

Testing the reuse potential of the user-oriented curation standard:
Study description of the data referring to the third user study
conducted in the BMBF-funded project PsyCuraDat

PsyCuraDat User Study 3

Version 1.0.0

Katarina Blask, Marie-Luise Müller, Marc Latz, Stephanie Kraffert,
and Valentin Arnold

Leibniz-Institute for Psychology (ZPID)



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1. Preface

This publication and the corresponding dataset refer to data collected within the project „PsyCuraDat - Development of user-oriented curation criteria for psychological research data“, which is funded by the Federal Ministry of Education and Research (BMBF). Despite careful examination of the data, mistakes may remain undiscovered. If you find mistakes, please inform us by writing an e-mail to PsyCuraDat@leibniz-psychology.org. We will correct these errors in a timely manner and upload a corrected version of the data.

We recommend researchers always to work with the latest version of the PsyCuraDat datasets. You can find them in the disciplinary repository PsychArchives under the DOI: <http://dx.doi.org/10.23668/psycharchives.5204>. The code belonging to the data can be found under the DOI: <http://dx.doi.org/10.23668/psycharchives.5203>. If your scientific publications refer to the data of the PsyCuraDat project, we would be pleased to hear from you (i.e., receive bibliographic details of your publication) via e-mail to PsyCuraDat@leibniz-psychology.org.

Our data are subject to the license [CC-BY-SA 4.0 International](https://creativecommons.org/licenses/by-sa/4.0/). If you refer to these data from the PsyCuraDat project in your publications, please use the following reference:

Blask, K. (2021). Dataset for: Testing the reuse potential of the user-oriented curation standard: Study description of the data referring to the third user study conducted in the BMBF-funded project PsyCuraDat. PsychArchives. <https://doi.org/10.23668/PSYCHARCHIVES.5204>

2. Study information

- Study number: PsyCuraDat_User_study_3
- Study title: Testing the reuse potential of the user-oriented curation standard for psychological research data: Study description of the data referring to the third user study conducted in the BMBF-funded project PsyCuraDat
- Version: 1.0.0, 12.11.2021, doi: <http://dx.doi.org/10.23668/psycharchives.5204>
- Survey year: 2021
- Survey period: 27.04.2021 – 25.06.2021
- Funder: BMBF, funding code: 16QK08

3. Previous works and research results

While aiming at the development of a user-friendly documentation standard based on defined method-specific curation criteria, earlier works and research outcomes of this project have led to a contextual specification of the standard (Blask, Gerhards, Jalynskij, 2021). This contextual specification describes data at the following three levels, which reflect the psychological research process: The first level of the documentation standard describes the research design on a *construct level*, including information such as the sample and the investigated constructs. The second level represents the research design on an *operational level* consisting of an extended codebook which provides a comprehensible connection between the conceptual research design and the operationalized variables. Finally, the third level presents a detailed description of the *research process*, including a procedure graphic as well as a presentation of the data preparation and analysis steps. Within a first user study (user study 1, Blask, Müller, Arnold, & Kraffert, 2020) – an online user study, where we focused on exploring which information architecture a dataset should be based on for optimal reuse - the standard's three-level-structure was then tested. Findings from this study resulted in a refinement of the contextual specification of the standard which was evaluated within a second online user study (user study 2, Blask, Müller, Arnold, & Kraffert, 2021). In this study we focused on improving the standard's information structure as well as on evaluating its perceived ease of integration into the individual research process. The results showed that the proposed structure of the revised standard was perceived as useful and helpful in reusing data, and that researchers could envision easily integrating it into their own research process. Furthermore, findings confirmed that a detailed data description on a conceptual (design) level and on a data level (i.e., codebook) as well as a comprehensive description of the data collection and analysis process (including all relevant materials and a procedure graphic) are essential in order to have a fair understanding of a dataset, so the data can optimally be reused. Another main finding was that a presentation of the procedure is preferred to be in a nested, hierarchic structure (i.e., flow charts) connecting the various elements of the data (i.e., data, codebook, experimental materials).

Based on the results of both user studies, which revealed valuable insights about the information processing that takes place when reusing data, as well as about the required information content and presentation form for optimal data reuse, the present study (user study

3) was conducted to test the assumption that the documentation standard generates an increased re-use potential for psychological research data.

4. Content of user study 3

In order to investigate the question of whether the documentation standard and its specification lead to an improved re-use potential of data, the third user study was conducted online. For this user study, psychological researchers located in the United States, Great Britain, the Netherlands, Austria, Sweden, Denmark, Switzerland, and Germany were randomly assigned to a 2 (PsyCuraDat standard vs. BIDS) x 2 (Study 1 vs. Study 2) between-subject research design. Participants were given a dataset (containing the data of two studies published by Buttlar, Rothe, Kleinert, Hahn, & Walther, 2020), which had been either curated in accordance with the documentation standard developed within our project PsyCuraDat, or with another documentation standard (i.e. the BIDS standard). We decided on using the BIDS (Brain Imaging Data Structure) standard, because it is relatively well-known in the community, and appropriate for a fair comparison with the PsyCuraDat standard. The data documentation provided in the different curation standard conditions differed with regards to the following aspects: For the PsyCuraDat documentation, the headings for the various parts of the data documentation, which were formally presented within a folder structure, were “hypotheses”, “sample and design” and “materials” – similar to the headings used for the procedure part within a paper. The reason for this was to match the habits of most researchers, who are familiar with this structure. In the BIDS condition, headings were in line with the BIDS standard, e.g. they contained information about the measure used to collect the data. Another main difference between the presentation of the data curated according to the PsyCuraDat standard and the data curated in line with BIDS was that the metadata were provided in different file formats. While the PsyCuraDat documentation mainly uses csv, pdf or txt files, the BIDS standard mainly uses json files. Both data documentations also differed in their content: The dataset prepared in accordance with the PsyCuraDat standard included a graphical overview of the procedure as a flow chart, as well as a short manual describing the documentation standard itself. It should be noted that these are distinctive features of the corresponding standard.

