

Welcome to the

Group!

This folder contains the most important information about the work group, the laboratory, its rules and work ethics.

Please read the information carefully and adhere to the rules at all times.



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- Maquate, K., Schlieve, C., &, Knoeferle, P. (2020). [Laboratory protocol](#). (March 2020).

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1 Information for new group members

- Please introduce yourself to all members of the group when joining the group.
- Always be kind, polite and patient.
- No matter your position in this group, you are a part of the group and welcome to join group and colloquium meetings, as well as leisure activities.
- Work-related problems and uncomfortable situations of whatever kind: Please approach the people involved personally first and try to resolve potential misunderstandings. Should this first attempt at problem solving fail, please feel free to approach the laboratory manager and / or the head of your laboratory.
- The laboratories are equipped with **highly sensitive and very expensive** devices. Please be sure to handle any laboratory equipment with great care!
- We have very strict rules regarding laboratory protocols and data handling. You must adhere to these rules at all times! We might ask you to do certain things in precisely one way and it can happen that you don't fully understand why we want it done exactly that way. If you don't understand why, feel free to ask.
 - Under no circumstances should you change or even slightly adapt a procedure that has been taught by a member of the group!
 - If you have questions about a procedure or if you encounter a (work-related) problem, ask a knowledgeable person (e.g., lab manager or your project leader).
 - NEVER “just give it a try”, especially not with lab equipment! We are very strict with this and reserve the right to expel anyone from the lab who does not adhere to these rules.
- Be sure you know what to do in the case of unforeseen events in the laboratory before starting to run an experiment (e.g., what do you do if a participant faints or is unwell?)
- For student assistants and interns:
 - If you are running out of work, ask your assigned contact for what to do next.

2 Administrative start and end procedure in the _____ group

These steps can be found in Table 1. Please note: not all steps will necessarily apply to you. Whether a step applies to you or not depends on

- a) whether you are an external researcher or a member of the group
- b) what your position in the group is/will be

Whether a step applies to you is marked by the following abbreviations:

LH = head of the laboratory (principal investigator, professor)

PL = project leader for their / a project within the group (PhDs, postdocs)

assistant=group student assistant working on one or more project/s in the group

stud= BA/MA/Intern, etc. student working on a project in the group

ext= group external researcher / PL

office = office staff looking after signing of forms

lab manager = staff looking after laboratory organization, data management

lab technician = staff looking after laboratory soft- and hardware, data management

Laboratory administration email: _____

Table 1: Overview of the start and end procedure

Step	Applies to...			
	PL	assistant	stud	ext
1. start of work in the group				
1.1. Send inquiry about lab access to LH / lab manager via laboratory administration email.	PL	assistant	stud	ext
1.1.1. Receive lab access form and the entry-exit procedure to follow.	PL	assistant	stud	ext
1.2. Send lab access form back to LH / lab manager via laboratory administration email (if you're the PL of a project; if not, discuss and fill out the form together with your PL) and arrange a meeting with LH / lab manager.	PL			ext
1.3. Assuming LH / lab manager granted you access, sign data protection document, agreement about use of pre-existing stimuli and agreement about use of to-be-collected data. Sign that you have a liability insurance and have been informed about this by office. If applicable, sign internship / guest researcher contract with office.	PL	assistant	stud	ext
1.4. Apply for a computer account. Office can help you to get and fill out the form. The computer account comes with an e-mail address. Its inbox should be checked at least twice a week for important messages and must be used for work.	PL	assistant		
1.5. Introduce yourself to all group members via email and let the group members know how they can get in touch with you (room number and email address).	PL	assistant	stud	ext
1.6. Arrange a meeting with the LH / PL to begin developing your project plan and talk about organizational issues (externals only need to talk about organizational issues).	PL	assistant	stud	ext
1.6.1. For this, email to laboratory administration. In the email, ask:	PL	assistant	stud	ext
1.6.2. which projects/folders on the psycholinguistics server you should be given access to, if any.	PL	assistant	stud	
1.6.3. which mailing lists you should be signed up for with your HU-email address (see Table 1, 1.3.)	PL	assistant		
1.6.4. about getting lab and office keys. If you are entitled to office and / or lab keys, please contact the office. Externals and students are not entitled to permanent keys but can borrow them on a per-need basis (see Table 1, 1.8).	PL	assistant		

