

Covid-19 Protocols LUCL Labs

Protocol for research with human participants

Date: 19 June, 2020

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1 Introduction

Work conducted in the experimental linguistics labs of the Leiden University Centre for Linguistics (LUCL) focuses on non-invasive psycholinguistic research, meant to answer questions about how language works in the brain: how it is produced, how it is understood, and how it is learned. To this end, we employ techniques that pose no harm to our participants, including eliciting recorded responses (i.e. behavioral reactions, such as verbal reactions, eye movements, or button/keyboard presses) and collecting brain responses (via electroencephalography; EEG). While our research methods are non-invasive and non-harmful, specific measures are taken to ensure that bacteria and viruses, especially COVID-19, are not transmitted via the equipment used, or via experimenters and participants.

Many of our methods are similar to those in use in the Faculty of Social Sciences. The protocols included in this document are therefore also in line with, and act as a building-specific appendix to, the protocols created by SOLO, the support branch of the Faculty of Social Sciences, with input from the VGM, the department of Safety, Health, and Environment, and approved by the CCT, the Central Crisis Team (**Meekel, Donner & van Boxel, [Onderzoek in tijd van COVID-19, Richtlijnen mensgebonden onderzoek op FSW, 18-06-20; Appendix 1](#)**)

The approved version and subsequent updated versions of both of these protocols, and accompanying appendices, will be distributed to all LUCL members and available via the [LUCL Labs Sharepoint](#).

2 Planning and Canceling Appointments

- To ensure each room's maximum capacity is respected at all times, access is granted for the labs by appointment only for all users. This includes BA and MA students, Research assistants, PhD candidates, Postdoctoral researchers, and Senior researchers.
 - Appointments can be made by researchers and are monitored by the Lab Manager via the [LUCL Labs Sharepoint calendars](#).

2.1 Additional information for participants

- Experimenters will provide additional information related to COVID-19 measures upon planning an appointment. This includes:
 - COVID-19 Information sheet (see Appendix 2 for a template from FSW)
 - Map of building walking routes and waiting areas (Appendix 3)
- Participants are instructed during planning to arrive on-time (not too early) for their appointments. If they are on time and their experimenter is running late with a previous experiment, they are asked to wait either outside the building, or in the waiting room at 1,5 m distance from others (see section 3.2 and Appendix 3)

2.2 Triage

The role of triage is to assess whether experimenters or participant could be ill ahead of an interaction, and thus significantly reduce the probability of transmission. Reducing instances

of contact between people with symptoms is essential in allowing research to go on in a manner that is as close as possible to that of the past. If experimenter and participant are symptom-free and healthy, a face-shield has not been deemed necessary by VGM.

- If either experimenter or participant has one or more COVID-19-related symptoms 1 working day before the experiment, or on the same day of the experiment, the appointment must be canceled. An appointment may be rescheduled after experimenter and/or participant has not had symptoms for 24 hours or received a negative COVID-19 test result.
 - A screening questionnaire (Appendix 4) should be administered twice before the experiment can take place, at the following moments:
 - 1) 1 working day before the experiment
 - 2) On the day of the experiment before entrance to the building
 - Participants are explicitly informed that they should contact the experimenter if they develop symptoms up to 3 days after the appointment.
 - Experimenters who have been alerted that their participants are ill with COVID-19 or related symptoms within 3 days of having visited the labs, should alert the university doctor (bedrijfsarts), and be tested for COVID-19 at the GGD. The bedrijfsarts will inform the LUCL anonymously if there is a case of infection.
 - Experimenters may administer the triage questionnaire up to 3 days after the appointment to ensure this information is properly relayed.
 - Depending on the preference of the experimenter, the questionnaire can be administered by phone or via a secure Qualtrics survey with a unique link per participant that will allow the researcher to follow up and cancel the appointment.
 - The triage questionnaire must be administered in full.
 - The results of the questionnaire are not stored, for reasons of privacy.

3 Welcoming Participants and Waiting Areas

3.1 Accessing the Labs

- The labs can be reached by following the clearly-marked, one-way routes inside the Lipsius building.
- A maximum capacity for each lab room is set and marked clearly on the door. The maximum capacity must not be exceeded.
- A map of the labs and the waiting area, indicating where researchers and participants may sit, has been drawn by Willemijn Matze of the IFZ department. Appropriate measures are taken to ensure 1,5 m distance can be ensured in each room main room. These maps are attached as Appendix 3.

