

LAB PROTOCOL

Action plan for carrying out experimental research
during the COVID-19 pandemic

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1. Background

Since its genesis in late 2019, the COVID-19 pandemic has impacted the lives of virtually all humans, and academic researchers were no exception. Within the Department of Experimental and Applied Psychology of the Vrije Universiteit Amsterdam, all experimentation (with the exception of online studies) was ceased in early March 2020, following regulations released by the Dutch government.

By virtue of the strong measures taken then, current forecasts permit the re-opening of schools, institutions and facilities as of June 2020. Institutions that are brought back into operation will nonetheless have to commit to a number of rules and guidelines, outlined by the Dutch National Institute for Public Health and the Environment (RIVM). These rules are susceptible to change as the pandemic continues to be closely monitored nationally and globally.

As it stands, recommencing experimentation at our testing facilities of the Transitorium is feasible but will nevertheless pose a number of challenges. The goal of the present protocol is to specify the conditions under which our labs can be safely re-opened to participants and employees. It is tailored to the latest national policy, and has been designed such that (i) the current requirements for operating a public facility are adequately met; and (ii) some flexibility is retained to accommodate eventual changes in policy.

2. Principal objectives

Four principal objectives form the foundation of this action plan. All measures and precautions (Sections 3 to 8) are derived from these core conceptions. In all, the protocol should ensure that:

- Physical contact among participants and experimenters is avoided, and any interaction should respect the 1.5m distance (with the exception of electro-encephalographic research, where contact will be kept at minimum).
- Participants spend as little time as possible in the building, and walk pre-specified routes to avoid interaction with other individuals.
- Participants and researchers are well-informed and feel legitimately safe.
- The way we operate our facility is in accordance with the latest national and local policy.

3. The Transitorium building

Our testing facilities are situated on the two basement floors of the Transitorium. Both floors can be reached via two stairwells: one near the building's front entrance, and one near the building's back entrance. On each floor, all testing rooms are connected by a single corridor. The two stairwells permit entry to and exit from the corridors (see Fig.1 below).

To comply with the current RIVM guidelines, the building will be adapted in the following way:

- As each floor consists of a single corridor, we have predefined *one-way walking routes* (Fig.1). This facilitates maintenance of a 1.5m distance for all participants before and after experimentation.
- The one-way walking routes are indicated with arrows (made with tape) on the floor. Arrows are placed every 1.5m, so that visitors have clear visual cues for maintaining the 1.5m distance.
- Signposts indicate the routes to individual testing rooms. Three signposts are placed in each stairwell (one on each floor, including ground floor) and eight additional signposts are distributed across the eight corners of the underground corridors.
- The stairwells are included in the routing plan. Visitors enter the testing facilities via the front stairwell, and make their exit via the back stairwell and the building's back door. The elevator is not part of the routing plan.
- The routing plan is shown on posters that are on display in the Transitorium and is also digitally distributed to participants (see Appendix). Thus, participants can come mentally prepared.
- To avoid congestion, lab schedules will be reduced (see Section 4). This circumvents the need for waiting rooms.
- Hand sanitizing stations are installed at the testing room entrances (see Sections 5 and 7).

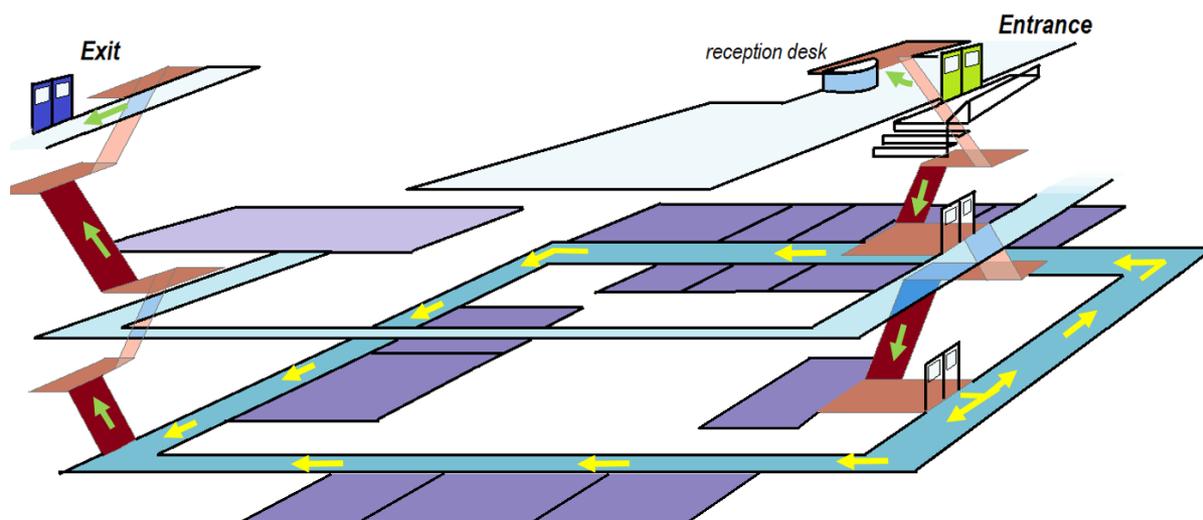


Figure 1. Plan of the Transitorium's underground floors. Arrows indicate the walking route. Stairwells are shown in red, corridors are shown in blue, and testing rooms are shown in purple.

