

THE DUKE BEHAVIORAL RESEARCH GUIDE


















TIPS, RESOURCES AND TECHNOLOGY FOR
CONDUCTING BEHAVIORAL HUMAN SUBJECTS
EXPERIMENTS EFFICIENTLY AT DUKE

Check out the wiki version at:
<http://diispwiki.ssri.duke.edu>





INDEX

-  **Lab Spaces**
 -  **Permanent Lab Space (3)**
 -  **Temporary Lab Space (5)**
-  **Software**
 -  **Laboratory studies (7)**
 -  **Web-based research (9)**
 -  **Data Management (9)**
-  **Participants**
 -  **Institutional Participant Pools (10)**
 -  **Duke Community (11)**
 -  **Non-student participants (12)**
 -  **Advertising (13)**
 -  **Funding (14)**
-  **Project Management (14)**
-  **Institutional Review Board (IRB) (16)**
-  **Research Support (18)**
-  **The DIISP Lab (19)**



Introduction

Welcome to the Duke Behavioral Researchers' Guide! Duke has excellent resources for conducting research with human subjects—from site licenses for experimental software to free lab spaces for running studies to active student and community participant databases. This guide brings all of this information together in a single document, along with countless tips and suggestions gleaned from professors and grad students working on the front-lines of research at Duke.

The guide is designed mainly for faculty, postdocs and students (both graduate and undergraduate) who are new to conducting human subjects research at Duke. The guide is an initiative of the DIISP Lab—an interdisciplinary research space available free of charge to Duke faculty and students from across the social sciences. We thank the Office of Graduate Studies for funding the project through the Teaching Mini-grant awarded to Pontus Leander and Dr. David Neal. Finally, please check out the wiki version of this guide, which is dynamically updated by users: <http://diispwiki.ssri.duke.edu>



LAB SPACE

Although just about any room may be converted into a lab, Duke and its surrounding intellectual community has a nearly unlimited supply of lab spaces. Each type of space has its advantages, so consider your own goals when determining which space would serve you best. For instance, if you need to collect data extremely quickly, it may be better to venture out to a local student center and pay people cash to participate. If, however, you are using sensitive equipment or complex experimental designs, it may be necessary to conduct your study in a more controlled environment like the DIISP Lab.



Permanent Lab Space



Faculty. Your faculty advisor may have private lab space. Their available equipment, staff, and amenities are highly variable. Students of that faculty member tend to have priority access, but you should consult with your advisor before assuming that the space is available. If you wish to gain access to other faculty members' lab space or equipment, there may be instances in which you can make an exchange of resources. These quid pro quo arrangements will vary, and may involve adding a few unrelated questionnaires to your study or tacking on an entire second study to the end of yours if you are using similar procedures.



Departmental / Institutional. There are spaces across campus that are specifically designated and funded to support social science research, listed below. This list is not exhaustive, and note that your faculty advisor might belong to other departments/institutions on campus that have labs or spaces that can be converted for use in data collection.

Lab spaces are typically obtained on a first-come, first-serve basis—so book them early in the semester if possible. Because these spaces are often shared, keep in mind that those rooms may be in use by other researchers at other times of the day. This means that calibrated equipment, custom computer settings, or other specialized functions might change without notice.

- *DIISP Lab (see p. 19 & 20 for more details).* The Duke Interdisciplinary Initiative in Social Psychology Research Lab is a state-of-the-art facility with excellent equipment and amenities. The lab has rooms for group and individual testing, interview rooms equipped with advanced audio-video recording capabilities, a psychophysiology suite dedicated to the measurement of autonomic nervous system activity, and a dedicated teaching/seminar room.
 - **Availability.** This space is available to all social science researchers and, by negotiation, to researchers in other parts of the university (e.g., neuroscience, DUMC).