1.7. Lab-procedure folder and lab introduction 1.7.1. Obtain folder from lab manager (sign receipt). The folder contains information about work and lab rules. Be sure to familiarize yourself with the folder contents. Hand the folder back and sign for its return. 1.7.2. You will next receive a laboratory introduction by the lab manager. 1.7.3. Familiarity with the lab-procedure folder contents and the laboratory introduction are pre-requisite for lab access. 1.7.4. The labs can be used during _____ days during _____ hours.	PL	assistant	stud	ext
1.8. If you're not entitled to obtain your own lab keys or dongles, you can borrow keys for your testing sessions from _____. In case you need to borrow dongles, you can sign them out from _____.			stud	ext
2. The following applies if you are working on your own project only or are the head of a project (otherwise do the following together with the head of the project).				
2.1. Develop your project ideas, stimuli etc.	PL	assistant	stud	
2.2. Submit your Experiment Plan (see Experiment Plan Template) via the _____ lab page (PL, Master's students) or write your Exposé/Experiment Plan and agree on it with PLs.	PL		stud	
2.3. Before conducting a study, the following steps are mandatory.				
2.3.1. Hand in the final version of Exposé/Experiment Plan → _____ Lab page and Project Folder on Server.	PL		stud	
2.3.2. Implement experiment.	PL	assistant	stud	
2.3.3. Test run with the project group (your PLs) in the lab.	PL	assistant	stud	
2.3.4. You must have worked through the folder (see Table 1, 1.7.1) and provide proof that you have received lab training. If you have not received lab training, schedule it with your group PL and the lab manager.	PL	assistant	stud	
3. Mandatory folder structure for project folder				
3.1. Create a detailed read-me file that explains the contents of the other files and contains the following:	PL	assistant	stud	
3.1.1. Brief description of your experiment(s) and research question → can refer to Experiment Plan	PL			
3.1.2. Describe you design → can refer to Experiment Plan	PL			
3.1.3. Explain how you constructed your lists (including counterbalancing) → can refer to Experiment Plan	PL		stud	
3.1.4. Explain any column / header names in the lists (e.g., "type= this indicates whether the item is a critical item or a filler item, 0=filler item / 1=critical item")	PL		stud	
3.1.5. Explain your analysis steps (preprocessing, filtering, descriptive and inferential statistics).	PL			

3.1.6. Description of the contents of your results folder and how to reproduce the results of the analyses with the included scripts	PL	assistant		
3.1.7. Summary of key results → can refer to Experiment Plan.	PL			
3.2. Also create the following folders.	PL	assistant		
3.2.1. Experiment setup folder: contains all of the files needed to run your experiment(s).	PL	assistant		
3.2.2. Stimuli folder: folder with your final (a) linguistic and (b) visual stimuli (as appropriate).	PL	assistant	stud	
3.2.3. Results folder: contains your analyses and an encrypted folder with the raw data. Encryption of the raw data is mandatory. Note: name the encrypted folder tcc/vcc (depending on the format) followed by “_YOURPROJECTNAME” (e.g., tcc_Gaze_projectacronym_projectleader).	PL			
4. After finishing data collection for an experiment in the lab				
4.1. Send an email with the subject “Please backup my data” to the laboratory administration email (a backup copy of your entire project folder will be made by the lab technician). Note: Older back-ups will be replaced by the latest version).	PL			
4.2. You must provide the exact path name to the project folder!				
5. After publishing a set of experiments from the lab, update your experiment folder (see 3.)				
5.1. Send an email with the subject “Please archive my data” to the lab administration email address about this (necessary so that relevant folder contents can be archived).	PL			
5.1.1. You must provide the exact path name to the project folder .				
6. End of your stay in the group				
6.1. Tidy up your experiment folder(s) (plan on leaving time for this!)	PL	assistant	stud	
6.1.1. See folder structure in 3.				
6.2. Send an email with the subject “I’m leaving, please archive my data” to the laboratory administration email. Specify the exact path of the project folder to be archived.	PL			
7. Upon leaving				
7.1. Meet with the laboratory technician and project leaders to explain the contents of your experiment/project folder	PL	assistant	stud	
7.2. Send a good-bye email to all group members so they know you are leaving. This email should include the date of your last working day in the group.	PL	assistant	stud	ext
7.3. Return your office keys to _____ and notify the office/ about it.	PL	assistant		
7.4. Return any borrowed equipment, dongles, lab keys, Laptop etc. to the lab technician / lab manager.	PL	assistant	stud	ext

