The Shape of Space: Evidence for Spontaneous but Flexible Use of Polar Coordinates in Visuospatial Representations

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Abstract
› Preview

Preregistration & Reporting guidelines

A quick guide

Today, I want to share with you a quick guide for preregistering your research and reporting its results using the relevant reporting guideline

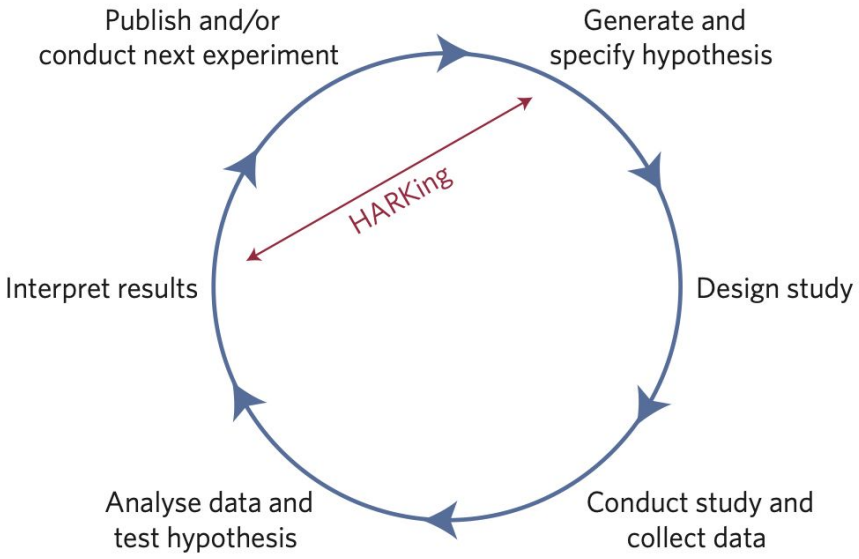
Prereg = Preregistrations -- records made a priori about study designs and analysis plans and placed in (open) repositories -- should be used when designing a study
Rep Guid =minimal information that has to be specified for a study to be useful, should be used when writing up a manuscript

Journal badge -- journal psychological science --

STRUCTURE

- ***Relevance*** preregistration & reporting guidelines
- ***Types*** preregistration
  - Trials
  - Animal research
  - Quantitative observational/experimental
  - Qualitative
- ***Registries***
- ***Reporting guidelines***

The structure of my talk will be as follows: I will briefly sketch the relevance of preregistration and will do the same for reporting guidelines later, I will distinguish a few broad types of preregistration, review their associated registries; the places where you make and upload your preregistration, and will then delve into selecting the right reporting guidelines



Source: fig 1, p. 2, Munafo et al., 2017

How come people are enthusiastic about prereg?

Here you see the standard empirical cycle, many of us are familiar with, but the cycle is, as some have argued, not fool-proof -- and here you see just some of the problems that might creep in at various steps that may lead to less reproducible science;

Ref: https://www.nature.com/articles/s41562-016-0021%C2%A0

RELEVANCE

- Reduce ***degrees of freedom***
- Mitigate ***publication bias***
- Strengthen the ***credibility*** and ***transparency***
- Importance recognised by various ***stakeholders***

In sum, preregistration is thought to narrow down the choices a researcher needs to make that may influence the study's results

It is also thought to help in combatting publication bias, as it means there is a record of the study conducted and its hypothesis or research question, independently of whether that is also published

openness of this information about the study encourages the researcher to carefully reflect on different study aspects and to systematically report on their design and analysis choices, including those made as the study progresses

the records about the study design and analysis plan help the reviewer or user of the study in assessing the study's quality, because the preregistration provides a structured insight into how the study was thought out and set up

Different funders now require prereg (Arnold), it is encouraged by journals and disciplinary organisation (APA)

TYPES

- Trials
- Animal studies
- Quantitative (e.g., cross-sectional/observational)
- Qualitative

since 2005 members of the International Committee for Medical Journal Editors only allow trial publications of trials that have been registered (DeAngelis et al., 2004). In the United States, trials are mandated to be registered in ClinicalTrials.gov that is managed by the National Library of Medicine, but the registry also accepts trials from outside the US since 2005. In Europe, drug trials must be registered in EudraCT database. The World Health Organization maintains its own registry, called the International Clinical Trials Registry Platform.

A similar approach is being applied to animal research with Germany being the first to launch a tailored registry (animalstudyregistry.org). Although the registration of animal studies is not yet mandated, it is argued that by prompting researchers to think about and commit themselves to quality measures when designing their study, preregistration has the potential to improve the reproducibility of animal research (Bert et al., 2019).

Extending this practice to cross-sectional research also allows for distinguishing between exploratory and confirmatory research (Nosek et al., 2018)

https://www.pnas.org/content/115/11/2600

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6793840/pdf/pbio.3000463.pdf

https://www.nejm.org/doi/full/10.1056/NEJMe048225

https://aspredicted.org

https://osf.io

REGISTRIES (cont.)