4. Reduced lab schedules

Several measures are implemented to reduce the influx of participants by approximately 65%. As such, the 1.5m distancing rule, as well as the precautions to maximize hygiene and prevent cross-contamination, can be properly maintained.

- Testing rooms comprising fewer than 8 testing cubicles¹ will be used by no more than one experimenter at a time. Testing rooms comprising at least 8 cubicles will be operated by no more than 2 experimenters at a time.
- In testing rooms with fewer than 8 cubicles, a single participant per experimenter is tested at a time. In rooms comprising at least 8 cubicles, no more than 2 participants per experimenter are being tested simultaneously. In these specific cases, the experimenter will make sure that the participants exit their testing cubicles asynchronously.
- 15-minute gaps are scheduled in between experimental sessions to avoid congestion in the corridors, and to allow the experimenter to clean the testing equipment.
- Participants can only participate by making an appointment beforehand through the VU Sona system.²
- Prior to the COVID-19 outbreak, the majority of participants were students participating for course credit. For the time being, students have been given an extra year to fulfill the course credit requirements. This will likely cause a heavy reduction in the number of sign-ups.
- Experimenters have access to digital lab schedules in Outlook. Every participant booking is entered in the schedule. In addition, the experimenter enters their lab presence in the departmental calendar. If demand exceeds capacity, scheduling will be overseen by the specific lab coordinator, listed at the end (Section 7).

5. Researchers

- Researchers will schedule appointments as per above (Section 4). Researchers (i) don't have, or haven't recently had COVID or COVID-related symptoms, and (ii) haven't (to their knowledge) been in contact with persons who have or recently had COVID or COVID-related symptoms in the last week. If they do, they will cancel or seek replacement for any testing appointments, and will not come to the VU.
- If symptoms develop during the day, any further testing is canceled and the experimenter goes home. Prior to a testing session, experimenters wash their hands thoroughly (using the sinks in the basement). Also between participants, experimenters sanitize their hands (either washing or using the sanitizing stations). The same goes after any toilet use.
- Researchers will

¹ Testing cubicles are confined spaces wherein participants are seated during data collection.

² <https://vu.sona-systems.com/>

- Researchers will report any circumstances that make it difficult or impossible to comply with the protocol, or that otherwise jeopardize the safety of participants or employees, such as running out of supplies, crowding, or inappropriate behavior. The COVID-coordinator for the labs is listed at the end (Section 7).
- Researchers carry the responsibility to adhere to a culture of safety with regards to participants as well as colleagues, and will call each other to task on this. Severe or consistent breaches of this protocol will lead to suspension of testing for the researcher involved or for the lab as whole.

6. Experimental procedures

In this Section, the procedures prior to, during, and after each experimental session are outlined in detail. Separate procedures are specified for behavioral studies (including eye-tracking) (Section 6b), and EEG studies (Section 6c), respectively.

6a. Before the experiment

- Upon signing up for an experiment, participants receive standard instructions through e-mail. They are asked to confirm that they (i) don't have, or haven't recently had COVID or COVID-related symptoms, and (ii) haven't (to their knowledge) been in contact with persons who have or recently had COVID or COVID-related symptoms in the last week. They are requested to cancel the appointment as soon as either of these criteria is not met. Participants also receive a digital copy of the poster containing general info (see Appendix).
- A checklist will be available with the most important steps The researcher has the checklist ready for him- or herself to fill in.
- Upon entering the testing room, participants are asked the same questions again by the experimenter. Infrared (no-contact) thermometers are used by the experimenters from a safe distance to verify that participants do not have a fever. Participants with any other visible signs of a cold, e.g., runny nose, will also be sent home. Experimenter requests participant to use hand sanitizing station when entering the lab.
- Toilet use is allowed (also during and after the experiment). Naturally, this is followed by hand washing.

6b. Behavioral studies (incl. eye-tracking)

- After initial intake, participants are directed to a testing cubicle, where a digital consent form, a digital payment form, *and* the experiment program itself are already put in place.
- In behavioral studies, the experimenter will never be in the cubicle at the same time as the participant. The digital forms as well as the experiment are made self-explanatory. Participants are instructed to stay seated and call the experimenter if anything is unclear.

The experimenter will then proceed to open the cubicle door—while maintaining a safe distance—to instruct the participant verbally.