- **Location.** The DIISP lab is located at Erwin Mill, Bay B, across from 9th Street. Shuttles C6 and H5 run to and from the lab space from East and West campus.
<http://siren.auxserv.duke.edu/parking/busschedules/busc6.htm>
 - **Participants.** Psychology subject pool participants are required to complete a certain number of hours at sites off of the main campus, which includes DIISP. DIISP also manages its own paid student & community subject pool. DIISP offers \$500 participant payment grants to facilitate student researchers' use of its space and/or equipment.
 - **Rooms.** There are many rooms of varying size each with computer equipment. There is secure space for storing researchers' materials. The furniture is modular and some of these rooms may be converted with permission. For a complete overview of the DIISP lab, refer to page 19.
 - **Equipment.** Every room is equipped with a desktop computer running MediaLab and Direct RT. Several rooms are equipped with both visible and hidden video and audio recording/communications equipment. Two rooms contain BIOPAC psychophysiology equipment, coordinated by the Psychophysiology Coordinator, Val Mayer, vg26@duke.edu, 919.668.1840. For a complete listing of the DIISP lab's space and equipment, refer to page 19 & 20.
 - **Reservations.** Reserving space at DIISP is done online through the "DIISP Experimenter Portal", a password-protected website. To access the portal and book DIISP rooms, laptops, and psychophysiology equipment, register as a "DIISP Researcher". To register and enter the DIISP Portal, see the link below.
 - **Website:** www.ssri.duke.edu/diisp-lab.php
- **Psychology and Neuroscience Research Lab.** This is a new space in the Sociology/Psychology building, in Room 052.
- **Availability.** This space is available to all Psychology faculty, and through them, their students. Priority is given to researchers who do not have their own lab space.
 - **Location.** The lab is conveniently located on West Campus. It is also a separate wing of the building and thus has minimal thru-traffic during the busier times of day.
 - **Rooms.** There are private testing rooms, a traditional classroom, and two work rooms. There is secure space for storing equipment and materials. These spaces may be converted with permission.
 - **Equipment.** Each of the private rooms has desktops. There are also two TV sets for showing DVD stimuli, as well as two video cassette recorders.
 - **Reservations.** The contact point is the Human Subjects Coordinator: lokwapil@duke.edu. Long-term bookings may be arranged.
- **Fuqua School of Business Behavior Lab.**
- **Availability.** This space is available to Fuqua faculty and Ph.D. students.
 - **Location.** Fuqua School of Business
 - **Participants.** Fuqua operates its own paid subject pool.
 - **Rooms.** Six experimental rooms: 4 individual/dyad rooms and 2 computer clusters.
 - **Equipment.** Visual, audio, and computer equipment
 - **Reservations.** The contact point is the FSB Lab Coordinator Kaylen Francis: kaf22@duke.edu, 919.660.7988.
 - **Website:** <http://www.fuqua.duke.edu/centers/behaviorallab/>



Temporary Lab Space



Student Centers. There are meeting rooms in buildings where there is a lot of student traffic, such as the Bryan Center and East Campus Marketplace. These spaces are excellent for recruiting large numbers of participants (40-60 per day) when conducting pen-and-paper questionnaires or laptop studies. Note that they can be noisy and prone to disruption. Payment is generally in the range of \$1 per 5 minute interval, but payment levels for specific studies are, of course, subject to IRB approval.

- Availability. Duke students, staff, and faculty. These rooms are often used by non-researchers for meetings and other functions.
- Locations. The Bryan Center Meeting Rooms A & B, and East Campus Marketplace
- Participants. Recruit participants by placing signs near entrances and places where students stand in line. These signs should clearly and simply communicate that your study is offering \$X in exchange for Y minutes of time, located in room Z. Try to obtain posters & easels for optimal placement.
- Equipment. Chairs, tables, and power outlets are all that is provided. More chairs and tables can be rented.
- Reservations. Contact the Bryan Center directly to make a reservation. To minimize the likelihood of booking a room for a date that has already been booked by another researcher for a separate room in the same building, feel free to contact the Fuqua behavioral lab coordinator.



OIT Computer Labs. The Office of Information Technology manages several computer labs across campus, a few of which may be reserved for Duke-related functions. Keep in mind that these spaces may be at greater risk of accidental disruptions by students who expect to be able to use the space.

- Availability. Duke students, staff, and faculty. During the Spring and Fall semester these rooms may only be reserved for four-hour sessions. Full day reservations may be made during Fall and Spring breaks.
- Locations. Any of the following OIT computer labs may be reserved:
(1) 122 Brown Res Hall, (2) 125 Carr Bldg, (3) E108 Craven Quad 1, (4) 09 Edens Quad 1A, (5) 01 Old Chemistry, (6) N001Sem Kilgo Quad, (7) 022 Gilbert-Addoms Res Hall, (8) 133 Soc/Psy Bldg, (9) 106 Teer Engineering Library, (10) 08C West Duke Building
- Participants. If you have access to the psychology subject pool you may be able to direct them to the space. Otherwise, you will have to advertise and pay participants.
- Equipment. Various desktop computers. If you wish for OIT to install software also fill out the form found here: <http://www.oit.duke.edu/comp-print/labs/locations/software/index.html>
- Reservations. Reserve online: <http://www.oit.duke.edu/comp-print/labs/reserve/index.html>. The contact point is the OIT Help Desk: help@oit.duke.edu, 919.684.2200.
- Website: <http://www.oit.duke.edu/comp-print/labs/>



