sharing research data and factors that influence this behaviour, especially in the context of the COVID-19 crisis. We investigate whether the COVID-19 crisis has influenced the attitude and willingness of researchers to openly share their research data. The findings of this survey will be shared openly (see more information at the end of the survey).  
   
We define open research data as *structured, machine-readable data that is actively published or shared on the Internet by researchers*. Open research data can be 'raw', derived from primary data for subsequent analysis or interpretation, or derived from existing sources held by others. It concerns data derived from both qualitative and quantitative research. In this survey, open research data does *not* include data presented in articles, e.g. tables in open access publications.  

This questionnaire will take approximately 10-15 minutes to complete.   
    
Thank you for your participation!   
    
For more information, please contact: *[name, affiliation, and e-mail address of the responsible researcher]*     
   
**Informed consent**

Please read the following statements:

* I consent voluntarily to be a participant in this study and understand that I can refuse to answer questions and I can withdraw from the study at any time, without having to give a reason.
* I understand that personal information collected about me that can identify me will only be accessed by the principal researcher (Dr. *anonymized*), and will be destroyed once the study is completed.
* I give permission for the data that I provide to be archived in local computers at *[anonymized]* and in the *[anonymized]* repository so it can be used for future research and learning; with the exception of personal information. In other words, the archived data will be completely anonymous.
* I understand that information I provide might be used for scientific publications and presentations.
* I confirm that I have read the above-mentioned statements and agree with them.

Block 2: Background information

Q1: What is your age?

* 20 or younger (1)
* 21-30 (2)
* 31-40 (3)
* 41-50 (4)
* 51-60 (5)
* 61-70 (6)
* 71 or older (7)

Q2: What is your gender?

* Male (1)
* Female (2)
* Prefer not to say (3)
* Other (4)

Q3: In what country do you reside?

▼ Afghanistan (1) ... Zimbabwe (197)

Q4: What is the highest level of education that you have completed or the highest degree that you have received?

* Elementary School Degree (1)
* High School (or equivalent degree) (2)
* Associate's degree (3)
* Bachelor's degree (4)
* Master's degree (5)
* PhD (6)
* Other (please specify) (7) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Q5: Which occupational category best describes your role?

* Academic researcher (1)
* Researcher (non-academic) (2)
* Other, namely… (3) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 🡪 *This questionnaire is aimed at academic and non-academic researchers. Since you are not a researcher, you will now be directed to the final section of this survey.*

Q6 Are you currently employed?

* Yes (1)
* No (2)

Q6a (if Q5 is “Academic Researcher”) What is your current position? (if you are currently not employed, please mention your previous position)

* PhD candidate (1)
* Post-doctoral researcher (2)
* Assistant Professor (3)
* Associate Professor (4)
* Full Professor (5)
* Other (6)

Q7 How would you define your current research discipline?

▼ Archaeology (1) ... Veterinary medicine (39)

Q8 What is your level of expertise with regard to practicing open science principles (e.g. open access publishing, openly sharing research data, openly sharing software and code)?

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1 (1) | 2 (2) | 3 (3) | 4 (4) | 5 (5) | 6 (6) | 7 (7) | 8 (8) | 9 (9) | 10 (10) |  |
| No expertise |  |  |  |  |  |  |  |  |  |  | Considerable expertise |

Q9 What is your level of expertise with regard to openly sharing research data? (Research data refers to data that is 'raw', derived from primary data for subsequent analysis or interpretation, or derived from existing sources held by others. It can be data derived from both qualitative and quantitative research. In this survey, open research data does not include data presented in articles, e.g. tables in open access publications)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1 (1) | 2 (2) | 3 (3) | 4 (4) | 5 (5) | 6 (6) | 7 (7) | 8 (8) | 9 (9) | 10 (10) |  |
| No expertise |  |  |  |  |  |  |  |  |  |  | Considerable expertise |

Block 3: Past data sharing behaviour

Q10 How often, on average, did you openly share (non-sensitive) research data in the past?

* Daily or a few times per day (1)
* Weekly or a few times per week (2)
* Monthly or a few times per month (3)
* Yearly or a few times per year (4)
* Never (5)
* Don’t know (6)

Q11: Which proportion of the (non-sensitive) data you collected in the past did you, on average, share openly?