NIHR | National Institute for Health Research

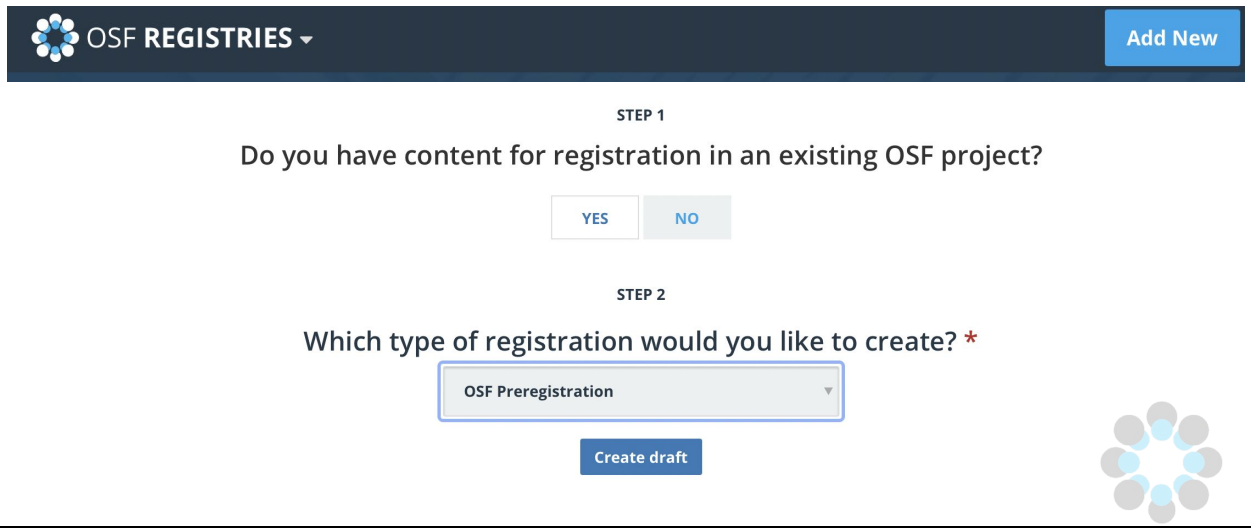
PROSPERO
International prospective register of systematic reviews

And another registry important to those of you conducting yet another type of research, namely systematic reviews, is PROSPERO
https://www.crd.york.ac.uk/prospero/

There are two main types of fears that researchers face when thinking about whether to preregister their work. The first is the fear of being scooped, or ideas being stolen -- this is why you can embargo your work for up to 4 years, or up to whatever point before that that fits your purposes.
The second is the fear of doing something wrong and then needing to update your preregistration, in short this can be done by either making a new preregistration or adding a summary note where you explain the changes and justify the rationale for them

Bowman, Creating a Preregistration -- OSF guides

EXAMPLE

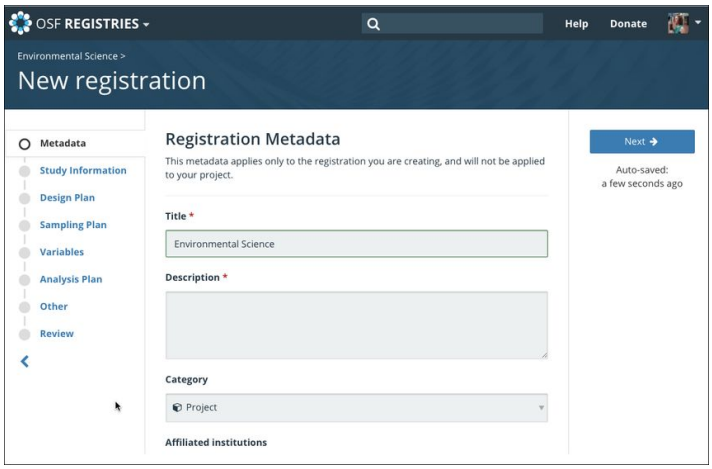


I will now go through one example and show you the different steps of a preregistration

https://help.osf.io/hc/en-us/articles/360019738834-Create-a-Preregistration

Bowman, Creating a Preregistration -- OSF guides

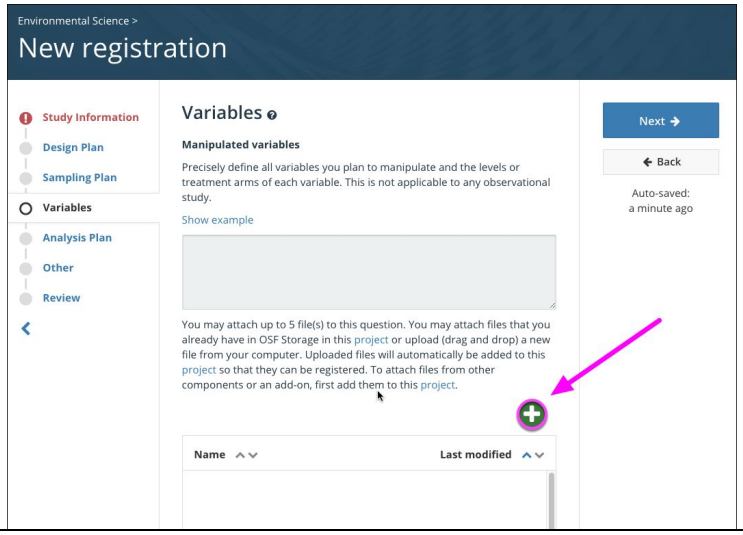
Add metadata



You start with adding meta data about your study, this allows OSF to make your study findable;;