Off-Campus

- **Nearby Universities.** Given Duke’s relatively small student population, student researchers have set up temporary labs in the student unions at UNC-Chapel Hill, NC State, and NCCU. Keep in mind that IRB approval may be required both from Duke and the institution you visit, but 80+ participants may be obtained per day so it may be worth the additional effort. Keep in mind that you must bring your own equipment (e.g., laptops etc).
 - *UNC-Chapel Hill:* Student union rooms 3201, 3209, and 3206A or B are typically used by visiting Duke researchers. You may request that the 10 tables and 20 chairs be set up facing the wall. Plan to set up about 12 signposts leading potential participants to your room. Reserve by calling 919.966.3832. Note that Duke’s IRB and UNC’s IRB have a reciprocal approval arrangement, such that Duke approved studies can usually be run at UNC without approval from UNC’s IRB board. Some conditions apply – contact Duke’s IRB office to discuss.
 - *North Carolina State University – Raleigh:* Talley Student Center rooms 3121, 3123, 3124, or 3125 are typically used by visiting Duke student researchers. You may request tables and chairs. Reserve by calling 919.515.2449 or book online: http://www.ncsu.edu/student_center/reservation_form_series.php
 - North Carolina Central University, Durham Tech, and other nearby schools are also good resources for conducting studies at nearby universities, especially if you are seeking participants of a specific demographic that may not be well-represented at Duke (age, ethnicity, SES, parental status, etc.)
- **Conference Centers.** It may be possible to reserve a table or booth at a convention, festival, expo, or other community event occurring in your area. These tend to occur in public venues or privately owned conference centers. Contact the event organizers for information about becoming a “vendor”.
- **Community Centers.** Various sites in the community might allow a researcher to reserve a space for a nominal fee. Duke IRB approval is still required and participants are generally paid. If interested in members of specific community groups, you may be able to both recruit participants and obtain space in exchange for donations to the organization.
- **District Schools.** When interested in studying youth populations, one may wish to gain access to elementary, middle, or high school student participants. In addition to finding a partnering school, each district will have a coordinator from whom permission must be obtained. Accessibility, rules, and regulations may vary so consult with your advisor for more details and, if preferred, known contacts.



Virtual Lab. There are a variety of ways to collect data online, which may be especially useful if you do not have the lab space, material resources, or personnel to conduct a study. By setting up your study online, you can also email large groups of potential participants through email lists. Such announcements can be used to describe your study and, more importantly, include a web link that leads participants directly to the survey page. This is primarily used for survey studies as experimental designs exceed the capacity of most software. However, if you know a reliable web designer you might be able to conduct experiments online.

Although you are not directly supervising participants, virtual labs aren’t always “easier” to work with than physical ones, and they might require extensive prior planning to most effectively recruit

participants and obtain reliable data. Discuss with your advisor (1) the potential problems of working with “unsupervised” participants, and (2) designing an efficient and intuitive recruiting and reimbursement process.



Mobile Lab. It is not always necessary to have dedicated lab space. Sometimes the most efficient and effective solution for rapid data collection may be to install the necessary software on your own (or a borrowed) desktop or laptop or deliver the necessary survey materials to your participants directly. As just a few ideas:

- Take your study to places where students congregate (e.g., K-ville during basketball campouts) or carry a single laptop wherever you go and solicit potential participants directly.
- Set up a community desktop at a local fraternity, sorority, or other secure place where a campus group resides. Offer a donation to that group for completing your experiment on their own time. Set up a table in the quads and use signs to capture the attention of those who have time to earn some money for themselves or for others. For instance, offer to donate to a particular fund during weeks that the University is sponsoring important causes or awareness campaigns. Be sure that any such proposal has IRB approval.



SOFTWARE



Lab Studies



MediaLab. A popular and versatile tool used to conduct studies on a Windows-based desktop or laptop computer. SSRI & DIISP computers already have it installed.