To maintain a high degree of external validity at examining the data, we conducted the study in a customized online environment resembling a PC file explorer. After having provided informed consent (see Appendix A) participants saw a number of folders containing each

standard's designated files. The folders could be navigated similar to file explorers on all common operating systems. In the first part of the study participants were given the opportunity to make themselves familiar with the datasets and their documentation, freely exploring the provided files and information. After participants had familiarized themselves with the data and their documentation they were asked to solve five different tasks using the data and metadata provided. After each question was presented participants started on the top folder and then were to browse through the files until they found the information needed to answer the next question. Answers could be submitted, depending on the file type, by either selecting the appropriate cells in a table, selecting the appropriate block of code (e.g., in case of json or other script files), or entering / copy-pasting text into a text field. After submitting their reply, the next question was presented. The original task instructions as well as the five survey items are presented in Appendix B. Finally, after completing the task, participants were asked to fill out a questionnaire about the perceived usefulness and user-friendliness of the dataset documentation provided to answer the questions. Furthermore, they were asked about their previous experience in data documentation and the use of documentation standards. The original questionnaire is presented in Appendix (C).

5. Sampling procedure

- Study area: Germany, the USA, Canada, the Netherlands, Spain, Sweden, Denmark, Austria, Switzerland, and the UK
- Basic population and selected population: German as well as international researchers within the field of Psychology.

6. Selection procedure

- Sample selection: German and international researchers within the field of Psychology were selected. The request sent to the researchers can be found in appendix (D).
- Survey procedure: Online user study
- Data collection: Self hosted online survey

- Software used for data collection, archiving and analysis: The online user study was conducted in a custom made web environment which enabled participants to examine the data. We used the web analytics service Matomo to monitor task progress and duration; processing and analysis of the data was done with IBM SPSS Statistics (Version 26) and RStudio 1.4.
- Duration:

Table 1
User study duration

	N	Min	Max	M	SD
Time on task in minutes	30	4.95	27.43	13.66	5.49

Note. N = sample size, Min = minimum, Max = maximum, M = mean session duration in minutes, SD = standard deviation.

7. Data preparation

- Data control: Control for completeness of the variables in the dataset, correctness of variable names and labels, value labels as well as missing values
- Units in the dataset: 30 participants of the online user study
- Variables in the dataset (see below)

Table 2
Variables in the dataset

Variable type	Number
Metadata	5
Paradata	358
Substantial data	42

- Metadata: Serve the description of the dataset; these data comprise the PsyCuraDat study number, version, as well as survey year, period, and funder

Table 3
Metadata

Variable	Label
Study	study number
Version	archived version
Year	survey year
Period	survey period
Date	date on which the survey was edited

- Paradata: Refer to information resulting from the study process (e.g., date on which the survey was edited or session duration) and administrative information (e.g., ID or VP code)

Table 4
Paradata

Variable	Label
ID	Person Index
VP_Code	15 characters code assigned to participants
lastActionDateTime	date and time where the last action was taken
serverDatePrettyFirstAction	date where the first action was taken
serverTimePrettyFirstAction	time where the first action was taken
visitorType	Visitor type
visitCount	total number of visits
visitDuration	session duration in seconds
visitDurationPretty	session duration in minutes and seconds
actions	total number of actions taken during the session
continent	continent from which researchers participated
country	country from which researchers participated
resolution	screen resolution
urlactionDetails_[0 – 68]	url where action [0 – 68] was taken
pageTitleactionDetails_[0 – 68]	page title of the website where action [0 – 68] was taken
serverTimePrettyactionDetails_[0 – 68]	time at which action [0 – 68] was taken
timeSpentactionDetails_[0 – 68]0	duration of action [0 – 68] in seconds
timeSpentPrettyactionDetails_[0 – 68]	duration of action [0 – 68] in minutes and seconds

- Substantial data: The first two variables code the condition to which the participants were assigned. The following 11 variables represent the participants' responses to the five different tasks, the accuracy of these responses and a sum score that adds up the participants' accuracy rates across the five tasks. Finally, the variables FQ1 to FQ5_others code participants' responses in the final questionnaire.

Table 5
Substantial data

Variable	Label	Values
Condition	Standard/Study condition	0 = PsyCuraDat Study1; 1 = PsyCuraDat Study 2; 2 = BIDS Study 1"; 3 = BIDS Study 2
PsyCuraDat_BIDS	Coding of standard condition across study conditions	1 = PsyCuraDat; 2 = BIDS
T1	Task 1	
T1_corr	accuracy Task 1	0 = not correctly answered; 1 = correctly answered
T2	Task 2	
T2_corr	accuracy Task 2	0 = not correctly answered; 1 = correctly answered
T3	Task 3	
T3_corr	accuracy Task 3	0 = not correctly answered; 1 = correctly answered
T4	Task 4	
T4_corr	accuracy Task 4	0 = not correctly answered; 1 = correctly answered
T5	Task 5	
T5_corr	accuracy Task 5	0 = not correctly answered; 1 = correctly answered
G_Score	sum score task accuracy	
FQ1	interruptions during task completion	
FQ2	perceived usability of the standard	1 = not user friendly at all; 2 = not user friendly; 3 = average user friendly; 4 = user friendly; 5 = very user friendly
FQ3_1	no experience in secondary data use	0 = false; 1 = true
FQ3_2	courses	0 = false; 1 = true
FQ3_3	student projects	0 = false; 1 = true
FQ3_4	Bachelor's or Master's thesis	0 = false; 1 = true
FQ3_5	PhD project	0 = false; 1 = true
FQ3_6	Collaboration (supraregional,	0 = false; 1 = true

	international) with other researchers	
FQ3_7	Professional development	0 = false; 1 = true
FQ3_8	Own research projects (i.e., as Principal investigator)	0 = false; 1 = true
FQ3_9	Post doc projects	0 = false; 1 = true
FQ3_10	Re-analysis	0 = false; 1 = true
FQ3_11	Generating hypotheses	0 = false; 1 = true
FQ3_12	meta-analysis	0 = false; 1 = true
FQ3_13	replication	0 = false; 1 = true
FQ3_14	other, more specifically	0 = false; 1 = true
FQ3_others	description of other reuse purposes	
FQ4_1	questionnaire data	0 = false; 1 = true
FQ4_2	neuropsychological data	0 = false; 1 = true
FQ4_3	other time series data	0 = false; 1 = true
FQ4_4	(peripheral) physiological data	0 = false; 1 = true
FQ4_5	other reaction time data	0 = false; 1 = true
FQ4_6	qualitative data	0 = false; 1 = true
FQ5_1	no experience with documentation standards	0 = false; 1 = true
FQ5_2	DarwinCore	0 = false; 1 = true
FQ5_3	DublinCore	0 = false; 1 = true
FQ5_4	BIDS	0 = false; 1 = true
FQ5_5	DDI	0 = false; 1 = true
FQ5_others	description of other documentation standards	

8. Data analysis

Due to the relatively small sample size and the unequal group sizes for the two standard conditions, the analysis was restricted to the application of non-parametric tests and descriptive statistics.