Bowman, Creating a Preregistration -- OSF guides

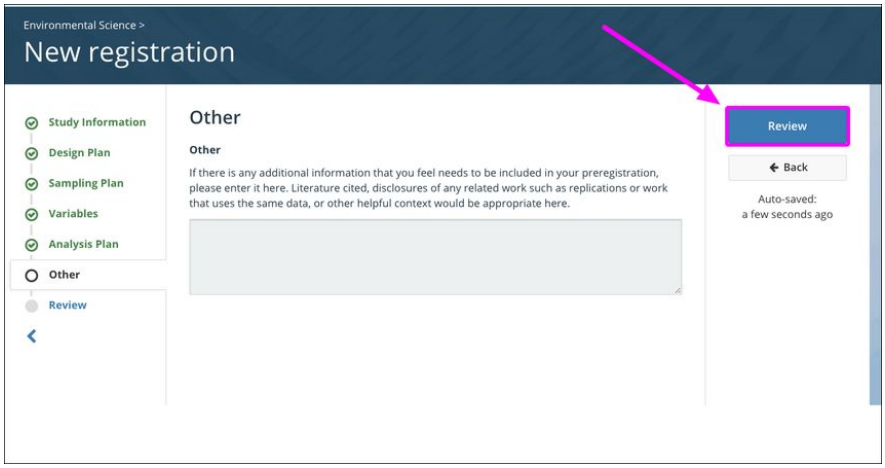
Describe research plan/add files



You then specify the relevant details about your design/sampling/variables, etc. For various parts, you can either write a description or upload the relevant files

Bowman, Creating a Preregistration -- OSF guides

Review your preregistration



Close with a quick review your prereg, assuring everything is as you wanted it to be, you might also want to ask others of your team to do the same, as once uploaded, the prereg is a frozen-non editable and timestamped version of your research plan

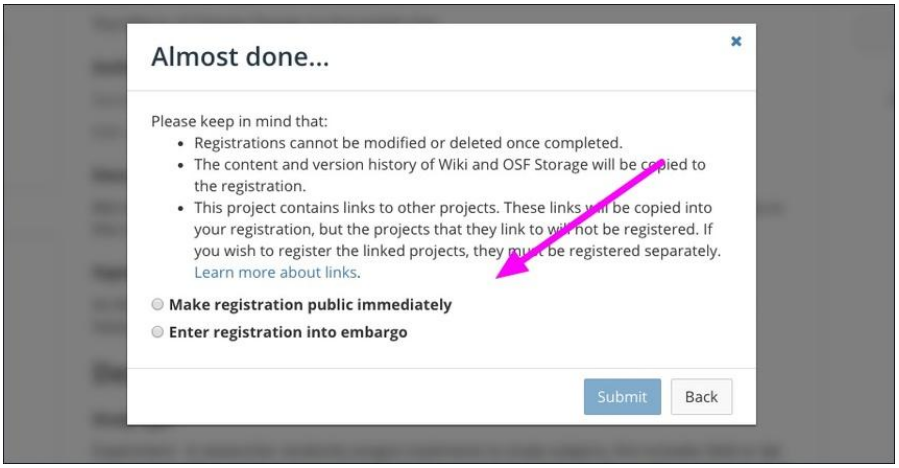
Bowman, Creating a Preregistration -- OSF guides

Register!

And then it is time to actually register!