- MediaLab is typically regarded as the default software to use for most experimental designs, regardless of complexity or the type of stimuli being used. The interface is easy for experimenters to use and is visually appealing to participants. The learning curve for designing experiments using this software is about one hour and the built-in tutorial is your best resource for mastering it—though SSRI at Duke offers introductory MediaLab workshops once or twice per academic year.
- For a complete list of its capabilities, go to the online manual at <http://www.empirisoft.com/download/ml2006/MediaLabManual.pdf>

If you wish to conduct a study and aren't sure how to use MediaLab, feel free to email support@empirisoft.com with your question. They have historically provided excellent support and can even do custom builds.

- For more information or to download the latest version of the program, go to www.empirisoft.com/medialab.aspx. (include Duke's invoice number - #83041 - in your email and be sure to send from your Duke email account).

- Installation: Once you have downloaded MediaLab and try to run it for the first time, it will give you a keycode. Copy that code and email it to sales@empirisoft.com, informing them that you would like to use Duke's site license to install the software. A representative of Empirisoft will respond within a day or two with the code required to complete your installation.



DirectRT. Used to accurately measure reaction-time responses or deliver stimuli with millisecond precision. SSRI & DIISP computers already have it installed.

- vs. MediaLab: It isn't always clear whether one should use DirectRT or MediaLab, but since both are provided by Empirisoft it is best to quote them: *"(MediaLab's) weakness is that all the multi-media flexibility requires that it be a traditional windows program so the precision of timing (both display and RTs) is not great. It's also not great when you have a more cognitive/perception type of study where you have hundreds of repeated trials (e.g., priming/lexical decision style tasks)."* For more information on making this decision, go to <http://support.empirisoft.com/showthread.php?t=15>.
- DirectRT may be used in conjunction with MediaLab or replace it altogether. The interface is easy for experimenters to use but its visual appeal varies by the researcher's programming specifications. The learning curve for designing experiments using this software may be a couple of hours and preexisting familiarity with MS Excel is useful. The built-in tutorial is your best resource for mastering it.
- For a complete list of its capabilities, go to the online manual at <http://www.empirisoft.com/download/ml2006/MediaLabManual.pdf>
If you wish to conduct a study and aren't sure how to use DirectRT to do it, feel free to email support@empirisoft.com with your question. They can also do custom builds.
- For more information or to download the latest version of the program, go to <http://www.empirisoft.com/directrt.aspx> (include Duke's invoice number - #83041 - in your email and be sure to send from your Duke email account).
- Installation: Once you have downloaded DirectRT and try to run it for the first time, it will give you a key code. Copy that code and email it to sales@empirisoft.com, informing them that you would like to use Duke's site license to install the software. A representative of Empirisoft will respond within a day or two with the code required to complete your installation.




Other


- Sometimes you may wish to use programs used by other researchers in the field that use software other than MediaLab or DirectRT, such as *Inquisit* (www.millisecond.com). Mac users may consider Superlab (www.superlab.com; also functions in Windows). In most cases, these must be purchased. If you cannot obtain funding for other proprietary software, many programs (Inquisit and DirectRT, for instance), are similar enough and share enough redundancy in their features that you can either ask Empirisoft if they have a version of the program you wish to run (e.g., to obtain a DirectRT version of the IAT) or you may program it yourself—often without much difficulty.
- Neighboring departments may provide other software at no cost, such as MouseLab, which is used to conduct decision science research (<https://www.fuquaworld.duke.edu/blab/MouseLabExperimenter.jsp>).



Web-based surveys

In general, online studies are often a popular choice among students because they can complete experiments on their own computers and on their own time.

 **Viewsflash.** Free to Duke students and faculty, this software is managed by Duke’s Office of Information Technology (OIT). Viewsflash has the advantage of being well known by the Duke IRB office. Other web-based survey platforms may require longer or more involved vetting in the IRB process: <http://www.oit.duke.edu/web-multimedia/web/vwf/index.html>

 **Webmonkey.** A popular (and free) web-based survey tool that is available to anyone. Online tutorials are available and the paid version (~\$20/month) offers the use of “skip logic” and other advanced tools that may help you customize your survey in ways that Viewsflash cannot. Keep in mind, however, that Webmonkey—and other software available for free online—is not supported by Duke’s OIT so be sure that you fully understand it before continuing. Also, remember you may have to provide the IRB Office with additional information on this platform: www.webmonkey.com



Data Management



Statistical Analysis:

- **SSRI Computer Lab.** The computer lab at Erwin Mill room B-140 strives to provide more statistical software packages than any other at Duke. The room has 19 high performance desktop computers and offers free access to the following programs: *ArcGIS*, *Maple*, *Mathematica*, *Mplus*, *R*, *SAS 9*, *S-Plus*, *SPSS 15*, *Stata SE 9*, and *Stat Graphics*. SSRI also provides a Stats Cluster, equipped with *R*, *StataMP*, and *Matlab*. <http://www.ssri.duke.edu/computer-labs.php>
- **Data, GIS Computing (Perkins).** Located in the Perkins library, this computer cluster currently has 8 computers and offers free access to the following programs: *SAS 9.1*, *SPSS 14*, *Stata SE 9*, and *ArcGIS 9*. Two librarians are available to provide help with data/GIS questions and one intern (from Ecoteach) is available to provide *econometrics* support.
- **Computer classrooms.** Social Sciences Room 229 and Old Chem. room 01 provide access to select statistical software packages. Keep in mind, however, that these rooms are often in use for statistical training and classes, so consider using one of the other listed spaces instead.
- **Graduate student computer cluster.** Located in the basement of the Sociology/Psychology building, these machines provide basic statistical analysis software (e.g., SAS and SPSS).
- **Purchasing/Licensing for your own PC or Mac.** If you wish to obtain your own data analysis software, the best prices will come from your departmental IT support personnel (e.g., Matt Mielke for Psychology and Neuroscience, mielke@duke.edu). Through them you can schedule an installation and obtain a one-year license. Licensing will cost you much less than buying the software outright and also allow you to obtain the latest versions of the software annually.
- **Statistical Consulting.** SSRI offers free statistical consulting to faculty and students conducting social science research. Visit <http://www.ssri.duke.edu/cons-data.php> or contact chongming.yang@duke.edu to schedule an appointment.



Data Storage and backup

- **SSRI high performance servers.** SSRI provides high performance server space that may be accessed remotely and shared with collaborators. For specific information on available server space and to request access to them, visit <http://www.ssri.duke.edu/hpcs.php>
- **WebFiles.** Managed and maintained by Duke OIT, all students, faculty, and staff are provided with 5 GB of storage space. This space may be shared with collaborators. For more information and installation instructions, visit <http://www.oit.duke.edu/comp-print/storage/webfiles/index.html>.
- **PC File Backup.** Although not free, Duke has partnered with Iron Mountain to offer *Connected*[®], a service which lets you back up important files in case of equipment failure or theft. For details, visit <http://www.oit.duke.edu/comp-print/storage/webfiles/index.html>



PARTICIPANTS



Institutional Subject Pools

There are three major research participant recruiting pools managed at Duke. Your access to each pool will vary according to your departmental affiliation. The departments or research units responsible for these participant pools handle participant recruitment, leaving you free to focus on running your experiment. Each pool is housed on a different website (see links below). To post your study on the pool, you will generally need to email the pool coordinator with details of your study (name, IRB approval number and expiration date). You will then be issued with a study number and password, allowing you to post study times (akin to appointments) on the relevant website. Participants will then read about your study and choose whether to sign up for it. Keep in mind that you should plan ahead as to which participant pool you want to use and specify it in your IRB proposal. It is relatively common to post on multiple pools (e.g., to post on the non-paid Psychology Pool and the DIISP Paid Pool). Keep in mind that different consent forms will be required if you are giving some participants course credit (as in the Psychology Pool), and giving others cash payment (as in the DIISP Pool). Paid pools are indicated in the list below with **(\$)**.



■ **Psychology Subject Pool.** This is the most well-known and perhaps most frequently used method of obtaining participants. Undergraduate students who are taking specific courses generally participate in a certain number of “hours” of research in order to obtain course credit (though some complete an alternate task as research participation must be voluntary). Graduate and undergraduate students do not have direct access to this pool, but may obtain access through their advisors’ allotments. For more information, contact the Human Subjects Coordinator Lori Kwapil (lokwapil@duke.edu). Access to this pool is generally limited to students and faculty in the Department of Psychology and Neuroscience.

