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TedCog Lab Handbook

Welcome to the *Technology, Democracy, and Cognition Group* *TeDCog* at the University of Bristol

This handbook serves as a guide to the essentials you need to know as a member of the lab group. Please familiarize yourself with the contents before you start work on your project.

1. Overview of the TeDCog Lab

Our Mission

The TeDCog group is an interdisciplinary group hosted mainly in the School of Psychological Science at the University of Bristol that examines the pressure points between human cognition and online technologies, and the consequences for democracy that arise from those pressure points.

Meet the team

TeDCog is headed by Stephan Lewandowsky.

In 2021-2022, other key members of the group at Bristol are:

Fabio Carrella

Dawn Holford

Almog Simchon

Adam Sutton

Matthew Edwards

Awais Rashid

Muhsin Yesilada

Michelle Barden

Simon Clark

Ginny Gould

Richard Westaway

The Bristol team is working closely with several other key members all around Europe who are also active participants in the TeDCog group and who are affiliated with one of the projects being hosted by TeDCog.

The TeDCog group has a homepage on the UoB School of Psychology website.

Current Projects

The following projects are currently being hosted by the TeDCog group (click on the links to each project's homepage to find out more):

RAO

Reclaiming individual autonomy and democratic discourse online.

We aim to develop cognitively and technologically sound solutions to restore people's autonomy online.

Other nodes Max-Planck Institute for Human Development, Berlin Northeastern University, Boston

Funder: Volkswagen Foundation, Germany.

Project Manager: Louise Evans

JITSUVAX

We develop tools to train and assist healthcare professionals to confront vaccine-related misinformation.

Other nodes: University of Cambridge University of Erfurt, Germany University of Turku, Finland University of Coimbra, Portugal ORS-PACA, Marseille, France

Funder: EU Horizon 2020.

Project Manager: Ginny Gould

PRODEMINFO

We examine how people's differing conceptions of "truth" can be used to design interventions to protect democratic discourse.

Other nodes:

Technical University of Graz, Austria

Funder: European Research Council, Advanced Grant.

Project Administrator: Richard Westaway

JIGSAW

We use inoculation theory to develop scalable interventions to protect online consumers against misleading and false information.

Other nodes: University of Cambridge

Funder: JIGSAW (Google incubator).

More information about the group, including a list of recent publications, can be found on our homepage.

The core meetings

The TeDCog group is organized around weekly meetings. All members are strongly encouraged to attend because the meetings allow for discussion of ideas and keep everyone informed about current developments. The weekly meetings also regularly feature external speakers from all around the world.

The weekly meeting is being held on Fridays 1-2pm UK time. This is a hybrid seminar style meeting (you can attend virtually or in-person). The schedule for the current academic year can be found here.

In addition, every second weekly meeting is followed by another 45 minutes set aside for professional development see the “syllabus” here.

Please email a request to join the mailing list to get updates on the meeting schedule, agenda, and Zoom/meeting room links. You cannot be a member of the group without being on the mailing list.

We designed and will run the group meetings by considering the 10 rules published here.

2. Expectations of lab group members

What can you expect from joining the group?

Our group comprises many researchers at different career stages, from undergraduate students to established researchers. As a member of the group, you can expect to work in a diverse and inclusive environment and gain the opportunity to pursue different projects, collaborations, and tasks.

All group members are encouraged to contribute to the scholarly discussions at all stages. We particularly encourage more junior colleagues to present or speak out during the weekly meetings.

Our commitment to diversity and inclusivity

As a group, we acknowledge that academia and science continue to suffer from a lack of diversity, equity, and inclusion. Science does not operate in a bubble, nor is it apolitical. Scientific issues are societal issues, and societal issues, such as racism, gender bias, and personal safety, are issues that affect the scientific enterprise and that the community must address. This statement was adapted from this precedent (with permission). It was approved by all laboratory members, and we will revisit it regularly.

We welcome, support, and advocate for community members from diverse backgrounds including those from different socioeconomic backgrounds, races and ethnicities, gender identities and sexualities, religions, disabilities, familial obligations, and other personal identities.