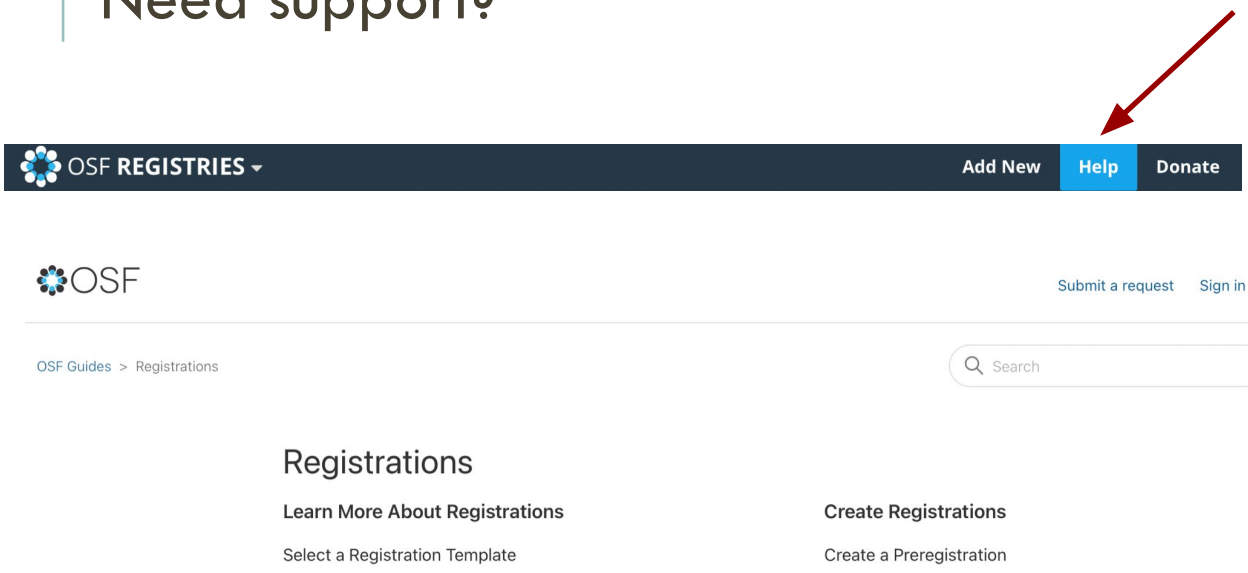
Bowman, Creating a Preregistration -- OSF guides

Specify visibility



Finally, choose how you want your preregistration to appear -- linking back to the challenges

Need support?



Don't be shy to ask for help;

Pre-registration will improve discoverability of research, but discoverability does not guarantee usability. Poor usability reflects difficulty in evaluating what was done, in reusing the methodology to assess reproducibility, and in incorporating the evidence into systematic reviews and meta-analyses. Improving the quality and transparency in the reporting of research is necessary to address this.

REPORTING

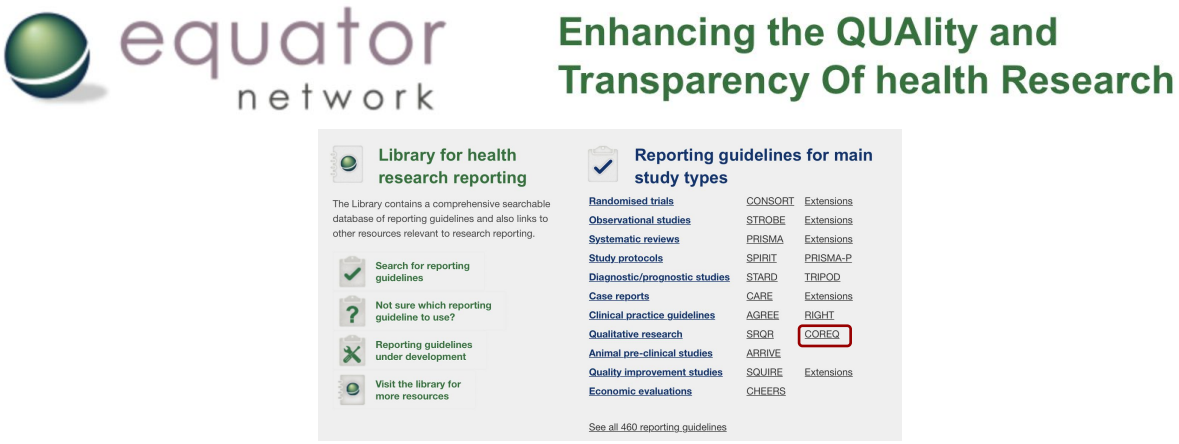
- ***Relevance*** guidelines
- Endorsed by various ***stakeholders***
- ***Types*** guidelines (some examples)
  - PRISMA
  - STROBE
  - CONSORT
  - STARD
  - COREQ
  - SPIRIT

Thus far we talked about preregistration, but just preregistrering your work does not mean it is automatically useful to others -- To ensure that others can use or build on your work, there are certain aspects that must be reported so that readers can critically appraise the study (Moher, 1998; Altman et al., 2001; Kilkenny et al., 2010; Percie du Sert et al. 2020). It has become apparent that biomedical research reports across different subfields are frequently incomplete (Kjaergard, Nikolova & Gluud, 1999; Adetugbo & Williams, 2000; Kilkenny et al., 2009; Macleod et al., 2015). Reporting guidelines were designed to bridge this gap and include a list of items that authors must report to allow others to reproduce, critically appraise and build on the work.

Prisma = Sys reviews
Strobe = Observational studies
Consort = RCTs
Stard = Diagnostic/prognostic studies
Spirit = Study protocols

// relationship PREREG/REP GUIDELINES; similar things are considered / too late to come in?