- **Group testing / Pre-screening Session.** At the beginning of the semester, members of the psychology subject pool attend one of several “group testing” sessions during which they complete a large packet of very short questionnaires that researchers then use to determine eligibility (or get pre-test data) for their own studies. Contact the Psychology & Neuroscience Human Subjects Coordinator if you and your faculty adviser have a questionnaire you would like to add to this testing session. IRB approval is required to include measures in Group Testing.
- **Pool recruitment.** Each faculty member is allotted a certain number of undergraduate credit hours to use in his or her own research (given out in ½ credit increments per 30 minutes). Near the end of the semester, these constraints are released and faculty members are permitted to recruit as many participants as possible. The Psychology & Neuroscience Human Subjects Coordinator manages this participant pool, though researchers must familiarize themselves with Sona Systems’ “ESP” online software (which has replaced Experimetrix) in order to post sessions for student participants to sign up for. All participants make their appointments online and credit/penalties can be applied automatically through the ESP system.
<http://duke.sona-systems.com/>



DIISP Subject Pool (\$). The Duke University Interdisciplinary Initiative in Social Psychology Research Lab manages its own subject pool that is readily available to all student and faculty social science researchers at Duke. This pool is advertised throughout campus and also in the surrounding community in order to provide access to non-Duke student adult populations. Individuals who respond to these advertisements register online using the Sona Systems software to find out what paid studies are available to them at the DIISP lab. Researchers are responsible for managing their own individual studies online using Sona Systems. Researchers typically indicate eligibility requirements (e.g., “Duke undergraduates only”) as part of the study description. These participants are paid \$12/hour. The contact for the DIISP paid pool is the DIISP Research Coordinator, Fade Eadeh, fe5@duke.edu, 919.681.2906. To register your study, send Fade your IRB approval email, your IRB expiration date, a study title (that will be visible to participants), and the requested allotment (e.g., 100 x 30 minute sessions). You will then be registered to access the DIISP Pool and you will also be given a basic online study profile that you can edit to your specifications.

<http://diisp.sona-systems.com/>





Fuqua Subject Pool (\$). The Fuqua School of Business manages and maintains its own paid subject pool that is available to Fuqua-affiliated faculty and graduate students. Individuals register online using the Experimetrix software to find out what paid studies are available to them at Fuqua. The pool primarily consists of undergraduate students and graduate students, but it also includes members of the community. Researchers typically indicate eligibility requirements as part of the study description. Studies advertised to members of Fuqua’s subject pool typically pay \$20/hour. Fuqua also occasionally conducts “MBA games” mass-testing studies, in which MBA students volunteer their time as research participants in order to raise funds for a particular cause. This can be an excellent way to collect data rapidly. The contact point for more information about this pool or MBA games is Kaylen Francis, kaf22@duke.edu.


<https://experimetrix2.com/fuqua/>




Duke Community


 **Student Centers (\$).** If you are conducting computer or survey-based studies, one of the fastest ways to recruit individual participants is to reserve a space on campus and pay individuals for participating. At the Bryan Center (with proper posting of recruitment signs/posters), it is possible to get 40-60 participants per day. At UNC-Chapel Hill it is possible to get 80 or more participants in a day. These studies tend to be shorter (5-40m) and participants are either (a) paid, or, (b) given a small gift. Peak recruitment hours tend to be from lunchtime until mid-afternoon (12pm – 4pm).


 **Thoroughfares (\$).** For computerized and survey-based studies, it is also possible to set up a table on the quads, major sidewalks and hallways in and near large buildings (e.g., Fuqua’s Fox Center or the Quads on West Campus) where students who are passing by might participate in a short study in exchange for a small gift or cash payment. Consider teaming up with groups who seek to raise money for a particular cause and invite them to complete your study in exchange for a donation to their cause.

 **Community Service.** Members of certain organizations throughout campus are often interested in doing some type of community service. Oftentimes this service occurs in exchange for benefits within their organization (e.g., Duke “campout” participants can earn time away from the campsite if they first do volunteer work—such as participating in studies). Contact the group’s organizer(s) to determine whether participation in your study qualifies as community service. Also consider joining DIISP’s annual graduate student campout data collection drive, during which 100+ volunteers come to the DIISP lab on a Saturday morning to volunteer as research participants (9am-12pm).

Non-student Participants

 **Recruiting from the Community (\$).** If you are seeking non-student participants, consider contacting the administrators at local community centers, State/County fairs, expositions, flea markets, churches/synagogues, sports stadiums and other places where people are likely to take a moment to read (or listen to) a flier (or announcement) about your study.

 **The DIISP Paid pool (\$)** This pool includes community members and their basic demographic information (age, race, education level) is stored in the database so you may selectively invite people to participate based on these criteria.