To do so, we specifically work toward:

Strong relationships:

- We will ensure that each junior group member has a direct mentoring relationship with a more senior colleague
- We will share opportunities with group members regardless of their status or seniority to enhance professional development (see next section)
- We engage in open conversations with people from all levels
- We acknowledge that we will all make mistakes. We will learn from our mistakes and take action to correct ourselves.

An inclusive environment:

- We encourage and support non-academic career choices, for example, science policy, writing, industry, non-science careers, etc.
- We discuss societal and ethical issues that affect our group members and others in the community
- When safe, we point out problematic behaviour
- We are accountable to and for each other
- We are receptive to constructive criticism
- We do our best to use non gendered language
- We strive to read and present works from excluded/marginalized scientists wherever possible
- We devote lab meeting(s) and group discussions to discussing diversity and inclusion issues whenever appropriate

A healthy environment:

- We will not equate self-worth to scientific success
- We encourage members to set boundaries on their work hours—an academic career is a marathon, not a sprint
- We recognize each person's right to personal privacy

Safety, Discrimination and Sexual Harassment Policy

It is important that everyone in the group receives fair treatment and feels safe. If you feel that anyone is acting unfairly on inappropriately towards you or anyone on your research team, you should approach a senior group member.

These discussions will be treated confidentially, although in certain instances (e.g., if the matter relates to sexual harassment or if there is a risk of self-harm), the person you speak to may be required to report this through appropriate channels. The University also has a mechanism for raising concerns confidentially.

http://www.bristol.ac.uk/hr/acceptable-behaviour/

https://reportandsupport.bristol.ac.uk/

Our commitment to creating opportunities

We will suggest opportunities to you that we consider appropriate to your career stage and support you in these. Examples include contributing to manuscripts in preparation, reviewing manuscripts and grants, and giving talks. You should not feel under any pressure to accept all of these, but pursue what you feel is suitable for your own development.

We also encourage all our members to take initiative and seek out any opportunities they may find beneficial for their personal and professional development. You can find more resources on this in the section on "Links to additional resources and training"

Most importantly, enjoy your participation in the group!

A note on authorship

While it is commonly accepted that researchers who have contributed substantially to the development of a paper should have authorship of the paper, it can be tricky to determine what constitutes a substantial contribution. One way to do so is using the CRediT taxonomy.

If you are writing your dissertation (broadly defined as being any research project, from a third-year project through a Master's thesis) under the supervision of a group member, there is every possibility that your work may be publishable. Even if it not publishable on its own, then in conjunction with other experiments conducted by group members. In virtually all cases (i.e., with rare exceptions), you will be entitled to authorship on the resultant publication. However, you will not be the only author: Your supervisor(s) will also be (a) co-author in virtually all cases (again with rare exceptions).

The important thing to note about authorship from the outset is that both you and your supervisor share in the "intellectual property" that arises out of your dissertation. The order of authorship is determined on an individual basis for each project and cannot be fully anticipated. It is, however, expected that papers arising out of PhD projects will have the student as first (though not necessarily sole) author.

The most typical pattern in the past has been that a dissertation formed the first in a series of experiments (many conducted by the supervisor long after the student had left) that were ultimately published. In those cases, the student was typically second or third author. However, if a student continued in the lab (e.g., as a PhD student) and contributed to all follow-up work, then they might be first author.

The bottom line at this point is that you need to expect some discussion and negotiation about authorship at some point during your time in the lab or indeed after you have left. Remember also that publication typically takes a long time and many rounds of revision, so you would be expected to stay in contact and follow up with journals and reviewers, possibly for several years after you submitted your dissertation for evaluation.

If you are not involved in any of the writing of the paper, authorship may still be possible, but there will usually be some minimum level contribution required. If you are a research assistant doing data collection for the lab, for example, you may wish to clarify with your immediate supervisor what the expectations would be for authorship.

You may wish to have a look at the following articles on the ethics of authorship:

Fine & Kurdek (1993)

McNutt et al. (2018)

What do we expect of you as part of the lab?