3.2 Waiting Room (Lipisus 1.11)

- Experimenters are responsible for cleaning the tables and chairs of the waiting room after each of their participants using **Wecoline Clean n' Easy wipes** (see section 4.2).
- Max. capacity waiting room: 3 people.
 - If max. capacity is reached, participants are asked to wait outside the building.
 - A sign is placed on the door to inform all users of these rules.

4 General Hygiene

Some personal and equipment hygiene measures apply for all labs.

4.1 Personal hygiene

- Experimenters should follow the flow-chart for decision making of general hygiene measures for **persons** (Appendix 5).
- Experimenters and participants wash their hands before and after each experimental session.
 - EEG- and Eye-tracking lab have sinks with running water and soap
 - Baby lab and Phonetics labs have disinfectant hand gel (hand sanitizer)
- Experimenters and participants maintain a 1,5 m distance as much as possible. If this distance can be maintained, no additional measures are necessary (Appendix 5).
 - Exchange of paperwork, pens, and other equipment should be minimized, e.g., through use of online questionnaires and forms.
 - Paperwork that must be exchanged (e.g., signed consent forms) should be placed for the participant and left behind by the participant in a specific place.
 - Other objects that must exchange hands must be disinfected. Specific guidelines are in place in each of the below sections.
- Experimenters minimize their interaction with participants inside the sound-proof booths (where 1,5 m distance cannot be maintained) as much as possible.
- When both experimenter and participant must be in the booth together, e.g, for equipment calibration, the experimenter must wear medical-quality masks, type IIR ([example](#)) and disposable gloves, both already available as part of the standard LUCL Lab equipment.¹
- Experimenters may remove the masks and gloves only while the experiment progresses and they are outside of the experimental booth. Whenever they need to enter the experimental booth to interact with the participant, they will use the gloves and face masks.
- Visual instructions for proper mask use will hang on the wall in each lab ([example](#)).

4.2 Equipment hygiene

- Experimenters should follow the flow-chart for decision making of general hygiene measures for all **equipment** (Appendix 6).
- Experiments taking place inside the sound-proof booths should allow the booth to be empty for a period of at least 10 min. in order to allow for proper ventilation. The ventilation system, present in each booth, should be turned to maximum power. In the event of a malfunctioning ventilation system, the door should be left open for ventilation.
- Auditory stimuli are presented via speakers instead of headphones as much as possible.

¹ An exception is in place for interactions in the baby lab. While gloves should be used by experimenters, masks may cause alarm in babies. Instead, distance is kept and a plastic face-shields are used inside the booth. Additional face masks can be worn at the request of the parent/caretaker. The researcher discusses the preference of the parent over the phone / via email when setting up the appointment.

- All microphone/headphones are covered with disposable hygiene covers that are thrown away after each use ([example](#)).

4.2.1 Cleaning Solutions

- The following are disinfected by the experimenter using [Incidin Oxy wipes](#) after each experimental session:
 - Eye-tracking chin / head rests
 - EEG head measuring tape
 - EEG plastic gel-administering “[syringe](#)” pumps (no needle or skin piercing)
- The following are cleaned by the experimenter with [Wecoline Clean n’ Easy wipes](#) after each experimental session:
 - Door and door handle
 - Desk/table
 - Chair
 - Keyboard
 - Button box
 - Mouse
 - Monitor
 - Switches from light/ventilation/heater
 - All other used materials that exchange hands (e.g., pens, cable, toys, books, music player, portable recording devices)
- The following are first cleaned by the experimenter using soap and water, followed by disinfecting using [Incidin Plus soak](#):
 - EEG electrode bundles and leads
 - EEG caps and chin straps
 - EEG combs and hair ties

5 Additional Measures Per Lab

5.1 EEG Lab (Lipius 1.04)

Brain activity in response to auditory and/or visual stimuli is measured in real time using EEG. This method involves electrodes placed on the face and on the scalp (of the head by an electrode cap).

- Electrode caps and electrodes and any materials that come in contact with the scalp and face will continue to be disinfected as normal, first with a combination of soap and running water, and second with a 15-minute soak in diluted **Incidin Plus** disinfectant solution. (Most recent procedures approved by inspection of Els Vijfvinkel, UFB, 11/2019).
- Equipment that cannot be soaked for cleaning must be cleaned with **Incidin Oxy wipes** or **Wecoline Clean n’ Easy wipes** after each session. See section 4.2.1 for appropriate solution per item.
- Open windows during welcome period, if weather allows, to ensure sufficient airflow.
- Capping the participant:
 - Measuring and placing the cap is done in the main room with window open, if weather allows.
 - Max. two other people may be present in the room during this time and keep 1,5 m from experimenter and participant during this time.