8.1. Investigation of a priori differences between the two standard conditions

In order to investigate possible a priori differences between the two standard conditions regarding participants' knowledge and previous experiences on data reuse and data documentation participants answers on the five questions of the final questionnaire were systematically compared for the two standard conditions. Due to the already mentioned unequal group sizes (PsyCuraDat = 17 and BIDS = 13 participants, respectively) data were analyzed via Pearson's χ^2 -test with Yates continuity correction. Table 6 shows that there were no a priori differences between the two conditions.

Table 6

Results of the χ^2 -tests aimed at the investigation of a priori differences of participants' knowledge on data reuse and documentation within the two standard conditions

Null hypothesis	Chi ²	df	p-value
Equal distribution for FQ3_1 (no experience in secondary data use) across the two standard conditions	1.0266	1	0.311
Equal distribution for FQ3_2 (courses) across the two standard conditions	0.64865	1	0.421
Equal distribution for FQ3_3 (student projects) across the two standard conditions	0	1	1.000
Equal distribution for FQ3_4 (Bachelor's and Master's thesis) across the two standard conditions	0.74121	1	0.389
Equal distribution for FQ3_5 (PhD project) across the two standard conditions	< .001	1	1.000
Equal distribution for FQ3_6 (Collaboration [supraregional, international] with other researchers)	< .001	1	1.000

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across the two standard conditions

Equal distribution for FQ3_7 (Professional development) across the two standard conditions	< .001	1	1.000
Equal distribution for FQ3_8 (Own research projects [i.e., as Principal investigator]) across the two standard conditions	0.050905	1	0.800
Equal distribution for FQ3_9 (Post doc projects) across the two standard conditions	< .001	1	1.000
Equal distribution for FQ3_10 (Re-analysis) across the two standard conditions	0.95588	1	0.328
Equal distribution for FQ3_11 (Generating hypotheses) across the two standard conditions	0.060332	1	0.806
Equal distribution for FQ3_12 (meta-analysis) across the two standard conditions	0.0084842	1	0.927
Equal distribution for FQ3_13 (replication) across the two standard conditions	0	1	1.000
Equal distribution for FQ3_14 (other, more specifically) across the two standard conditions	< .001	1	1.000
Equal distribution for FQ4_1 (questionnaire data) across the two standard conditions	0.29331	1	0.588
Equal distribution for FQ4_2 (neuropsychological data) across the two standard conditions	0.0098278	1	0.921
Equal distribution for FQ4_3 (other time series data) across the two standard conditions	0.42421	1	0.515
Equal distribution for FQ4_4 ([peripheral] physiological data) across the two	0.71006	1	0.399

standard conditions

Equal distribution for FQ4_5 (other reaction time data) across the two standard conditions	0.31436	1	0.575
Equal distribution for FQ4_6 (qualitative data) across the two standard conditions	0.10343	1	0.748
Equal distribution for FQ5_1 (no experience with documentation standards) across the two standard conditions	0.64865	1	0.421
Equal distribution for FQ5_2 (DarwinCore) across the two standard conditions	n.a. (all values are zero)		
Equal distribution for FQ5_3 (DublinCore) across the two standard conditions	n.a. (all values are zero)		
Equal distribution for FQ5_4 (BIDS) across the two standard conditions	1.7869	1	0.181
Equal distribution for FQ5_5 (no experience with documentation standards) across the two standard conditions	n.a. (all values are zero)		

8.2. Exploration on participants' perceived usability

To investigate participants' perceived usability of the two standards used in the current study, the ratings of the second item of the final questionnaire (*FQ2*) were analysed in a Mann-Whitney-U-test with the standard condition (*PsyCuraDat_BIDS*) as the grouping variable. Results indicate that participants perceived the PsyCuraDat standard to be more usable than the BIDS standard (see Figure 1), $U = 62$, $p = .043$, $r = -0.42$.

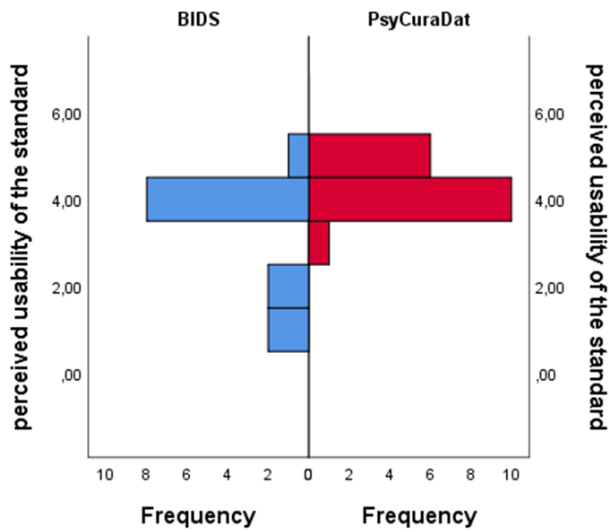


Figure 1. Illustration of the results from the Mann-Whitney-U-test that was aimed at the investigation of differences in participants' perceived usability as a function of the standard condition.

8.3. Differences in task accuracy dependent on the standard condition

In order to investigate whether participants in the two standard conditions differed with regards to task accuracy, the sum score of accuracy rates for the five tasks completed during the user study (G_Score), were submitted to a Mann-Whitney-U-test with the standard condition ($PsyCuraDat_BIDS$) as the grouping variable. Results of this analysis show that participants in the PsyCuraDat condition were overall more accurate in task completion as compared to participants in the BIDS condition, $U = 50.50$, $p = .010$, $r = -0.47$ (see Figure 2).