We expect that all members of the lab will *take ownership of their tasks and behave professionally*. In general, this means taking responsibility for the tasks assigned to you, adhering to set deadlines (or communicating promptly if you need extensions), and treating all other members of the group with respect.

Taking responsibility includes little things, such as being on time for group meetings, especially if you attend virtually. It also means you should respond to emails and so on in a timely manner (e.g., within the next working day), even if you only acknowledge receipt and promise a more detailed reply for later. If you are unable to respond in a timely manner, please put a “bounce back” or “away from my desk” message on Outlook. If you are planning to be away (e.g., on leave), please arrange this sufficiently far in advance to ensure cover is available for your tasks.

Remember that *taking responsibility does not mean doing it all yourself*: a big part of ownership is getting help when you need it—right away! If you have a problem, do not panic. Do not delay. Talk to your supervisor or seek help from another member. Talk. Even personal problems, should they adversely affect your performance and participation in lab activities, can be legitimate topics for discussion. *Whatever you do, do not walk away from a problem in frustration—talk to someone instead*.

Expectations for members at different career stages

Members at different career stages will have different responsibilities and expectations associated with those responsibilities. A few (most common) roles are outlined here in brief. If you are uncertain about your role in the lab or what is expected of you, do ask and clarify!

Postdoctoral researchers. Postdocs in the lab are typically responsible for specific projects and the delivery of associated studies. This covers a range of research tasks such as study set-up and co-ordination, data collection, data analysis, and manuscript preparation. They may also take on supervisory roles for PhD, Masters, and undergraduate students.

PhD students. PhD students are typically on three-year or four-year programmes, typically supervised by Stephan Lewandowsky or other members of the team. We expect PhD students to take a high degree of ownership in their PhD, and to develop independence over the course of their PhD, building on their previous experience. This includes shaping the direction of their PhD, developing their initial project ideas based on the results of early studies or experiments.

Undergraduate and MSc students. The lab may have a number of undergraduate and Masters’ project students at any point in time, supervised by one or more lab members at postdoctoral level or above. We expect all students to take ownership of their projects, from conception through to completion. This includes acquiring a thorough understanding of the theoretical and empirical basis for your work. Your supervisors are here to help guide you and provide advice but will not be chasing you to do your readings or submit your drafts.

Research assistants/interns. The lab may at times take on volunteer research assistants, typically undergraduate or MSc students looking to gain research experience. Research assistants will be assigned to a supervisor when volunteering in the lab, and we expect them to stay in regular contact with their supervisor. This means checking emails and communicating when you will be unavailable. Although these roles are voluntary, we do expect that you should commit to any tasks you sign up to do. We also encourage research assistants to take the initiative to suggest tasks they may find useful for their own development.

3. Basic skills

There are a few skills we assume people joining our group will already have. We mention them here because they are essential and often taken for granted. Most of these you can easily figure out how to use on your own, or by revising content that would have been taught in your first or second year of undergraduate study:

- **ISI, Scopus, OVID, PsycInfo, Google Scholar**. Ring a bell? If not, make sure you find out about these search engines. If you do know about them, make sure you also know how to combine output from searches (what does AND do, what does OR achieve?). Make sure you can search by author AND keyword if necessary.
- **Citation searches**. Make sure you can conduct searches for citations of literature (e.g., to find what other work has cited that article).
- **APA style guide**. As you will (most likely) be writing for psychology, make sure you are familiar with writing and referencing in the APA format.
- **Calendar invites**. We expect everyone to send calendar invites if organising a meeting and accept (or decline) calendar invites to meetings. This can be done using any online calendar of your choice (e.g., Google, Apple, Outlook).
- **Research designs and statistical analysis**. We expect that group members will have had undergraduate-level training in research methods and statistics for psychology. Make sure you know what terms like “2 □ 2 design”, “correlational”, and “ANOVA” mean.
- **Effective note-taking**. Having a good record of what was discussed in meetings saves time and effort later on! Everyone has their own preferred way to do this, but make sure you have at minimum a record of what needs to be done and by whom going forward.
- **Virtual meeting software**. TeDCog is committed to providing greater accessibility to meetings. So you will need to know how to schedule and attend virtual meetings, typically using Zoom or Microsoft Teams.