* 0-20% (1)
* 21-40 % (2)
* 41-60% (3)
* 61-80% (4)
* 81-100% (5)

**Block 4: Your perspective on openly sharing research data**

Q12: All things considered, me openly sharing research data in my current position would be:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1 (1) | 2 (2) | 3 (3) | 4 (4) | 5 (5) | 6 (6) | 7 (7) |  |
| Bad |  |  |  |  |  |  |  | Good |
| Unpleasant |  |  |  |  |  |  |  | Pleasant |
| Foolish |  |  |  |  |  |  |  | Wise |
| Harmful |  |  |  |  |  |  |  | Beneficial |
| Punishing |  |  |  |  |  |  |  | Rewarding |

Q13: Most people who are important to me would approve it if I (would) openly share research data in my current position.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Strongly disagree (1) | Disagree (2) | Slightly disagree (3) | Neutral (4) | Slightly agree (5) | Agree (6) | Strongly agree (7) |  |
| Strongly disagree |  |  |  |  |  |  |  | Strongly agree |

Q14: Most people like me in their position as a researcher openly share research data through a data repository.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1 (1) | 2 (2) | 3 (3) | 4 (4) | 5 (5) | 6 (6) | 7 (7) |  |
| Unlikely |  |  |  |  |  |  |  | Likely |

Q15: My supervisor encourages me to openly share research data.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Strongly disagree (1) | Disagree (2) | Slightly disagree (3) | Neutral (4) | Slightly agree (5) | Agree (6) | Strongly agree (7) |  |
| Strongly disagree |  |  |  |  |  |  |  | Strongly agree |

Q16: My colleagues encourage me to openly share research data

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Strongly disagree (1) | Disagree (2) | Slightly disagree (3) | Neutral (4) | Slightly agree (5) | Agree (6) | Strongly agree (7) |  |
| Strongly disagree |  |  |  |  |  |  |  | Strongly agree |

Q17 I am confident that I can openly share research data in my current position as a researcher

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1 (1) | 2 (2) | 3 (3) | 4 (4) | 5 (5) | 6 (6) | 7 (7) |  |
| False |  |  |  |  |  |  |  | True |

Q18: It is  up to me if I openly share research data

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Strongly disagree (1) | Disagree (2) | Slightly disagree (3) | Neutral (4) | Slightly agree (5) | Agree (6) | Strongly agree (7) |  |
| Strongly disagree |  |  |  |  |  |  |  | Strongly agree |

Q19: In the past six months, I have openly shared research data

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1 (1) | 2 (2) | 3 (3) | 4 (4) | 5 (5) | 6 (6) | 7 (7) |  |
| False |  |  |  |  |  |  |  | True |

Q20: I expect other researchers to openly share their research data whenever possible

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Strongly disagree (1) | Disagree (2) | Slightly disagree (3) | Neutral (4) | Slightly agree (5) | Agree (6) | Strongly agree (7) |  |
| Strongly disagree |  |  |  |  |  |  |  | Strongly agree |

Q21: I expect other researchers who work on COVID-19-related research to openly share their research data whenever possible.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Strongly disagree (1) | Disagree (2) | Slightly disagree (3) | Neutral (4) | Slightly agree (5) | Agree (6) | Strongly agree (7) |  |
| Strongly disagree |  |  |  |  |  |  |  | Strongly agree |

Q22: To what extent do you agree or disagree with the following statements about potential advantages of openly sharing research data?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Strongly disagree (1) | Disagree (2) | Slightly disagree (3) | Neutral (4) | Slightly agree (5) | Agree (6) | Strongly agree (7) |
| Me openly sharing research data will increase the pool of information available to scientists and society |  |  |  |  |  |  |  |
| Me openly sharing research data will encourage the validation, verification and falsification of research results |  |  |  |  |  |  |  |
| Me openly sharing research data will provide decision-makers with facts to address complex, often transnational problems |  |  |  |  |  |  |  |
| Me openly sharing research data will allow valuable resources to contribute far beyond their original analysis |  |  |  |  |  |  |  |

Q23: To what extent do you agree or disagree with the following statements about potential advantages of openly sharing research data in relation to COVID-19?

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Strongly disagree (1) | Disagree (2) | Slightly disagree (3) | Neutral (4) | Slightly agree (5) | Agree (6) | Strongly agree (7) | Non-applicable / Don’t know (8) |
| My research discipline is COVID-19 related |  |  |  |  |  |  |  |  |
| Me openly sharing research data will increase the pool of information available to scientists investigating COVID-19 |  |  |  |  |  |  |  |  |
| Me openly sharing research data will encourage the validation, verification and falsification of research results related to COVID-19 research |  |  |  |  |  |  |  |  |
| Me openly sharing research data will provide decision-makers with facts to address COVID-19-related problems |  |  |  |  |  |  |  |  |

Q24: To what extent do you agree or disagree with the following statements about support for openly sharing research data.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Strongly disagree (1) | Disagree (2) | Slightly disagree (3) | Neutral (4) | Slightly agree (5) | Agree (6) | Strongly agree (7) | I don’t know (8) |
| My institution provides sufficient support for openly sharing research data |  |  |  |  |  |  |  |  |
| My institution provides a usueful infrastructure for openly sharing research data |  |  |  |  |  |  |  |  |
| My institution provides a useful repository for openly sharing research data |  |  |  |  |  |  |  |  |
| My institution provides sufficient support for research data management |  |  |  |  |  |  |  |  |
| I am familiar with the policy of my institution for openly sharing research data |  |  |  |  |  |  |  |  |

