Harvard University

**Detailed Guidance for Computer-Based Experiments**

This is specific guidance for preparing, operating, and disinfecting areas used to conduct computer- or tablet-based experiments with human participants. In addition to the specific procedures illustrated below, university guidance, general human subject research guidance, and research lab-specific guidance will be followed during all research activities.

**Strongly Consider Remote Testing Options**

* *Entirely remote testing.* Some studies that exclusively collect behavioral data on computers or tablets could be completed remotely while participants remain in their homes. Migrating experiments to virtual platforms reduces risk to study staff and participants. There are programs/platforms that facilitate online data collection for consenting, screening, surveys, and programmed behavioral tasks. It is the researcher’s responsibility to pursue online-only data collection wherever possible and to provide justification why this is infeasible if they wish to bring participants to campus for computer-based experiments.
* *Remote consenting and screening.* If it is not possible to conduct the experiment remotely and participants must come to campus, implement advanced screening and consenting to maximize the chances of successful data collection.
  + Efforts should be made to ensure the participant is well-informed of the study procedures so they are reasonably certain they would like to participate before traveling to campus. There are several available methods for obtaining consent remotely (see <https://cuhs.harvard.edu/everything-you-wanted-know-about-documented-consent-were-afraid-ask>). Even if consent is ultimately documented in person, a copy of consent materials should be provided to participants in advance for review before traveling to campus.
  + Efforts should be made to determine whether the participant is likely to meet criteria for study inclusion before they travel to campus. Inclusion and exclusion screening can take place by phone or videoconference and briefly re-reviewed in person.

**Pre-Visit Procedures**

* Follow all procedures for Covid-19 screening by study team and participants outlined in the *Guidance for Human Subject Research* document.
* Instruct the participant that they should come alone or (if relevant) only with essential other individuals, as outlined in the *Guidance for Human Subject Research* document.
* Arrange a place outside of the building where study staff can meet the participant to provide a Harvard-issued surgical mask upon entering the building.
* If study staff are using their own cell phones to coordinate a meet-up, they should use \*67, Jabber, or Google Voice (or similar) to avoid revealing their real phone number to participants.
* Instruct participants to bring their own water and food, as needed and as feasible for the study’s procedures. Study team members should stock single-serving bottles of water as a backup for participant use. Water coolers, shared glassware, and water fountains should not be used.

**General Procedures**

* Consider whether it is possible to move computer set-ups to conference rooms or classrooms that have greater airflow and greater feasibility of maintaining social distance. For example, computers could be transported on carts to alternative testing spaces.
* On the floor, tape off 6 feet perimeters around testing areas or put up plexiglass for reference by study staff and participants.
* Study staff should set up all experiment spaces in advance to minimize the length of time the participant is on campus. This should include preparing the physical space and queueing up all necessary computers, software, and equipment whenever possible.
* Minimize the number of spaces the participant spends time in. Avoid use of waiting rooms or general lab areas; rather, have participants complete all study procedures at the same workspace/desk.
* Designate a space where any support person or guardian would sit that maintains distance from areas where other study staff will need to access.
* Turn on lights and prop open doors the participant will need to walk through in advance whenever possible.
* Study team members should not touch participants’ belongings and participants should not touch anything except that which is required by the experimental procedures.
* Participants should bring all their belongings with them to the primary testing area to constrain disinfection areas. Do not use coat hangers, extra chairs, etc. Consider providing a box or container that will be covered in plastic wrap or disinfected, designated for participants’ belongings.
* Instruct participants that they may only move their mask to eat/drink if there is nobody within six feet of them. If other people are in the general vicinity, participants should announce they will be moving their mask to take food/water.
* Instruct participants to announce to the study team if they need to move to a different location (if they are finished with the experiment, need to use the restroom, etc.) to minimize accidental breaches in social distancing.
* When participants are moving about the space, study team members should facilitate their safe movement by maintaining awareness of others in the space and communicating in individuals’ positioning as needed.
* Even for computer-based studies that must take place in small testing rooms, with proper coordination it should be possible to maintain 6 feet of distancing between study staff and participants.
  + Study team members should develop procedures that allow them to avoid entering the testing rooms while the participant is in the room. For example, study staff can instruct participants to type in their own ID numbers to begin experimental tasks from the doorway or via screen-sharing with a computer in a different room.
  + If troubleshooting or set-up *requires* study staff to enter the room, the participant should first step out of the room to maintain distancing.
  + If it is not possible for study staff to maintain distance for the entire session, only *one* study team member should come within 6 feet of the participant. The study team member would be required to first put on additional PPE. In such an instance, study team members should make a judgment about whether the benefits of attending to whatever issue arises is worth the costs of breaking distancing. For example, fixing a trivial computer error might not justify breaking distancing.
* Allow for at least two hours of empty time between participants in the study space to allow for airflow cycling (see *Guidance for Human Subject Research* document for details).

**Group testing and special populations**

* Group-based testing set-ups in which multiple participants are tested simultaneously (for scientific reasons or for convenience) are not permitted in this phase of research resumption.
* For guidance on special populations, or individuals at risk for Covid-19, see the *Guidance for Human Subject Research* document.

**Equipment & Materials**

* The use of paper surveys should be minimizedwhenever possible in favor of electronic versions. This minimizes contact with pens and papers that would need to be handled by study staff.
* Remove all extraneous materials from testing areas, along with hard-to-disinfect surfaces like plush cushions or mouse pads.
* For any computer the participant interacts with, cover the keyboard and mouse with disposable plastic wrap stretched or taped along the sides of the keyboard/mouse, or use pre-made covers such as <https://www.practicon.com/large-quikcaps/p/7077010>.
* For touchscreen-based testing, cover the keyboard and mouse with disposable plastic wrap stretched or taped along the sides of the keyboard/mouse, or use pre-made covers such as <https://www.practicon.com/11-x-8-1-2-touch-screen-barrier-film/p/70103241>. If it is not possible to cover touchscreens and collect precise data, study staff should disinfect all surfaces on the device while wearing gloves immediately before the participant uses it as an extra measure.

**Cleaning**

* Study team members will be responsible for tracking what areas/surfaces participants (and other individuals with them) came in contact with during their visit.
* For cleaning, follow all procedures outlined in the *Guidance for Human Subject Research* document.

**Suggested Supplies To Purchase**

* Tape measure
* Tape for floor
* Plastic covering for keyboard/mouse/touchscreens
* Bottled water
* Container designated for participant belongings
* Harvard-approved cleaning products
* Extra PPE for study staff in the event they must come into close contact
* Extra PPE for routine cleaning