Other skills that build on those basics will be discussed during our fortnightly professional development sessions that follow on from the weekly meeting.

4. Lab protocols

Ethics applications (for University of Bristol)

The lab has a “standard operating procedure” for ethics related to our general line of work. Most, if not all of you, will work under this blanket ethics approval, but you may still be required to submit a “checklist application”. The following steps give a brief overview of this process.

Ethics applications can be made via the Online Research Ethics Management System (OREMS).

Most of the research conducted within our lab will qualify for an expedited research ethics checklist review. This means one should prepare the following information before submitting and expediated ethics applications:

1. **Study design:** Outline the design of the study and list the procedures/activities to which the participants will be subjected
2. **Participant recruitment:** How will participants be identified and recruited to participate in the research?

3. **Recruitment material:** Please provide any recruitment material used to recruit potential participants to take part in your research for review.
4. **Informed consent:** Clearly outline how informed consent will be obtained from all participants prior them undertaking the research study?
5. **Participant Information Sheet (PIS):** Please provide copies of any Participant Information Sheet (PIS) used to inform participants about the nature of the research for review
6. **Consent Form:** Please provide copies of any documentation such as Consent Forms used to obtain consent from participants before taking part in your research.

For an example project including all the above, see here.

Open science

Open science encompasses a number of open practices that aim to ensure that research is widely accessible and can be re-used, and act as a quality control process. The table below lists different open practices and how TeDCog aims to support them. Training on Open Science practices is also part of the TeDCog syllabus.

Open science practice	TeDCog protocol
Pre-registration	We strongly encourage members to pre-register studies, particularly those involving new data collection. There are several templates for pre-registration and you can find a guide here: https://help.osf.io/hc/en-us/articles/360019738834-Create-a-Preregistration A very simple way to create a pre-registration for experimental studies can be found here: https://aspredicted.org/
Open data and methodology	Anonymised data and analysis code accompanying publications from the group should be archived in a secure location (see protocols for data storage and security) and made available for further research. However, before you make data publicly available, check with a more senior member of the team about what to include—there is an obvious trade-off between openness and privacy, and we must safeguard participants' privacy at all times. So for example, typically demographic data will be stored separately from experimental responses and they will not be made public in all cases. Materials and stimuli used in the research should likewise be archived and publicly available unless they are protected by copyright or there are other reasons to prevent that.
Open access	Where possible, research articles should be published Open Access. We also support the sharing of manuscripts on preprint servers (e.g., on PsyArXiv), although it is important to verify that posting on a server does not preclude consideration by your favoured journal(s).

Data storage and data security

The University of Bristol and TeDCog take data security very seriously. It is the responsibility of all group members to ensure the data they work with is used appropriately, kept safe and secure at all times, and in compliance with GDPR and the University's policies and guidance.

Anonymisation of research data.

All research data should be anonymised where possible. Any non-anonymised data or participant information should be collected and stored securely on University of Bristol managed computers and in separate folders from any associated anonymised data. If there is a need to share these data this should be within University-managed systems, e.g. by sharing a password-protected file via University OneDrive accounts. Do not assume data has been anonymised by removing participant names. Combinations of other variables can enable identification of individuals.

Backing up data.

Computers and electronic devices do and (eventually) will fail. To avoid unnecessary trauma from a loss of data, please make sure your work is regularly backed up to a secure cloud server. This can be done through your University OneDrive account, so make sure you know how to use it. In addition, data relevant to any of TeDCog's funded projects should be periodically backed up to a secure shared archive (e.g., Research Data Storage Facility) throughout the project, as advised by the project manager or senior researcher on the project.

Data collection.

All electronic data collection must be done using University of Bristol desktop or laptop computers when storing the data locally. If data is collected online (e.g., via Qualtrics), this should be done through UoB-approved software and the procedure cleared by the University ethics committee. When the online data is exported, it must be saved either to University of Bristol computers or to OneDrive via login to the UoB remote desktop. Raw data should never be saved to personal computers or hard drives.