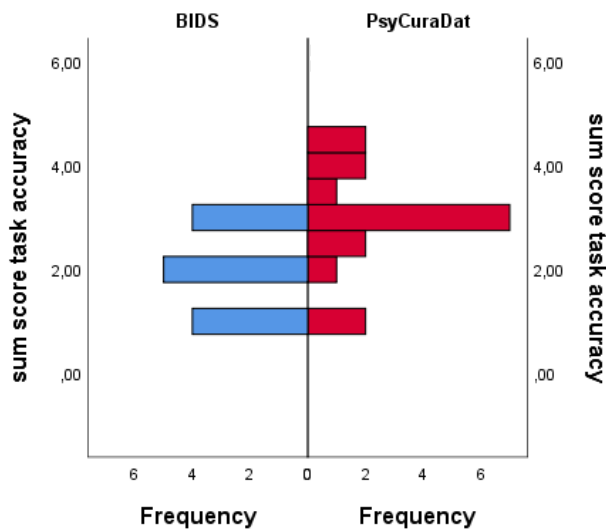


Figure 2. Illustration of the results from the Mann-Whitney-U-test that was aimed at the investigation of differences in participants' overall task accuracy as a function of the standard condition.

8.4. Explorative analysis on participants' efficiency in the two standard conditions

In this last section we want to explore participants' efficiency in finding the information while using one of the two standards. To this end, we compare participants' real interactions with the material during task completion with an interaction pattern reflecting the most efficient way to get to the task-relevant information (see Table 7). If one considers only the length of the optimal paths, there should be no substantial differences in participants' efficiency in the two standard conditions. However, the information infrastructure provided by the different standard, i.e. their formal specification, might make it more easy or difficult for people to find the relevant information.

Table 7

Description of the most efficient paths to solve the five different tasks participants had to complete during the user study.

Task	PsychDNA	BIDS
Task1 - Hypotheses	Top folder (action1) > Design_Hypotheses.pdf (action2) Top folder (action1) > Readme.pdf (action2) > Top folder (action3) > Design_Hypotheses.pdf (action4)	Top folder (action1) > dataset_description.json (action2)
Task 1 Optimum	2 Page transitions 3 Page transitions	2 Page transitions
Task2- Manipulation	Top folder (action3 or action5) > Design_Hypotheses.pdf (action4 or action6)	Top folder (action3) > dataset_description.json (action4)
Task 2 Optimum	2 Page transitions	2 Page transitions
Task3 - Objective ambivalence	Top folder (action5 or action7) > Codebook.csv (action6 or action8)	Top folder (action5) > codebook_task_events.json (action6)
Task 3 Optimum	2 Page transitions	2 Page transitions
Task4 - Value labels consumption behavior	Top folder (action7 or action9) > Codebook.csv (action8 or action10)	Top folder (action7) > codebook_task_events.json (action8)
Task 4 Optimum	2 Page transitions	2 Page transitions
Task 5 - statistical hypothesis test	Top folder (action9 or action11) > data_analysis_script.txt (action10 or action12)	Top folder (action9) > analyses.txt (action10)
Task 5 Optimum	2 Page transitions	2 Page transitions

In order to find any differences in efficiency during task completion, we analysed for each task whether the total number of transitions differed between the two standard conditions. As can be seen from the results presented in Figure 3 and Table 8, there were no substantial differences in participants' efficiency in completing the tasks.

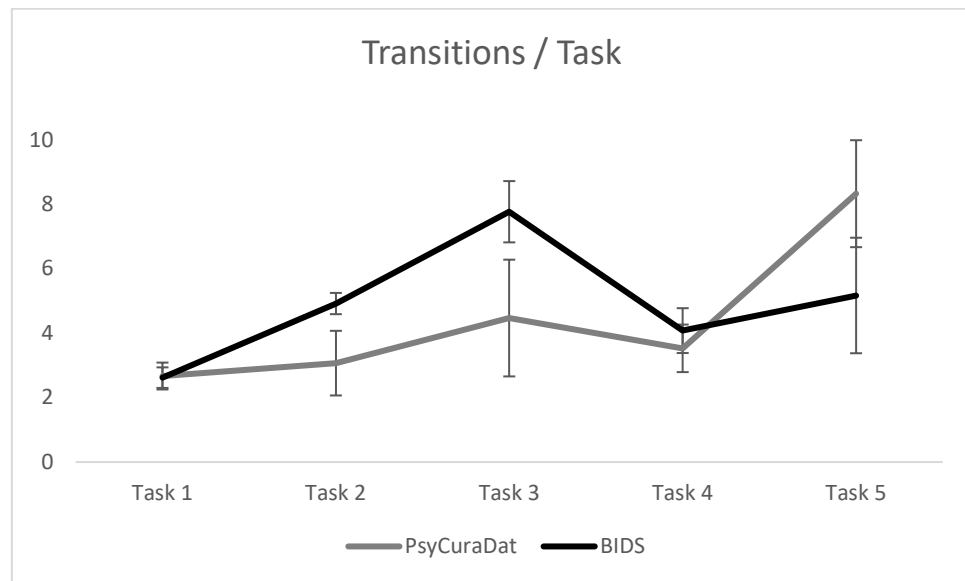


Figure 3. Pages visited until sending an answer in the five tasks. Error bars indicate standard error of the mean.