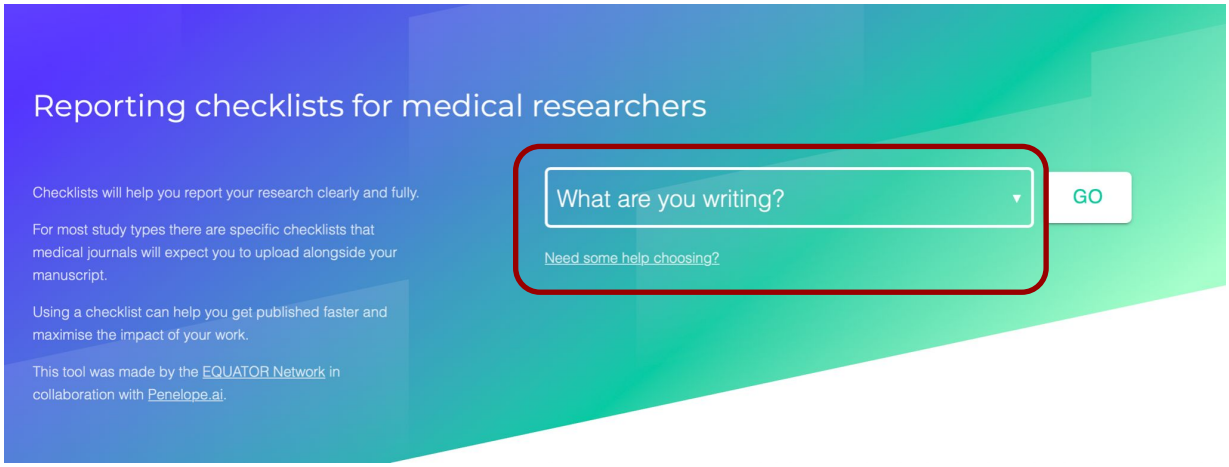
RESOURCES



There exists a broad array of reporting guidelines, and I flashed out just a few before. great resource is the equator network that has classified reporting guidelines that allows you to select the one most relevant for your work -- https://www.equator-network.org

When I completed my focus groups as part of PhD, I was advised to use COREQ -- but some of you may not know immediately which reporting guideline to use

Selecting the ***right*** checklist



See: https://www.goodreports.org

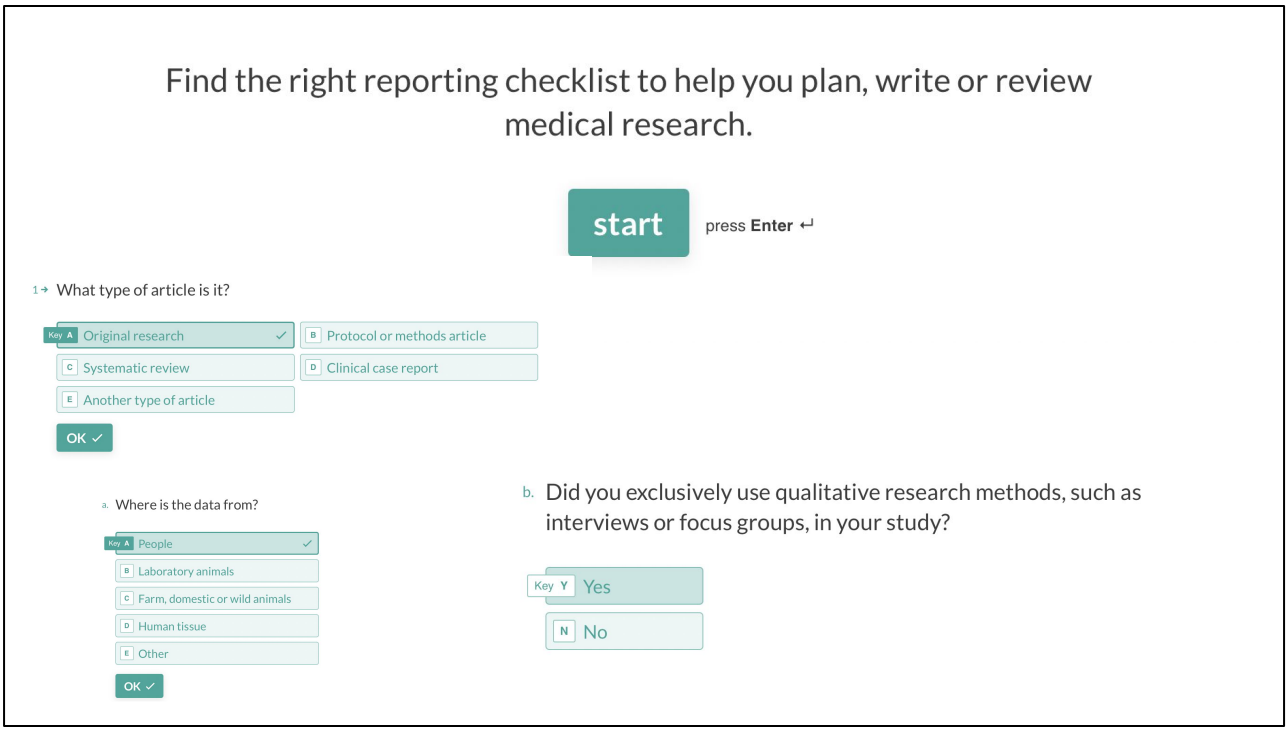
You either start with specifying what you are writing, using their dropdown menu