Q25: To what extent do you agree or disagree with the following statements about potential disadvantages of openly sharing research data?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Strongly disagree (1) | Disagree (2) | Slightly disagree (3) | Neutral (4) | Slightly agree (5) | Agree (6) | Strongly agree (7) |
| I fear the misinterpretation of the research data I (could potentially) share openly |  |  |  |  |  |  |  |
| I fear the misuse of the research data I (could potentially) share openly |  |  |  |  |  |  |  |
| I am concerned about losing an advantage in my research area if I openly share my research data |  |  |  |  |  |  |  |
| I am afraid other researchers will find errors in my results if I openly share my research data |  |  |  |  |  |  |  |

**Block 5: Future data sharing behaviour**

Q26: I intend to openly share research data in my position as a researcher in the future.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1 (1) | 2 (2) | 3 (3) | 4 (4) | 5 (5) | 6 (6) | 7 (7) |  |
| Unlikely |  |  |  |  |  |  |  | Likely |

*Skip To: Q27 If I intend to openly share research data in my position as a researcher in the future. = 1*

Q26a Which proportion of the data you will collect in the future do you plan, on average, to share openly?

* 0-20% (1)
* 21-40 % (2)
* 41-60% (3)
* 61-80% (4)
* 81-100% (5)

Q27: Did the COVID-19 crisis change your willingness to openly share research data?

* Yes – it increased my willingness to openly share research data to a large extent (1)
* Yes – it increased my willingness to openly share research data somewhat (2)
* Yes – it increased my willingness to openly share research data to a small extent (3)
* Yes – it decreased my willingness to openly share research data (4)
* No – it did not influence my willingness to openly share research data (5)

Q28: Did any other factor change your willingness to openly share research data recently? Please explain.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Block 6: Wrap up**

This is the end of the survey. Thank you very much for participating. Your contribution is invaluable!

Q29: Do you have any comments or questions?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The findings of this study will be shared openly. The anonymized research data will be shared openly using the *[anonymized]* repository (see [*anonymized]*). If you would like to receive a summary of the findings, you can leave your e-mail address here.   
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Appendix B: Descriptive statistics