- Although eye-tracking experiments are treated in the same way as any other behavioral experiment, it should be noted that the use of tower-mounted eye-trackers is avoided. This is because tower-mounted setups comprise a glass screen that is located close to the participant's face (imposing a risk of cross-contamination). Therefore, any tower-mounted Eyelink eye-tracker is replaced by a normal Eyelink eye-tracker (see Section 6).
- All behavioral experiments end with an instruction screen requesting the participant to exit the cubicle and follow the arrows towards the exit of the building. In rooms comprising at least 8 cubicles (i.e., rooms where multiple participants may be tested simultaneously), participants are instructed to wait until the experimenter tells them that they can exit the testing cubicle.
- The experimenter then proceeds to clean equipments. During cleaning, experimenters will wear dispensable gloves and a mask, and are equipped with an alcohol solution spray and dispensable wipes to clean the keyboards, response boxes, desk surface, armrests, chinrest and doorknobs. The dispensable towel used as chinrest protection, and the dispensable headphone cover (if the experiment uses auditory stimulation), are replaced.
- Lastly, given that not all cubicles are used in each testing room, experimenters have the option to clean the testing cubicle while the next participant is seated in another testing cubicle. Note also that, in rooms occupied by more than one experimenter, experimenters are seated at a distance of no less than 4m from one another.

6c. EEG studies

- In electro-encephalographic (EEG) studies, the experimenter has to tread within the participant's 1.5m space. Therefore, extra safety measures are warranted.
- In terms of human interaction, EEG experimentation is quite analogous to a visit to the hairdresser. We therefore model our safety measures after those currently used by hairdressers: the experimenter wears dispensable gloves and a face shield when administering scalp electrodes. The electrode application process will be performed in a different area from the recording, and the experimenter will spend as little time as possible in the recording area. After the application of electrodes, experimentation will proceed in the same way as it would in a behavioral study (Section 5b).³
- When an EEG experiment is finished, the experimenter enters the cubicle, again wearing dispensable gloves and a face shield, to remove the electrodes. When the electrodes have been removed (and are hung on the wall adjacent to the cubicle), the participant is directed to the testing room's sink, where the participant can wash hands, hair and face. The participant will then proceed to exit the building as he/she would after a behavioral experiment.
- The experimenter will proceed to clean anything s/he and the subject may have touched: the keyboards, response boxes, desk surface, armrests, chinrest, doorknobs and the face

³ Note that similar measures have been implemented at the UvA and at the Donders Institute.

shield with an alcohol solution spray and dispensable wipes. Electrodes are cleaned as per usual. Used syringes and tips are discarded as usual.

7. Coordinators, equipment and materials

Coordinators COVID-related lab matters:

- Social & Organizational: Josh Tybur, j.m.tybur@vu.nl
- Cognitive: Dirk van Moorselaar, d.van.moorselaar@vu.nl

Coordinator for COVID-related materials:

- Cor Stoof, c.j.j.stoof@vu.nl

Specific lab coordinators:

- Social & Organizational: Josh Tybur, j.m.tybur@vu.nl
- Cognitive – behavioural labs: Artem Belopolsky, a.v.belopolskiy@vu.nl
- Cognitive – eye tracking: Joshua Snell, j.j.snell@vu.nl
- Cognitive – EEG: Dirk van Moorselaar, d.van.moorselaar@vu.nl

The materials that will need to be arranged are listed in Table 1.

Table 1. Materials

<i>Material</i>
Soap
Dispensable gloves
Dispensable wipes $\geq 70\%$
Dispensable masks
Hand sanitizer $\geq 70\%$
Cleaning solution $\geq 70\%$
Sanitizing station $\geq 70\% \times 12$ (1 per room)
Face shields $\times 6$ (2 per EEG room)
Tape
Dispensable towels to cover chinrests
Dispensable headphone covers
Infrared thermometers $\times 15$ (1 per room plus 3 spare)
Signposts $\times 14$



Experiments during COVID-19

Rules & Precautions

- i) Upon entering the Transitorium, you will be guided along a one-way route so that you can maintain a 1.5m distance from others.
- ii) Disinfectants are provided near all testing facility entrances.
- iii) Testing equipment is thoroughly cleaned after each experimental session. If you like, you can verify with your experimenter that equipment and surfaces have been properly cleaned before you enter the testing cubicle.
- iv) At the earliest suspicion of illness, please cancel your appointment. Late cancellations do *not* have negative consequences.
- v) You are at all times allowed to wear a face mask.
- vi) We keep a trimmed schedule so to avoid crowding.
- vii) Our precautions are in line with the latest policies of the Dutch government and RIVM, and will be updated accordingly.
- viii) Please notify us if you develop COVID-related symptoms within a week from participation.

Questions or issues to report? Do not hesitate to contact your experimenter and/or the COVID coordinator for the labs: Dirk van Moorselaar, d.van.moorselaar@vu.nl

Appendix II: Checklist (to be made)