Table 8

Descriptive statistics (Mean / SD) for the number of page visits

	Task 1	Task 2	Task 3	Task 4	Task 5	Exploration	Total
PsyCuraDat	2,67 (1,23)	3,07 (1,3)	4,47 (3,68)	3,53 (2,7)	8,33* (1,8)	21,7 (3,5)*	42,5 (2,7)
BIDS	2,62 (1,5)	4,92 (3,6)	7,8 (6,5)	4,1 (2,6)	5,2* (5,8)	17,8 (5,6)*	43,5 (13,5)

Note. * $p < 0.10$ (Kruskall-Wallis-Test)

9. References

- Blask, K., Gerhards, L., & Jalynskij, M. (2020). PsyCuraDat: Designing a user-oriented curation standard for behavioral psychological research data. *Frontiers in Psychology*, *11*, 3892.
- Blask, K., Müller, M.-L., Arnold, V., & Kraffert, S. (2020). Evaluation of the PsyCuraDatSpecification 1.0 - Study description of the data referring to the first user study conducted in the BMBF-funded project PsyCuraDat. *ZPID (Leibniz Institute for Psychology Information)*. <https://doi.org/10.23668/PSYCHARCHIVES.4318>
- Blask, K., Müller, M.-L., Arnold, V., & Kraffert, S. (2021). Evaluation of the PsyCuraDat-Specification 2.0 – Study description of the data referring to the second user study conducted in the BMBF-funded project PsyCuraDat. *ZPID (Leibniz Institute for Psychology Information)*. <https://doi.org/10.23668/PSYCHARCHIVES.4459>

10. Links

PsyCuraDat project website: www.leibniz-psychology.org/institut/drittmittelprojekte/psycuradat

Leibniz Institute for Psychology Information (ZPID): www.leibniz-psychology.org

Appendix

A Consent form

A.1 Consent form (original German version)

Informationen zum Aufgabenmaterial

Für die zur Testung der Standards konzipierten Aufgaben, haben wir Teile des folgenden Artikels und der zu ihm gehörenden Daten und Materialien verwandt:

Buttler, B., Rothe, A., Kleinert, S., Hahn, L., Walther, E. (2020). Food for Thought: Investigating Communication Strategies to Counteract Moral Disengagement Regarding Meat Consumption. *Environmental Education*, 15, 55- 68. doi: <https://doi.org/10.1080/17524032.2020.1791207>
Data and material: <https://osf.io/vw9sr/>

Die Studie von Buttler et al. (2020) haben wir ausgewählt, weil sie bereits sehr gut dokumentiert und somit für uns leicht nachzuvollziehen und nachzunutzen war. Die Metadaten zu der Studie wurden in Übereinstimmung mit den von uns in dieser Nutzerstudie verwandten Standards adaptiert bzw. erweitert.

Verantwortlich für die Datenerhebung und Auswertung ist

Dr. Katarina Blask

Universitätsring 15

54296 Trier

E-Mail: kb@leibnizpsychology.org

Stress oder Unannehmlichkeiten

Soweit uns bekannt ist, sind mit dieser Nutzerstudie keine Risiken verbunden.

Freiwilligkeit

Die Teilnahme an der Studie erfolgt freiwillig. Sie können jederzeit ohne Angabe von Gründen aus der Studie ausscheiden, ohne dass Ihnen persönliche Nachteile entstehen.

Datenschutz

Speicherung und Bereitstellung der Daten

Ihre Daten werden unter Einhaltung der EU-DSGVO und des Rheinland-Pfälzischen Landesdatenschutzgesetzes zu wissenschaftlichen Zwecken erhoben, gespeichert und verarbeitet (Rechtsgrundlage ist Art. 6 Abs. 1a der EU-DSGVO). Dies umfasst eine Aufbewahrung der Daten von mindestens zehn Jahren nach Beendigung der Studie (gemäß den Leitlinien der DFG zur Sicherung der guten wissenschaftlichen Praxis in der Fassung vom 03.07.2019). Alle Versuchsleiter*innen unterliegen der Verschwiegenheitsverpflichtung nach §203 StGB. Die Speicherung und Auswertung ihrer studienbezogenen Daten erfolgt in anonymisierter Form. Nach Abschluss des Projektes werden die Daten dauerhaft in PsychArchives archiviert und für die Öffentlichkeit verfügbar gemacht (Zugriffsklasse 0, siehe DGPs, 2020 für nähere Erläuterungen zu den Zugriffsklassen).

Verarbeitung von personenbezogenen Daten zur Analyse des Nutzungsverhaltens

Zur Abbildung der Nutzung dieser Webseite, das heißt, um die Bewegungsdaten während Ihrer Teilnahme an der Nutzerstudie aufzuzeichnen und um Ihre Interaktion mit der Datendokumentation bei der Aufgabenbearbeitung nachvollziehen zu können, verwenden wir den Webanalysedienst Matomo. Für die Analyse der Webseitenbenutzung setzt Matomo Cookies ein. Die mittels der Cookies erzeugte Information zum Abruf von Datenobjekten aus dieser Nutzerstudie wird anschließend auf Server des Leibniz Institute für Psychologie gespeichert. Cookies von Matomo verbleiben auf Ihrem Endgerät, bis Sie eine Löschung vornehmen. Falls Sie keine Analyse Ihrer Webseitenutzung wünschen, können Sie die Datenerfassung durch Matomo ablehnen. Bitte beachten Sie, dass Sie bei einem OptOut leider nicht an unserer Studie teilnehmen können, da uns in diesem Fall relevante Indikatoren zur Beurteilung Ihrer Performanz unter Nutzung der Standards fehlen. Sofern Ihr Browser die „Do Not-Track“-Technik unterstützt und Sie diese aktiviert haben, wird ihr Besuch automatisch ignoriert. Aus dem vorgenannten Grund würden wir Sie bitten diese zu deaktivieren. Die Speicherung und Verarbeitung Ihrer Daten sowie das Setzen der Matomo Cookies dient

ausschließlich dem wissenschaftlichen Zweck. Die Rechtsgrundlage zum Einsatz der Cookies bildet Art. 6 Abs. 1a der EU-DSGVO. Dementsprechend möchten wir Sie nachfolgend bitten Ihre explizite Einwilligung zum Setzen der Matomo Cookies zu geben.

Einwilligungserklärung: Nutzerstudie des Projektes PsyCuraDat

Ich habe die Probandeninformation über Ziel und Ablauf der Studie, sowie zu Datenverarbeitung und Archivierung gründlich durchgelesen und verstanden. Ich hatte ausreichend Zeit, mich für oder gegen eine Teilnahme an dieser Studie zu entscheiden. Ich habe verstanden, dass ich jederzeit ohne Angabe von Gründen aus der Studie ausscheiden kann, ohne dass mir persönliche Nachteile entstehen.