| Variables (related questions in Appendix A) | Questionnaire questions and statements | Descriptive statistics | | |
| --- | --- | --- | --- | --- |
|  | **Researcher’s experience with openly sharing research data in the past** | **Minimum-maximum value** | **Mean** | **Standard deviation** |
| V1 (Q8) | What is your level of expertise regarding openly sharing research data? | 1-10 | 5,65 | 2,677 |
| V2 (Q10) | How often, on average, did you openly share (non-sensitive) research data in the past? | 1-5 | 2,08 | 0,926 |
| V3 (Q11) | Which proportion of the (non-sensitive) data you collected in the past did you, on average, share openly? | 1-5 | 2,05 | 1,248 |
| V4 (Q19) | In the past six months, I have openly shared research data (scale ranging from false to true) | 1-7 | 3,89 | 2,397 |
|  | **Researcher’s assessment of their open data sharing behavior** | **Minimum-maximum value** | **Mean** | **Standard deviation** |
| V5 (Q12) | Me openly sharing research data in my current position would be: (scale ranging from bad to good) | 1-7 | 5,79 | 1,411 |
| V6 (Q12) | Me openly sharing research data in my current position would be: (scale ranging from unpleasant to pleasant) | 1-7 | 5,33 | 1,516 |
| V7 (Q12) | Me openly sharing research data in my current position would be: (scale ranging from foolish to wise) | 1-7 | 5,36 | 1,474 |
| V8 (Q12) | Me openly sharing research data in my current position would be: (scale ranging from harmful to beneficial) | 1-7 | 5,47 | 1,549 |
| V9 (Q12) | Me openly sharing research data in my current position would be: (scale ranging from punishing to rewarding) | 1-7 | 5,39 | 1,414 |
| V10 (Q12) | I am confident that I can openly share research data in my current position as a researcher (scale ranging from false to true) | 1-7 | 5,52 | 1,688 |
| V11 (Q18) | It is up to me if I openly share research data (scale ranging from disagree to agree) | 1-7 | 4,72 | 2,122 |
|  | **Researcher’s assessment of other people’s opinion about openly sharing research data** | **Minimum-maximum value** | **Mean** | **Standard deviation** |
| V12 (Q13) | Most people who are important to me would approve it if I (would) openly share research data in my current position (scale ranging from disagree to agree) | 1-7 | 5,37 | 1,563 |
| V13 (Q14) | Most people like me in their position as a researcher openly share research data through a data repository (scale ranging from unlikely to likely) | 1-7 | 3,93 | 1,709 |
| V14 (Q15) | My supervisor encourages me to openly share research data (scale ranging from disagree to agree) | 1-7 | 4,17 | 1,822 |
| V15 (Q16) | My colleagues encourage me to openly share research data (scale ranging from disagree to agree) | 1-7 | 4,25 | 1,795 |
|  | **Researcher’s opinion on open data sharing behavior by other researchers** (scale ranging from disagree to agree) | **Minimum-maximum value** | **Mean** | **Standard deviation** |
| V16 (Q20) | I expect other researchers to openly share their research data whenever possible | 1-7 | 5,34 | 1,602 |
| V17 (Q21) | I expect other researchers who work on COVID-19-related research to openly share their research data whenever possible | 2-7 | 6,16 | 1,108 |
|  | **Statements about potential advantages of openly sharing research data** (scale ranging from disagree to agree) | **Minimum-maximum value** | **Mean** | **Standard deviation** |
| V18 (Q22) | Me openly sharing research data will increase the pool of information available to scientists and society | 1-7 | 6,26 | 1,100 |
| V19 (Q22) | Me openly sharing research data will encourage the validation, verification and falsification of research results | 1-7 | 6,16 | 1,079 |
| V20 (Q22) | Me openly sharing research data will provide decision-makers with facts to address complex, often transnational problems | 1-7 | 5,40 | 1,576 |
| V21 (Q22) | Me openly sharing research data will allow valuable resources to contribute far beyond their original analysis | 1-7 | 5,62 | 1,423 |
|  | **Statements about potential advantages of openly sharing research data in relation to COVID-19** (scale ranging from disagree to agree) | **Minimum-maximum value** | **Mean** | **Standard deviation** |
| V22 (Q23) | My research discipline is COVID-19 related | 1-3 | 1,5455 | ,89412 |
| V23 (Q23) | Me openly sharing research data will increase the pool of information available to scientists investigating COVID-19 | 1-8 | 3,68 | 2,527 |
| V24 (Q23) | Me openly sharing research data will encourage the validation, verification, and falsification of research results related to COVID-19 research | 1-8 | 3,64 | 2,557 |
| V25 (Q23) | Me openly sharing research data will provide decision-makers with facts to address COVID-19-related problems | 1-8 | 3,74 | 2,519 |
|  | **Statements about support for openly sharing research data** (scale ranging from disagree to agree) | **Minimum-maximum value** | **Mean** | **Standard deviation** |
| V26 (Q24) | My institution provides sufficient support for openly sharing research data | 1-8 | 4,55 | 2,018 |
| V27 (Q24) | My institution provides a useful infrastructure for openly sharing research data | 1-8 | 4,70 | 2,100 |
| V28 (Q24) | My institution provides a useful repository for openly sharing research data | 1-8 | 4,59 | 2,220 |
| V29 (Q24) | My institution provides sufficient support for research data management | 1-8 | 4,68 | 1,915 |
| V30 (Q24) | I am familiar with the policy of my institution for openly sharing research data | 1-8 | 4,93 | 1,988 |
|  | **Statements about potential disadvantages of openly sharing research data** (scale ranging from disagree to agree) | **Minimum-maximum value** | **Mean** | **Standard deviation** |
| V31 (Q25) | I fear the misinterpretation of the research data I (could potentially) share openly | 1-7 | 4,08 | 1,681 |
| V32 (Q25) | I fear the misuse of the research data I (could potentially) share openly | 1-7 | 4,05 | 1,711 |
| V33 (Q25) | I am concerned about losing an advantage in my research area if I openly share my research data | 1-7 | 3,69 | 1,910 |
| V34 (Q25) | I am afraid other researchers will find errors in my results if I openly share my research data | 1-7 | 3,34 | 1,663 |
|  | **Researcher’s attitude towards future open data sharing behavior** | **Minimum-maximum value** | **Mean** | **Standard deviation** |
| V35 (Q26) | I intend to openly share research data in my position as a researcher in the future (scale ranging from unlikely to likely) | 1-7 | 5,86 | 1,380 |
| V36 (Q26a) | Which proportion of the data you will collect in the future do you plan, on average, to share openly? | 1-5 | 3,17 | 1,285 |
| V37 (Q27) | Did the COVID-19 pandemic change your willingness to openly share research data? | 1-5 | 3,77 | 1,606 |
| V38 (Q28) | Did any other factor change your willingness to openly share research data recently? Please explain. (open question) | Open question | - | - |