- Experimenter wears an IIR face mask and gloves during this time.
- Connecting electrodes and calibration must be done in the experimental booth with the participant. Therefore, the experimenter must wear a mask and gloves.
- Max. capacity main room: 4 people
 - Scenario 1: 1 researcher on each of the 4 experimental/analysis PCs, no participants
 - Scenario 2: 2 experimenters, each with 1 participant = 4 people
- Max. capacity testing booth: 2 people (1 experimenter + 1 participant)

5.2 Baby Lab (Lipsius 1.10)

Infant research conducted in the lab takes the form of measuring behavioral responses of infants to visual and/or auditory stimuli inside the sound-proof experimental booth. Infants sit on the lap of a caretaker during the experiment.

- Although experimenters minimize their interaction with participants inside the testing booth, there are instances where the experimenter must enter the booth:
 - To begin a video recording -- the experimenter enters before the parent and child, begins the recording, exits the booth, and then allows parent and child to enter on their own.
 - To end a video recording – the experimenter allows the parent and child to exit the booth and sit in the main room, then after a few seconds enters the booth to end the recording.
 - To place headphones playing masking music on the parent’s head and the portable music player on the floor, and to adjust the volume of the audio -- Parents cannot do this themselves, as they must hold the baby. The experimenter wears a plastic face-shield and gloves.²
- Equipment must be cleaned with **Incidin Oxy wipes** or **Wecoline Clean n’ Easy wipes** after each session. See section 4.2 for appropriate solution per item.
- Max. capacity main room: 3 adults and 1 baby
 - Scenario 1: 2 researchers, 1 parent, 1 baby
 - Scenario 2: 1 researcher, 2 parents, 1 baby
 - *Additional children (older siblings) cannot be welcomed until COVID-19 measures are fully relaxed, as this requires an additional researcher to be present, causing an exceeding of the maximum capacity of the rooms. Experimenters must make this clear when planning an appointment.*
- Max. capacity testing booth: 2 adults (1 experimenter, 1 participant), 1 baby

5.3 Eye Tracking Lab (Lipsius 1.04)

The eye tracker is a mechanism that measures participants eye movements in response to auditory and/or visual stimuli. It does so by shining a near-infrared light (not visible or harmful to the participant) into the eyes and measuring the reflection from the eyes. Participants’ heads are stabilized using a chinrest and for some experiments they must indicate responses using a keyboard or button box.

² See footnote 1.

- When placing eye-tracker stickers on participants' face, the experimenter must wear a mask and gloves (1,5 m distance cannot be maintained).
- Equipment must be cleaned with **Incidin Oxy wipes** or **Wecoline Clean n' Easy wipes** after each session. See section 4.2 for appropriate solution per item.
- Max. capacity main room: 3 people (2 experimenters, 1 participant)
- Max. capacity testing booth: 2 people (1 experimenter, 1 participant)

5.4 Phonetics Lab (Lipsius 1.07)

The phonetics lab is a multi-purpose room. It is used for teaching, making audio recordings or conducting auditory experiments inside the sound-proof experimental booth, or for acoustic analyses at one of the computer workstations. A typical experiment involves reserving the entire room, to ensure quiet can be maintained, while analysis can usually be conducted by multiple people using the room at the same time.

- Open windows during welcome session, if weather allows, to ensure sufficient airflow.
- Experimenters minimize their interaction with participants inside the testing booth. When both must be in the booth together, for equipment calibration, the experimenter must wear a mask and gloves.
- Equipment must be cleaned with **Incidin Oxy wipes** or **Wecoline Clean n' Easy wipes** after each session. See section 4.2 for appropriate solution per item.
- In studies involving listening and reacting to auditory stimuli, hygiene is ensured by headphone covers and by participants wearing gloves when touching button boxes / keyboards.
- Max. capacity main room: 6
 - Scenario 1: 1 experimenter, 1 participant, 0 additional occupants
 - Scenario 2: 1 experimenter, 1 participant, 4 additional researchers on analysis PCs
 - Scenario 3: 6 researchers on analysis PCs
 - Max. capacity testing booth: 1 experimenter + 1 participant