<p>7.5. When the lab technician has received your good-bye email and your last working day has passed, he will inform the computer-service to delete your access on the psycholinguistic server. He will also delete your official email from the mailing lists.</p>	<p>PL</p>	<p>assistant</p>	<p>stud</p>	
<p>8. Applies to lab technician and lab manager 8.1. Backup version of project folder once data collection is finished. 8.2. Move project folder to Archive at project end after inspecting it together with PL and LH.</p>				

Additional note: Always keep your Experiment Plan up to date! Before running a study, all hypotheses must be clearly specified and the data preprocessing and analysis steps must be laid out in detail. You're only allowed to start data collection after LH / PLs approved the Experiment Plan. After data analysis, also include a summary of your results in your Experiment Plan. In case you deviated from the data analyses laid out before data collection, you need to mark these analyses as exploratory!

In your read_me file, always refer to your Experiment Plan!

3 Lab rules

(applicable to all labs of the _____ group; see Appendix 1 for a specific eye-tracking laboratory example)

- No food or drinks in the labs. Water is allowed if placed 2 m away from equipment!
- **Entering the lab and safety**
 - Knock in case someone forgot to put the „do not disturb“ sign up.
 - Put the “Do not disturb” sign up while testing!
 - Lock the door each time you’re leaving the lab.
 - You must lock participant information in a cabinet/drawer at all times!
- **Setup**
 - Do not change the default setup, do not save files/data in locations not agreed upon.
 - You are not allowed to install software or change hardware!
 - NEVER connect the participant or experimenter PC to the internet!
 - You can use your own laptop (eduroam) or the additional PC in the lab.
 - Minor temporary changes must all be agreed upon; any changes to the default setup (additional items in the lab, chair adjustments, etc.) must be set back to original state/removed before leaving the lab.
 - If you encounter problems with the equipment, contact us immediately!
 - _____
 - _____
 - _____
- **Leaving the lab and safety**
 - Make sure the lab is clean and tidy when you leave!
 - Double-check that power is disconnected, windows are closed, light is off, sensitive participant information/money is locked away, etc. before leaving (for specific details see “lab rules” folder available from _____).

We reserve the right to expel anyone from the lab who does not adhere to these rules.

4 Data handling and data protection rules

Be sure to follow these rules!

1. Information that can identify a participant (e.g., signature, name, picture) must be stored separately from collected data and from any codes assigned to the participant.
2. Participants can ask to have their data removed until they leave the lab; later, this is not possible since data is fully anonymized.
3. Participants must sign receipt of payment.
4. Signature list must be in chronological order to make sure participant signature-data matching is impossible, since participant codes are assigned randomly.
5. According to our data protection agreement, no experiment data may remain on the laboratory PCs → Do NOT leave any collected data on the lab PCs!
6. Since the lab PCs are not connected to the internet, the data must be transferred for analysis via a USB stick which contains an encrypted folder.
7. After moving collected data from the laboratory PC, the data must be encrypted using software. For information on this please contact the laboratory manager / technician.
8. In the labs, additional PCs with an internet connection are available that can be used with a university account to transfer data.
9. According to the current data protection guidelines, employees store their data (encrypted) in designated folders on the server (drive _____).
10. External lab guests act in line with local data protection guidelines and according to the data protection guideline of their employer.
11. Each laboratory has a hard-copy "lab booking plan". Please fill in your name, date, the start- and end time of your lab time. If a sheet is full please contact the lab technician.