 **Institutional Contact Lists (\$).** Various centers and institutions at Duke may have lists of their previous research participants and of individuals who have expressed interest in participating in paid studies. This may be an ideal resource for accessing participants with specific demographic features (e.g., alumni, senior citizens). Feel free to contact these centers and find out if you or your faculty advisor may access part of a contact list for study recruitment. Keep in mind that these participants (especially elderly or low-income participants) may not have internet access or are not willing/able to come to your lab. If this is the case, consider mailing them a questionnaire packet or providing them with a link to a Viewsflash website instead and offer to mail them payment in exchange for their time. You will need IRB approval before using any participant database or communicating with participants.



Advertising Your Study



Signs. Strategic placement of signs for your study can be quite useful. Signs should be eye-catching and simple. Walk the halls of the Sociology/Psychology building for examples. They can be placed in hallways, thoroughfares, gyms, and even coffee shops or restaurants around campus. Be sure to respect school/business administration regulations for posting signs. The content of any signs must be included in your IRB approval (e.g., it is often acceptable simply to describe the text and general layout of the sign – you do not need to submit the finished sign with your proposal).

- **Small signs (mainly for scheduling participants).** Student researchers typically tape/staple 8.5" x 11" signs in approved areas on campus that clearly specify (1) the amount of payment and amount of time the study takes to complete, as well as (2) how to sign up and/or where to go for the study. It is often useful to create little "pull tabs" at the bottom of these signs that include the necessary scheduling/contact information.
- **Large signs (mainly for invited walk-ins).** Studies at local student centers and other heavily trafficked areas may need a bit more than a small sign to capture attention. Set up easels with 24" by 36" poster board advertisements just inside doorways, near lines for campus diners, near ATM's, and other places where potential participants might be easily persuaded to come participate. The Fuqua Behavior Lab and DIISP are each equipped with easels and signs.



Contact Lists. There are many imaginative ways to find and contact people who might agree to participate in your study. There will likely be unique ethics issues in each case, so discuss your ideas with the IRB office early in your planning stage. Some common examples are:


- **Internet.** Consider blogs, social networking sites, and other means of electronic contact. If applicable, be respectful and obtain permission from administrators of any major contact list.
- **Phone.** Call participants (e.g., in dorms or other approved area) directly. This may be especially useful when your research is dependent on specific environmental factors (such as time of day, weather, special dates or events, etc.).
- **Direct Mail.** If your desired participants are unlikely to come to campus (e.g., are elderly or are of low-income), you may consider sending a mailer to these potential participants that includes your study's survey (or web address) and a self-addressed & stamped envelope. Keep in mind that paying participants via mail (you will need to get receipts back from them for Duke Accounting) can be complicated and administratively burdensome.
- **Data collection companies.** If you have funding, you may be able to outsource your data collection to a company that specializes in running online studies using pre-existing "panels" of participants. Some companies offering this service are Greenfield (www.greenfield.com) and Qualtrics (www.qualtrics.com).





Group fundraising. On- or off-campus organizations often seek funding for their groups and you might be able to offer a donation to the organization in exchange for each group member's participation in your study. Consider local political groups, churches, school clubs, athletic teams, etc. Special ethics issues can arise when individuals are participating on behalf of a group and donating their payment to the group (e.g., did they feel coerced to participate and/or donate their payment?). Discuss these issues with the IRB Office.



Funding for Paid Participants

 **Non-competitive.** DIISP offers non-competitive (easy to get) mini-grants of up to \$500 for the payment of participants. These grants may be used by social science researchers utilizing the DIISP lab or its equipment in their own research, and they may be taken out once per year.

 **Competitive.** Undergraduate researchers seeking study funding should contact the Office of Undergraduate Research <http://www.aas.duke.edu/trinity/research/>. Graduate students should consult with their advisors and departmental contacts for other possible funding options.

 **More information.** Duke's Office of Research Support has a full-time funding specialist, Carolyn Strong Turner (carolyn.strong.turner@duke.edu). See, <http://researchfunding.duke.edu/contact.asp>



PROJECT MANAGEMENT

There are several steps in completing a study and each one of them is fraught with potential delays and snags. Such interruptions can cause your study to take more time to complete than you anticipated. In order to minimize the impact of disruptions, try to avoid taking an entirely *serial* approach to managing your project and instead consider most of its steps in *parallel*. For instance, decide which steps of your study will have *lead times* associated with them—steps that require some initial action on your part before you must wait on others to do theirs (e.g., ordering hardware/software, obtaining IRB approval, reserving space and equipment, funding applications). Think first about which step(s) will have the longest lead times, and do those first if you can.