OR -- you use their ‘help’

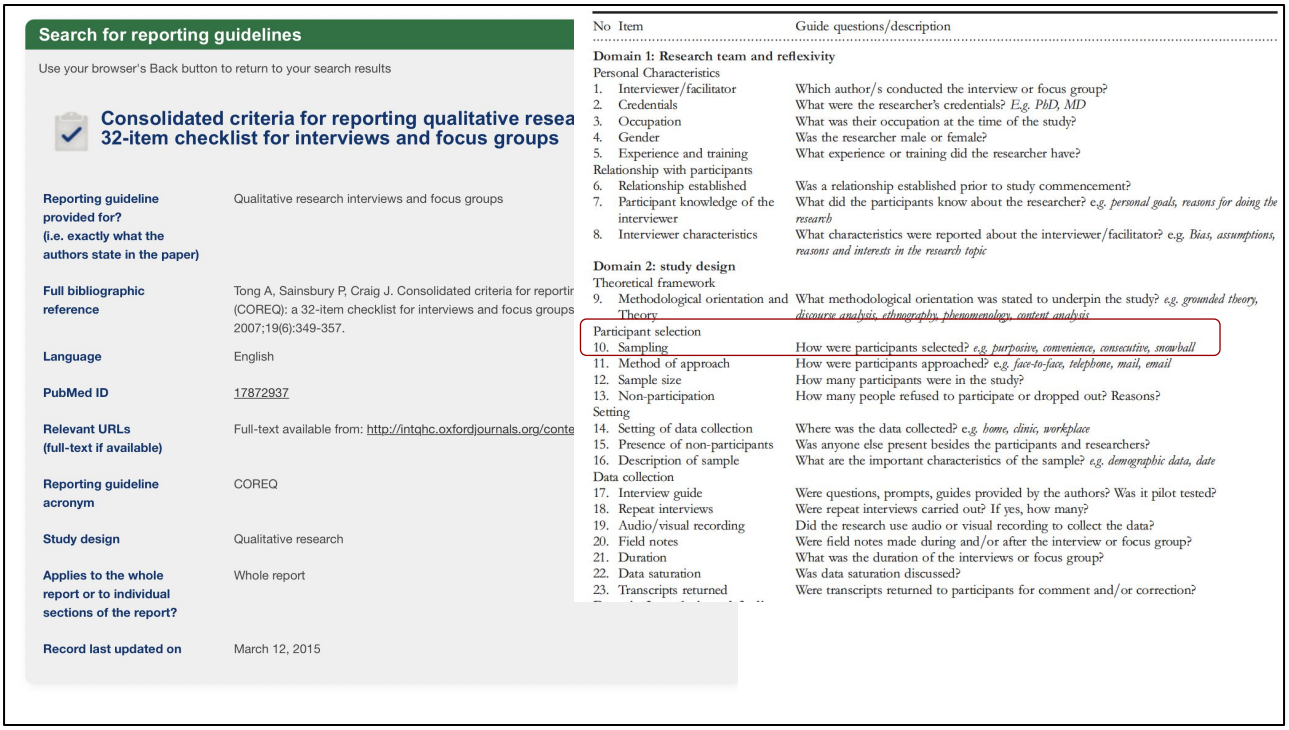
Selecting the ***right*** checklist

See: https://www.goodreports.org

This is the dropdown menu option, it shows and array of examples



This is the menu that goodreports walks you through when you ask for help, it then ends with a recommendation