Hinweis: Wir möchten Sie an dieser Stelle nochmals darauf hinweisen, dass Sie nur an unserer Studie teilnehmen können, wenn Sie uns die Freiwilligkeit Ihrer Teilnahme bestätigen und die Einwilligung in die Verwendung von Matomo Cookies erteilen. Sollten Sie zu einem der beiden Aspekte nicht Ihre Einwilligung gegeben haben, möchten wir uns für Ihr Interesse bedanken und wünschen Ihnen noch einen schönen Tag!

[Weiter](#)

A.2 Consent form (original English version)

Which material will be used?

In our tasks designed to test several data curation standards we have used data and material from the following article:

Buttler, B., Rothe, A., Kleinert, S., Hahn, L., Walther, E. (2020) Good for Thought: Investigating Communication Strategies to Counteract Moral Disengagement Regarding Meat Consumption. *Environmental Education*, 15, 55– 68.

<https://doi.org/10.1080/17524032.2020.1791207>

Data and material: <https://osf.io/vw9sr/>

We selected this particular study by Buttler et al. (2020) because it follows good documentation practices, and thus was easy for us to use in the present context. The metadata for the study were adapted or extended in accordance with the standards tested in this study.

PI responsible for data collection and analysis:

Dr. Katarina Blask

Universitätsring 15

54296 Trier

E-Mail: kb@leibnizpsychology.org

Potential distress or inconvenience

Participation in this study does not pose any threat of distress or inconvenience, as far as we are concerned.

Voluntary participation

Participation in the study is voluntary. You can withdraw from the study at any time without giving reasons and without incurring any personal disadvantages.

Data Privacy

Storage and data provision

Your data will be collected, stored and processed for scientific purposes in compliance with the EU-GDPR and the Rhineland-Palatinate State Data Protection Act (legal basis: Art. 6 paragraph 1a EU-GDPR). This includes data retention for at least ten years after the conclusion of the study (according to the DFG guidelines for safeguarding good scientific practice as amended on July 3rd 2019). All investigators are subject to the obligation of confidentiality according to §203 StGB. The storage and analysis of your study-related data is anonymous. After completion of the project, the data will be permanently archived in PsychArchives and made available to the public (access class 0, see DGPs, 2020 for more details on access classes).

Processing of personal data for the analysis of usage behavior

To map the usage of this website, that is, to assess your information processing and interaction with the data documentation while working on the task, we use the web analytics service Matomo. Matomo uses cookies to analyze website usage. This information will subsequently be stored at the Leibniz Institute for Psychology. Cookies from Matomo remain on your device until you delete them. If you do not wish to have your website usage analyzed, you may opt out of data collection by Matomo. Please note that if you opt out, you will unfortunately not be able to participate in our study, as we would lack critical indicators to assess your performance. For the aforementioned reason, we would ask you to deactivate any „do not track“ functionality your browser might be offering, if possible. The storage and processing of your data as well as the setting of Matomo cookies is solely for scientific purposes. The legal basis for the use of cookies is Article 6 (1a) of the EU-GDPR. Accordingly, we would like to ask you below to give your explicit consent for the use of Matomo cookies for scientific purposes only.

Declaration of consent to participate in the user study

I have thoroughly read and understood all information about the study's goals and procedure, as well as data processing and archiving. I have had sufficient time to decide for or against participation in this study. I have understood that I can withdraw from the study at any time

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without the need for explanation and without suffering any penalty.



[Continue](#)

B Instructions and survey items

B.1.a Instructions (original German version)

Um herauszufinden, inwieweit bestehende Standards zur Dokumentation psychologischer Forschungsdaten einen effektiven und effizienten Umgang mit diesen Daten ermöglichen, werden Sie nachfolgend eine Aufgabe bearbeiten. Im Rahmen dieser Aufgabe werden Ihnen Fragen zu einem Datensatz gestellt, der entsprechend einem bestimmten Dokumentationsstandard aufbereitet wurde. Klicken Sie auf "Weiter" um sich mit dem in der Aufgabe verwandten Standard vertraut zu machen.

[Weiter](#)

Bevor Sie mit der tatsächlichen Aufgabe beginnen, möchten wir Sie bitten sich mit den Daten und ihrer Dokumentation vertraut zu machen. Schauen Sie sich dafür die verschiedenen Ordner und die darin enthaltenen Dateien an. Um von den Daten oder den verschiedenen Beschreibungselementen (z.B. Codebook, Materialien, etc.) zu dieser Seite zurück zu gelangen klicken Sie bitte auf den „Zurück“-Button. Falls Sie von dem Inhalt eines Ordners direkt zum Inhalt des nächsten Ordners springen möchten, also beispielsweise vom Ordner „Data“ zum Ordner „Code“, klicken Sie bitte auf „Weiter“. Wenn Sie sich mit den Daten und Ihrer Dokumentation ausreichend vertraut gemacht haben, kehren Sie bitte auf diese Seite zurück und klicken auf den Button „Weiter zur Aufgabe“.

[Weiter zur Aufgabe](#)

Im Folgenden werden wir Ihnen fünf Fragen zu prozeduralen Details des Datensatzes stellen. Alle Fragen sind mit Hilfe des Materials, über das Sie sich bereits einen Überblick verschafft haben, zu beantworten.

Wenn Sie die Antwort gefunden haben, können Sie diese direkt in den jeweiligen Dateien eingeben:

In **Tabellen & Skriptdateien** können Sie einfach alle zutreffenden Informationen durch Anklicken auswählen. Anschließend können Sie die ausgewählten Elemente durch Anklicken des „Antworten“ Buttons abschicken.

Bei **allen anderen Dateien** können Sie durch Klick auf den „Antworten“ Button ein Textfeld einblenden, in welches Sie Ihre Antwort eingeben können.

Nachdem eine Frage beantwortet wurde gelangen Sie automatisch zur nächsten Frage. Bitte verwenden Sie für die Dauer der Studie nur die Zurück-Buttons auf unseren Seiten, und nicht die Zurück-Funktion Ihres Browsers. Vielen Dank!

B.1.b Instructions (original English version)

In order to find out the extent to which existing standards for the documentation of psychological research data are effective in handling these data, we will ask you to complete five small tasks. Specifically, you will be asked questions about a data set that has been prepared according to a specific documentation standard. Click „Continue“ to familiarize yourself with the standard used in the task.