4.1 Login to lab PCs

1. There are different user accounts for logging into the Lab PCs. Some user accounts have administrative rights, the user account for the lab guests has no administrative rights.
2. Please use the (correct) account, assigned to you by the laboratory manager.
3. Saving your experiment (data): First, create a subfolder (labeled "first name_lastname") in the folder _____. Then save your experiment and data. **Don't store any files elsewhere!**

4.2 Guests: Deployment of experiments in the Eye tracking lab

Experiments developed under the Experiment Builder Software from SR-Research should always run deployed and with administrative rights to achieve the best (timing) results. To achieve this also for the lab-guests (not logged in as administrator) we use the "runaspc" tool. To use runaspc: Please contact the lab technician when you have finished deploying **but with time to spare** before you start testing participants.

5 Description of participant forms

We have a set of forms for running studies and collecting data. If you are a member of the _____ group, you must use these forms. You should familiarize yourself with all of these forms before running your experiment. They contain important content regarding the research and a participant's right. You are their first point of contact and responsible for interacting with them as the experimenter.

Before data collection starts, each participant gets a

1. Participant information sheet

- You have to tick the boxes that apply to your experiment and insert the name of the project. This information sheet informs the participant about the research, what s/he might be doing in the study and how we handle our data. **Offer the participant a copy of the information sheet.**

2. Informed consent form

- Here you have to tick the boxes that apply to your experiment, insert the project's name and sign it. The participant has to read the consent form and you have to make sure they understand it. Answer all further questions the participant may have. Then ask the participant to also sign the consent form and put it in its designated folder. Depending on data protection agreement, both you and the participant keep a signed copy.

3. Demographic questionnaire

- Here you insert the participant's code first. Then hand it to the participant and ask her/him to fill it out. If it's an eye-tracking study, ask the participant if s/he knows what her/his dominant eye is. If the participant does not know, explain and do the test.

During data collection you have to fill out the

4. Experimenter sheet

- This is for your (experimenter) use. Fill in the participant and experiment details. Then take detailed notes about the data collection process. This could for example be information such as: Did you have to re-calibrate? Were there any problems (if so, which ones, e.g., did the participant move a lot; did the participant have problems with understanding the task?).

After data collection, the participant gets the

5. Post-experiment questionnaire

- Fill in the participant code and the date and hand it to the participant to fill out. The participant notes what s/he thinks the experiment was about, any strategies s/he used, any pattern s/he noticed and if anything struck them as odd.
- Debrief the participant about the experiment.

6. Receipt of payment

- Before the participant leaves ask her/him to sign that s/he has received the monetary reward/course credit. Signing should be in random order, so that it won't be possible to determine the participant code from the order of entries in the sheet.

After the participant has left, fill in the participant code on all of the forms, and store the forms in their corresponding folders. Make sure that the consent form is stored separately from any forms that contain a participant code.

6 How to use the lab calendars

- We use Google calendar for lab bookings and to indicate working hours of student assistants.
- At the start of each semester, lab members are assigned times for testing in the laboratory; contact: admin email.
- If you need access to a calendar, send a request to the laboratory admin email.
- When using the calendar, you are required to use the following structures:
 - Indicate whether you're testing (collecting data), setting up an experiment or pre-processing data in the following ways.
 - YOUR NAME testing?? → slot size =length of **reserved** slot (e.g., 8-12am)
 - YOUR NAME testing → slot size= length of **confirmed** experimental session (e.g., 9-10am)
 - YOUR NAME set up → signals you're in the lab but don't have a participant
 - YOUR NAME Data Viewer/Presentation/Experiment Builder → signals you're using these programs in the lab but don't have a participant
- When using the calendar
 - Only book slots at agreed-upon times in the laboratory semester schedule
 - If in need of additional slots, send a mail to the laboratory admin email.
 - Delete slots you don't need after all, even on short notice!
- Software dongles
 - Additional dongles for software may be borrowed for use outside of the lab. They are also booked via the calendar (email to laboratory admin address to request access) and can be borrowed from the lab technician.