Search for reporting guidelines

Use your browser's Back button to return to your search results

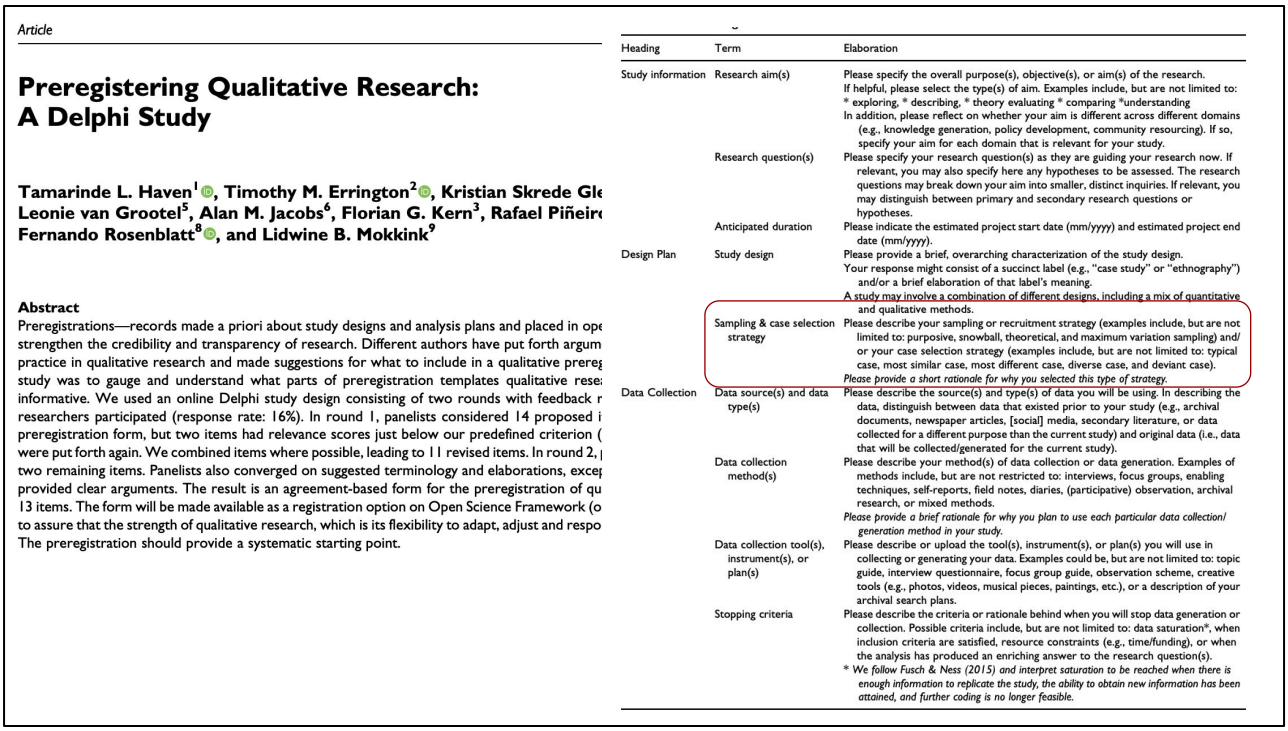
Consolidated criteria for reporting qualitative resea
32-item checklist for interviews and focus groups

Reporting guideline provided for? (i.e. exactly what the authors state in the paper)	Qualitative research interviews and focus groups
Full bibliographic reference	Tong A, Sainsbury P, Craig J. Consolidated criteria for reportir (COREQ): a 32-item checklist for interviews and focus groups 2007;19(6):349-357.
Language	English
PubMed ID	17872937
Relevant URLs (full-text if available)	Full-text available from: http://intqhc.oxfordjournals.org/conte
Reporting guideline acronym	COREQ
Study design	Qualitative research
Applies to the whole report or to individual sections of the report?	Whole report
Record last updated on	March 12, 2015

No	Item	Guide questions/description
Domain 1: Research team and reflexivity		
Personal Characteristics		
1.	Interviewer/facilitator	Which author/s conducted the interview or focus group?
2.	Credentials	What were the researcher's credentials? *E.g. PhD, MD*
3.	Occupation	What was their occupation at the time of the study?
4.	Gender	Was the researcher male or female?
5.	Experience and training	What experience or training did the researcher have?
Relationship with participants		
6.	Relationship established	Was a relationship established prior to study commencement?
7.	Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. *personal goals, reasons for doing the research*
8.	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g. *Bias, assumptions, reasons and interests in the research topic*
Domain 2: study design		
Theoretical framework		
9.	Methodological orientation and Theory	What methodological orientation was stated to underpin the study? *e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis*
Participant selection		
10.	Sampling	How were participants selected? *e.g. purposive, convenience, consecutive, snowball*
11.	Method of approach	How were participants approached? e.g. *face-to-face, telephone, mail, email*
12.	Sample size	How many participants were in the study?
13.	Non-participation	How many people refused to participate or dropped out? Reasons?
Setting		
14.	Setting of data collection	Where was the data collected? e.g. *home, clinic, workplace*
15.	Presence of non-participants	Was anyone else present besides the participants and researchers?
16.	Description of sample	What are the important characteristics of the sample? *e.g. demographic data, date*
Data collection		
17.	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?
18.	Repeat interviews	Were repeat interviews carried out? If yes, how many?
19.	Audio/visual recording	Did the research use audio or visual recording to collect the data?
20.	Field notes	Were field notes made during and/or after the interview or focus group?
21.	Duration	What was the duration of the interviews or focus group?
22.	Data saturation	Was data saturation discussed?
23.	Transcripts returned	Were transcripts returned to participants for comment and/or correction?