[Continue](#)

[End data review and proceed to task](#)

We will now give you five questions about procedural details of a study, which can be answered by investigating its dataset and supplementary files.

Once you found the answer in one of the files, you may enter it there:

In **tables & script files**: simply select all applicable information by clicking on it. Then submit the selected items by clicking on the „Reply“ button.

For **all other files**: click on the „Reply“ button to display a text field, in which you can type your answer.

If you are not sure how to select the answer in a given file, you can display the answer format again using the help button („?“).

After a question has been answered, you will automatically be taken to the next question.

Please use only the „back“ buttons on our pages for the duration of the study **not the „back“-function in your browser**. Thank you very much!

B.2 List of survey items

B.2.a List of survey items (German version)

1. Welche Hypothese(n) wurde(n) untersucht?
2. Welche experimentelle Manipulation haben die AutorInnen vorgenommen?
3. Mit Hilfe welcher Variablen wurde die objektive Ambivalenz bestimmt? Bitte geben Sie die Variablennamen, deren Wertelabels sowie das verwendete Erhebungsinstrument an.
4. Welche Antwortkategorien wurden vorgegeben, um die Häufigkeit des Konsumierens von tierischen Produkten der Teilnehmer pro Woche zu erfragen?
- 5.a (only used within condition 0 and condition 2): Welches Analyseverfahren wurde zur Testung der Hypothese (ob Menschen, die beim Ansehen der Videos stärkere Emotionen aufwiesen, eher bereit sind ihren Fleischkonsum nach dem Dialog zu reduzieren) verwandt?
- 5.b (nur verwendet innerhalb Bedingung 1 und Bedingung 3): Welches Analyseverfahren wurde zur Testung der Hypothese (dass die Änderungen in den Bewertungen von Fleisch und die Bereitschaft, den Fleischkonsum nach dem Dialog zu reduzieren, auf eine Abnahme der Strategien zur moralischen Entkopplung zurückzuführen sind) verwandt?

B.2.b List of survey items (English version)

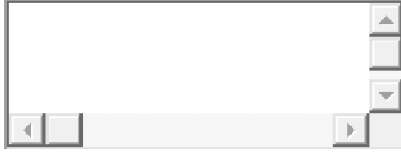
1. Which hypotheses have been investigated?
2. Which experimental manipulation has been applied in this study?
3. Which variables were used to measure objective ambivalence? Please indicate the variable names, their value labels as well as the instrument used.
4. What response categories were participants given to indicate their weekly frequency of animal product consumption?
- 5.a (only used within condition 0 and condition 2): Which statistical procedure was used to test the hypothesis (whether people who exhibited stronger emotions while watching the videos are more likely to reduce their meat consumption after the dialogue with an activist)?
- 5.b (only used within condition 1 and condition 3): Which statistical procedure was used to test the hypothesis (that changes in evaluations of meat and willingness to reduce meat consumption after the dialogue with an activist are due to a decrease in moral disengagement strategies)?

C. Questionnaire

C.1 Questionnaire (original German version)

1. Haben Sie die Aufgabenbearbeitung zu einem bestimmten Zeitpunkt unterbrechen müssen?

Wenn ja, beschreiben Sie bitte kurz, wann diese Unterbrechung im Verlauf der Nutzerstudie war und wie lange sie ange dauert hat (ungefähre Angaben sind hier ausreichend).

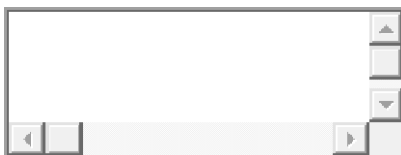


2. Inwieweit haben Sie die bereitgestellte Dokumentation der Daten als nutzerfreundlich und hilfreich bei der Beantwortung der Fragen empfunden, wenn Nutzerfreundlichkeit für einen effektiven und effizienten Zugang zu den relevanten Informationen steht?

- ☐ 1 überhaupt nicht nutzerfreundlich
- ☐ 2 nicht nutzerfreundlich
- ☐ 3 durchschnittlich nutzerfreundlich
- ☐ 4 nutzerfreundlich
- ☐ 5 sehr nutzerfreundlich

3. Bitte geben Sie alle Gelegenheiten und Gründe an, bei denen Sie mit der Nachnutzung psychologischer Daten beschäftigt waren. Zutreffendes bitte auswählen. (Mehrere Antworten sind möglich)

- ☐ Ich habe keine Erfahrung mit der Nachnutzung psychologischer Forschungsdaten.
- ☐ Lehrveranstaltungen
- ☐ Studentische Projekte
- ☐ B.Sc. Arbeit / M.Sc. Arbeit
- ☐ Promotionsprojekte
- ☐ Überregionale Zusammenarbeit
- ☐ (Weiter-) Bildung
- ☐ Eigenverantwortliche Forschungsprojekte
- ☐ Habilitationsprojekte
- ☐ Re- Analyse
- ☐ Hypothesengenerierung
- ☐ Meta- Analyse
- ☐ Replikation
- ☐ sonstiges, und zwar:

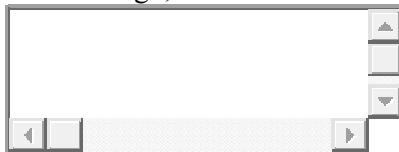


4. Bitte nennen Sie alle Arten von Daten mit denen Sie bereits Erfahrung (i.e. vollständige Aufbereitung und Auswertung) sammeln konnten. Zutreffendes bitte auswählen. (Mehrere Antworten sind möglich.)

- ☐ Fragebogendaten
- ☐ Neuropsychologische Daten
- ☐ Sonstige Zeitreihendaten
- ☐ (Periphär-)physiologische Daten
- ☐ Sonstige Reaktionszeitendaten
- ☐ Qualitative Daten

5. Bitte geben Sie an, mit welchem Standard / mit welchen Standards zur Dokumentation psychologischer Forschungsdaten Sie bisher Erfahrung sammeln konnten. Zutreffendes bitte auswählen. (Mehrere Antworten sind möglich.)