7 Obtaining a university account and project folder access

Ask the office for help with getting a university account. These are the steps you need to take:

University account

1. If you're joining the group as new member, you will need a university account.
 - a. You will have to get a personnel number.
 - b. Then you can get a university login.
 - c. You also need an organizational number (classifying the department you belong to)
2. Next, fill out the form that applies to you (student or employee). See here for more information: [LINK](#)
3. This form needs to be sent via internal post to the IT and media service department. You will receive a password via post (the letter will be sent to you).
4. After you have received the letter with your account name and password, you need to inform the laboratory technician about your user name and your email address. He will inform the computer-service to give you access to the project folders (see 1.5.2 in the administrative start and end procedure).
5. If the university is unable to assign you a personnel number (for example, if you only attend a project seminar), our local IT representative can assign you a so-called "In-house account". With this you also have access to the server. Please make sure that you check the inbox of your HU "In-house account" at least twice a week for new messages. Please inform the laboratory technician if you need an "in-house account". He contacts the local IT representative and informs you about the login-information upon creation of the account.

8 Experiment Plan

Project group: NAMES, ROLES (who is involved in what capacity in what experiment, order of authors)

BRIEF DESCRIPTION OF
RESEARCH QUESTION AGAINST STATE OF THE ART;
MOTIVATION
HIGH-LEVEL PREDICTIONS

#####

Experiment N (N=NUMBER OF EXP)

KÜRZEL: PROJECTFOLDERNAME_N

Participants: NUMBER, AGE RANGE, MALE/FEMALE RATIO

Critical items: NUMBER

Filler items: NUMBER

#####

Design:

INDEPENDENT VARIABLES

DEPENDENT VARIABLES

#####

Example critical item

Critical region 1:

Critical region 2:

...

Example critical item

Critical region 1:

Critical region 2:

...

#####

ONLINE TASK:

ONLINE MEASURE(S): eye-tracking

POST-TRIAL TASKS:

POST-TRIAL MEASURE(S):

POST-EXPERIMENT TASK:

POST-EXPERIMENT MEASURE(S):

#####

Pretests:

DESCRIPTION
PRETEST 1 – ...
PRETEST 2 – ...
EXPECTATIONS

#####

MAIN EXPERIMENTS Hypotheses (operationalized, within-participants)

Experiment 1

Table 1: **NULL HYPOTHESIS**
Table 2: **ALTERNATIVE HYPOTHESIS (AH) 1**
Table3: **AH 2**
Table 4: **AH 3**

Predictions regarding any between-participant variables

#####

Lists: DESIGN OF THE LISTS

Description; including explanation of counterbalancing and repetitions

#####

ANALYSES: HOW ARE YOU GOING TO ANALYSE THE DATA?

WHAT TYPE OF DATA?
WHAT ASSUMPTIONS MUST BE VERIFIED?
WHAT STATISTICAL MODELS WILL BE USED?
OMNIBUS TESTS FOLLOWED BY
POST-HOC OR
PLANNED CONTRASTS?
LMER, WHAT REFERENCES IN THE LITERATURE DO YOU FOLLOW? HYPOTHESIS TESTING OR
MODEL COMPARISON?

#####

Potential problems

??

Appendix 1

Eye-tracking Laboratory Rules Lab

Please read these rules carefully before using the lab. We reserve the right to expel anyone from the lab who does not adhere to these rules.