Again, for me, that was COREQ, now what really is that -- you are linked to the paper and in the paper is the checklist that you can use -- some journals will ask this, such as NATURE series, to submit also on the side of your ms., but many journals will endorse a reporting guideline, meaning that they would encourage you to use this checklist when writing up your results to ensure others can critically appraise them

Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. Int J Qual Health Care. 2007;19(6):349-357



Article

Preregistering Qualitative Research: A Delphi Study

Tamarinde L. Haven[1], Timothy M. Errington[2], Kristian Skrede Gle Leonie van Grootel[5], Alan M. Jacobs[6], Florian G. Kern[3], Rafael Piñeir Fernando Rosenblatt[8], and Lidwine B. Mokkink[9]

Abstract

Preregistrations—records made a priori about study designs and analysis plans and placed in ope strengthen the credibility and transparency of research. Different authors have put forth argum practice in qualitative research and made suggestions for what to include in a qualitative prereg study was to gauge and understand what parts of preregistration templates qualitative rese informative. We used an online Delphi study design consisting of two rounds with feedback r researchers participated (response rate: 16%). In round 1, panelists considered 14 proposed i preregistration form, but two items had relevance scores just below our predefined criterion (were put forth again. We combined items where possible, leading to 11 revised items. In round 2, two remaining items. Panelists also converged on suggested terminology and elaborations, excep provided clear arguments. The result is an agreement-based form for the preregistration of qu 13 items. The form will be made available as a registration option on Open Science Framework (o to assure that the strength of qualitative research, which is its flexibility to adapt, adjust and respo The preregistration should provide a systematic starting point.

Heading	Term	Elaboration
Study information	Research aim(s)	Please specify the overall purpose(s), objective(s), or aim(s) of the research. If helpful, please select the type(s) of aim. Examples include, but are not limited to: * exploring, * describing, * theory evaluating * comparing *understanding In addition, please reflect on whether your aim is different across different domains (e.g., knowledge generation, policy development, community resourcing). If so, specify your aim for each domain that is relevant for your study.
	Research question(s)	Please specify your research question(s) as they are guiding your research now. If relevant, you may also specify here any hypotheses to be assessed. The research questions may break down your aim into smaller, distinct inquiries. If relevant, you may distinguish between primary and secondary research questions or hypotheses.
	Anticipated duration	Please indicate the estimated project start date (mm/yyyy) and estimated project end date (mm/yyyy).
Design Plan	Study design	Please provide a brief, overarching characterization of the study design. Your response might consist of a succinct label (e.g., "case study" or "ethnography") and/or a brief elaboration of that label's meaning. A study may involve a combination of different designs, including a mix of quantitative and qualitative methods.
	Sampling & case selection strategy	Please describe your sampling or recruitment strategy (examples include, but are not limited to: purposive, snowball, theoretical, and maximum variation sampling) and/or your case selection strategy (examples include, but are not limited to: typical case, most similar case, most different case, diverse case, and deviant case). *Please provide a short rationale for why you selected this type of strategy.*
Data Collection	Data source(s) and data type(s)	Please describe the source(s) and type(s) of data you will be using. In describing the data, distinguish between data that existed prior to your study (e.g., archival documents, newspaper articles, [social] media, secondary literature, or data collected for a different purpose than the current study) and original data (i.e., data that will be collected/generated for the current study).
	Data collection method(s)	Please describe your method(s) of data collection or data generation. Examples of methods include, but are not restricted to: interviews, focus groups, enabling techniques, self-reports, field notes, diaries, (participative) observation, archival research, or mixed methods. *Please provide a brief rationale for why you plan to use each particular data collection/ generation method in your study.*
	Data collection tool(s), instrument(s), or plan(s)	Please describe or upload the tool(s), instrument(s), or plan(s) you will use in collecting or generating your data. Examples could be, but are not limited to: topic guide, interview questionnaire, focus group guide, observation scheme, creative tools (e.g., photos, videos, musical pieces, paintings, etc.), or a description of your archival search plans.
	Stopping criteria	Please describe the criteria or rationale behind when you will stop data generation or collection. Possible criteria include, but are not limited to: data saturation*, when inclusion criteria are satisfied, resource constraints (e.g., time/funding), or when the analysis has produced an enriching answer to the research question(s). ** We follow Fusch & Ness (2015) and interpret saturation to be reached when there is enough information to replicate the study, the ability to obtain new information has been attained, and further coding is no longer feasible.*

And here putting that the preregistration side by side, you see that similar items have been considered, both in the study design phase and in the phase of writing up the work, that is just one example about how preregistrations and reporting guidelines may mutually enforce one another to make research more transparent

https://journals.sagepub.com/doi/full/10.1177/1609406920976417

Endorse ≠ Enforce...

INTERNATIONAL JOURNAL OF SURGERY 5 (2007) 413–422

ELSEVIER

INTERNATIONAL JOURNAL OF SURGERY

www.theijs.com

The reporting quality of randomised controlled trials in surgery: A systematic review

Riaz Agha[a,b,], Derek Cooper[b], Gordon Muir[c]*

Reporting guidelines have been endorsed by many leading journals, professional societies and biomedical research funders (http://www.consort-statement.org/about-consort/endorsers1). However, surveys and reviews examining the adherence to reporting guidelines in journals that endorsed the guidelines found mixed results (Agha, Cooper & Muir, 2007; Baker et al., 2015). This shows that to endorse something is not the same as to enforce something (Baker et al., 2015), and that ultimately reviewers, editors and you as individual researchers are responsible for assuring manuscripts that they submit, review and approve comply with the relevant reporting guidelines.

QUESTIONS?

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