- ☐ Ich habe keine Erfahrung in der Arbeit mit Dokumentationsstandards.
- ☐ Darwin Core
- ☐ Dublin Core
- ☐ BIDS
- ☐ DDI
- ☐ sonstige, und zwar:

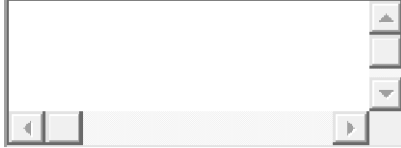


[Antworten abschicken & Studie beenden](#)

C.2 Questionnaire (original English version)

Finally, we would like to ask you to answer the following questions.

1. Did you have to interrupt your participation at some point? If yes, please briefly describe when this interruption occurred during the course of the study, and how long it lasted (approximate information is sufficient).




2. To what extent did you consider the documentation provided for the data to be userfriendly and helpful in answering the questions, userfriendliness being effective and efficient in providing access to relevant information?

- ☐ 1 not user friendly at all
- ☐ 2 not user friendly
- ☐ 3 average
- ☐ 4 user friendly
- ☐ 5 very user friendly

3. Please list all occasions you have been involved with the re-use of psychological data. Please select as applicable. (Multiple answers possible)

- ☐ I don't have any experience with the re-use of psychological data
- ☐ Courses
- ☐ Student projects
- ☐ Bachelor's or Master's thesis
- ☐ PhD project
- ☐ Collaboration (supra-regional, international) with other researchers
- ☐ Professional development
- ☐ Own research projects (i.e., as Principal Investigator)
- ☐ Post doc projects
- ☐ Re-Analysis
- ☐ Generating hypotheses
- ☐ Meta-Analysis
- ☐ Replication
- ☐ other, more specifically:



4. Please list all types of data with which you had the opportunity to work with (i.e., complete

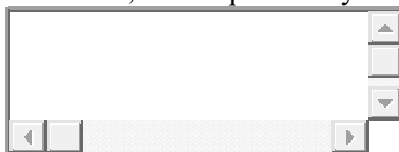
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preparation and analysis) Select as applicable. (Multiple answers possible)

- ☐ Questionnaire data
- ☐ Neuropsychological data
- ☐ Other time-series data
- ☐ (Peripheral-)physiological data
- ☐ other reaction-time data
- ☐ Qualitative data

5. Please indicate which standard(s) for documenting psychological research data you worked with in the past. Select as applicable. (Multiple answers possible)

- ☐ So far I have not worked with data-curation standards.
- ☐ Darwin Core
- ☐ Dublin Core
- ☐ BIDS
- ☐ DDI
- ☐ other, more specifically:



[Send answers & finish study](#)

D Request sent to researchers

D.1 Request sent to the researchers (original German version)

Liebe Forschende der Psychologie,

hiermit möchten wir - das Leibniz-Institut für Psychologie - Sie herzlich einladen, an unserer Studie zur Testung der Nutzerfreundlichkeit bestehender Dokumentationsstandards von psychologischen Forschungsdaten teilzunehmen.

Im Zuge der Open Science Bewegung sind die Prinzipien der Transparenz und Offenheit innerhalb der psychologischen Forschung sowie die Verfügbarmachung psychologischer Forschungsdaten zunehmend bedeutsam geworden. Dabei steht das Ziel der uneingeschränkten Nachnutzung von Forschungsdaten, besonders in Bezug auf die Debatte um die Replizierbarkeit psychologischer Forschungsergebnisse, im Fokus. Diverse Standards zur Dokumentation psychologischer Forschungsdaten wurden bereits entwickelt, die eine Nachnutzung der Forschungsdaten sicherstellen sollen. Bislang gibt es jedoch nur ungenügend empirische Befunde, die Aufschluss über die tatsächlichen Effektivitäts- und Effizienz-Zugewinne solcher Standards bringen.

In diesem Kontext haben wir die vorliegende Untersuchung konzipiert, in der wir die Nutzerfreundlichkeit existierender Standards empirisch testen möchten. Unsere Erkenntnisse werden in die Weiterentwicklung dieser Standards, sowie gegebenenfalls in die Entwicklung künftiger Standards einfließen.

Aufgrund Ihrer Erfahrungen als PsychologInnen bitten wir Sie sich ungefähr 20 Minuten für die Teilnahme an unserer Studie Zeit zu nehmen. Somit leisten Sie einen wertvollen Beitrag zur Entwicklung nutzerfreundlicher Dokumentationsstandards für psychologische Forschungsdaten.

Falls Sie unser Vorhaben unterstützen möchten, klicken Sie bitte auf den folgenden Link, der Sie zur Nutzerstudie führt:

<https://psych-userstudies.de/>

Die Teilnahme ist **ab sofort bis zum 30.05.2021** möglich.

Wir danken Ihnen im Voraus für Ihre Unterstützung und Teilnahme!

Mit freundlichen Grüßen

Dr. Katarina Blask

Marie-Luise Müller, Dipl.-Soz.

Marc Latz, M.Sc.

D.2 Request sent to the researchers (original English version)

Dear researchers in psychology,

We - the Leibniz Institute for Psychology - would like to invite you to participate in our study to test the usability of existing documentation standards for psychological research data.

In the course of the Open Science movement, the principles of transparency and openness within psychological research as well as making psychological research data available have become increasingly important. In this context, the goal is to enable open access to research data as well as to ensure the reproducibility and thus sustainability of psychological science. Various standards for the documentation of psychological research data have already been developed to ensure the re-use of research data. To date, however, there is insufficient empirical evidence to shed light on the actual effectiveness and efficiency gains of such standards.

In this context, we designed the present study, in which we would like to empirically test the usability of existing standards. Our findings will inform the further development of these standards as well as the development of future standards.

Based on your experience as a psychologist, we kindly ask you to take approximately 20 minutes to participate in our study. In this way, you will make a valuable contribution to the development of user-friendly documentation standards for psychological research data.

If you would like to support our project, please click on the following link, which will take you to the user study:

<https://psych-userstudies.de/>

Participation is possible **from now until 30.05.2021**.

We thank you in advance for your support!

Kind regards,

Dr. Katarina Blask

Marie-Luise Müller, Dipl.-Soz.

Marc Latz, M.Sc.