1. LABORATORY ACCESS

- **Use of the laboratory and its equipment without prior consent by NAME LAB HEAD is not permitted.**
- If you would like to use the lab and its equipment, please address your request to _____ at email _____@_____

2. RULES OF CONDUCT

If you have been granted access to the laboratory as specified in Table 1, 1., be sure to follow the lab rules

- When arriving, knock and enter carefully in case someone forgot to put the “Experiment” sign on the door – don’t forget to put up the sign if you’re experimenting.
- **No food** anywhere in the lab; no liquids within 2 m of any equipment! Only water is allowed in the lab. Definitely no coffee/tea or hot cocoa.
- The **default setup** is as you see it now. **DO NOT CHANGE ANYTHING.** Failure to **ADHERE TO THIS RULE** will result in exclusion from lab access.
 - **Temporary adjustments** (e.g. moving chairs, adjusting tracker settings)
 - **must be set back to the original state before leaving the lab** (remember, someone else’s experiment may depend on the exact configuration!).
- If you notice any **problem** with the equipment, please get in touch with _____ at once, so we can fix it as soon as possible.
- Lock the door any time you leave the lab, even if it’s only for a few moments.
- **When you’re done for the day:** switch off the computers, lock the filing cabinet, put your materials away, **disconnect power**, switch off light, lock door.
 - Please tidy up when you leave, so the lab looks exactly as it did when you came in.
 - Save files into your own folder, not on the desktop.

MEMBERS OF THE _____ GROUP:

- Don’t forget to encrypt your newly collected data and store it in the relevant folder on the server
- When your data collection (for one experiment or your whole project) is complete, notify _____ for a backup (see Table 1, points 4., 5., & 6. in the administrative start and end procedure)

LABORATORY GUEST USERS:

- If you have been granted access to the lab for data collection, please keep in mind to **only book the lab during the slots that were agreed upon beforehand.**

- **If you are in need of additional slots or to change the slots**, please contact _____.
- **Please also be aware that members of the _____ group are granted priority access to the lab.** This might for example mean that we reserve the right to block the lab for one or two weeks if in need.
 - However, we will always inform you **at least 2 days in advance** if we have to change lab bookings.

EVERYBODY:

- **Keep ANY participant data locked up** securely at all times.
- **Please adhere to the data protection document, and the DSGVO (Datenschutzgrundverordnung, ‘General Data Protection Regulation’) and make sure all your data processing steps are in line with the current rules.**
- Use the google calendar to **book the lab** (ask _____ for details), but please delete bookings you don’t require after all (even at short notice – someone else may be glad about the slot). **Please also note whether you are collecting data, setting up an experiment or pre-processing data** (using Data Viewer). Use the following codes in the calendar:
 - YOUR NAME testing → signalling that you booked the lab and have a participant coming (slot size in the calendar has the duration of your experiment)
 - This can overlap with the “lab booked but no confirmed participants yet”
 - YOUR NAME testing ?? → signalling that you booked the lab but don’t have any confirmed participants yet (slot size has the size of your reserved time slot, e.g., from 1-5pm).
 - YOUR NAME set up → signalling that you’re setting up/modifying an experiment/using the lab but don’t have a participant
 - YOUR NAME Software → signalling that you’re using Software in the lab but are not testing
- We have a standardized set of forms (participant lists, consent forms, payment receipts,...) which you should use unless there is a reason not to. If you’re not a member of the _____ group you may use your own forms as long as they are in line with our data protection plan.
- The host and participant PCs are not connected to the internet (AND SHOULD NEVER BE CONNECTED!) but you can either use your own laptop (and connect to eduroam) or the other PC in the room (this PC, however, can be only used with a valid University account).
- We have an additional dongle which can be used for data processing (Data Viewer). You can borrow this dongle for a few hours each day or over the weekend. You can book the dongle via Google Calendar (please speak to _____ if you’d like to book the dongle).

Good luck and happy experimenting!