Any data collected in hard copy (i.e., signed consent forms or paper questionnaires) should be kept secure in University laboratories or offices for the duration of testing. At the end of the study, these data should either be destroyed using the University of Bristol's confidential waste facility or archived for long time storage, as appropriate.

When leaving the group, individuals should ensure that data files and documents are saved securely and accessible by other group members, and no data files or documents are taken away (unless you have permission from senior staff).

Data management for specific projects.

In addition to the procedures above, different projects hosted in the TeDCog group may have data management plans (DMPs) they must adhere to. If you are working under a project, be sure to check if there are specific protocols to follow (e.g., for file naming, data sharing etc.)

Help with data management.

The University of Bristol has a specialist unit to help with all aspects of research data management, including assistance with writing data management plans for research grants (data.bris.ac.uk). Any breach of data protection must be reported immediately to senior group members and/or project managers.

5. Additional resources & training

The group's professional development syllabus covers various useful topics for researchers.

If there are skills you feel you need but are not on the list, please let us know at TeDCog@bristol.ac.uk!

Letters of recommendation / references

You may require a letter of recommendation or a reference from your supervisor(s) for employment or future study. This can be easily arranged, but it will be easier (and quicker) if you do the following:

- Ask your supervisor first if they are willing to be your referee before you put them down (this is a courtesy, but also your supervisor will be less likely to misfile external emails if they are aware they will be coming). When you are asking for a letter for the first time, make sure you allow enough time (> 1 week) for your supervisor to respond. It takes time to prepare a letter and the more lead time the better. (On subsequent occasions, the timing is less critical because the letter will have been written already.)
- If you require an open-ended reference letter, make it easy for your supervisor to write you one that includes what you need in it. For example, think about the contributions you made in the lab or qualities you displayed during your research project that are relevant to the position you are

applying for—after all, you know best what prospective employers will be looking for. Mentioning these to your supervisor may also help jog their memory!

Pure and Explore Bristol Research

Staff and PGR members of the group should maintain their profile page on the Explore Bristol Research website. This page is populated via Pure, the University's research information system and repository of scholarly works. Academics and postgraduate research students (PGRs) use Pure to collate information about their work. Explore Bristol Research (EBR) is the public catalogue of the University's research. Information on EBR comes from Pure. Academic staff must use Pure for Open Access and REF purposes. Post-graduate researchers must use Pure for depositing their Theses. All research outputs must be added to Pure within three months of being accepted and the Pure records must include the acceptance date and the author accepted manuscript.

We ask that all staff and PGR members of TeDCog tag both (i) their own profile and (ii) all new research outputs entered in Pure with the 'TeDCog' structured keyword (Faculty of Life Sciences > TeDCog). This allows all staff/PGR researchers and outputs associated with the TeDCog group to be grouped and displayed in one place.

University of Bristol policies

The University of Bristol has developed policies and strategies that provide information and guidance on important areas of activity. It is the responsibility of staff members and students to familiarise themselves with relevant policies, particularly those relating to good practice and conduct.

Data Protection: http://www.bristol.ac.uk/secretary/data-protection/

Equality, Diversity and Inclusion: http://www.bris.ac.uk/equalityanddiversity/policy.html

Human Resources: http://www.bris.ac.uk/hr/policies/

Research Data Management / Open Data:
http://www.bristol.ac.uk/research/environment/governance/research-data-policy/

Research Ethics: http://www.bristol.ac.uk/red/research-governance/ethics/

Research Governance and Integrity: http://www.bristol.ac.uk/research/environment/governance/

A comprehensive list of the University of Bristol's policies and strategies can be found at:
http://www.bristol.ac.uk/university/governance/policies/

Other resources

The following other resources were used in the creation of this handbook, which might provide useful additional reading:

- The Concordat to Support the Career Development of Researchers:
  https://www.vitae.ac.uk/policy/concordat
- University of Bristol's Induction Handbook for Principal Investigators, freely available to UoB staff who enrol on the associated self-study programme.

TeDCog publications

All publications of the TeDCog group are available on our homepage, which is automatically updated.