Typical Steps in a Project:

1. **Conceptualize your project**, design and gather materials, and plan the exact procedure. Write a draft IRB proposal. Contact the IRB office if you have questions that may significantly affect your study's design or procedures (you don't want to re-write the entire proposal after learning that a procedural detail cannot be approved).
2. **IRB approval:** Keep in mind that studies requiring full IRB Committee approval (note: this is a minority of proposals) will need to be submitted to meet IRB meeting deadlines. Studies under "exempt" or "expedited" status can be submitted at any time. Your first step will be to send your draft proposal to an IRB staff member for a "pre-review". After any required edits, your proposal will be formally reviewed. The entire process—from pre-review to approval may take anywhere from 3 or 4 days to several weeks. See the IRB section of this manual for more details.
3. **Reserving Space and Equipment:** Sometimes you have to make reservations weeks/months in advance in order to get the space you want. Other times, space will be released sooner than expected

so if you didn't get what you want in time be sure to check back regularly. See the Lab Spaces section of this handbook for details.

4. **Software Installation:** Licensing may take a few days, and some companies aren't open on weekends or holidays. Always make sure that the equipment you're using has both the necessary software installed as well as active licenses for them (e.g., some licenses expire annually). See the Software section of this handbook for more details.
5. **Programming & debugging computer studies.** If you are conducting studies on computers (e.g., using MediaLab & DirectRT), program them far enough in advance such that you can test and debug them. Keep in mind that you might need to contact a company's technical support, and many technology companies are only open during regular business hours.
6. **Data collection:**
 - a. *Efficiency of your methods:* Some experiments are easier to collect data for than others. Although many studies require multiple experimenters, specific participants, or specialized equipment, unnecessarily complex experimental designs can be problematic if you are on a specific timetable.
 - b. *Variability in the subject pools & ease of recruitment:* When designing your study, consider the time of day or year that you and your research assistants will be available to collect data. Consider the number of competing studies in any potential "pool" of participants, as well as any campus events or academic deadlines that might facilitate (or obstruct) your ability to collect data. Collect data in the first few weeks of the semester if possible to minimize competition.
 - c. *Think outside the lab:* If you need to collect data rapidly or are seeking access to specific participants, consider moving beyond your advisor's lab space and collect data at a local student center or even off-campus.

 **Data screening and analysis:** This stage has to occur last. At best, if you are certain you will need statistical consulting (from SSRI or elsewhere), you can reserve a date in advance. If your faculty advisor or graduate student mentor cannot help you and if you do not have access to free consulting, you may be able to find a staff member or graduate student within the department willing to do a one-time consultation for payment.



INSTITUTIONAL REVIEW BOARD (IRB)

Before you can run a study at Duke, you must become certified as an investigator and then have your study approved by the IRB. New researchers often underestimate the time and effort it takes to obtain study approval from the IRB, so read their website and plan accordingly. Go to <http://www.ors.duke.edu/irb/index.html>.



Investigator Certification

Anyone who wishes to conduct research on human subjects at Duke must become certified to do so by completing both an online module and an online quiz. This initial certification process takes about an hour. To maintain your certification, you will need to complete 1 hour of continuing education each year. Go to <http://www.ors.duke.edu/irb/fundamentals/certification.html>



Submitting an IRB Protocol for Approval

A written protocol must be submitted to the IRB for review. Download the basic forms at <http://www.ors.duke.edu/irb/index.html>. These forms are updated/changed fairly often so check back frequently to ensure you're using the latest document version. As a function of the complexity of your project, the IRB meeting schedules, and the volume of submitted protocols, it is important to plan for this process to take several weeks or more. To minimize delays with protocol approval, consider the following:



Submission deadlines. The IRB meets twice a month and the deadlines for having a protocol reviewed by the committee occur two weeks prior to each meeting date. For up-to-date submission deadlines, visit <http://www.ors.duke.edu/irb/schedule/index.html>. Note that only protocols requiring full review are evaluated at these meetings. Expedited and exempt protocols are evaluated as they are submitted. During this two-week period, expect to be contacted by the Human Subjects Coordinators offering advice on how to correct your protocol and maximize your chances of approval by the IRB committee.



Submit protocols via email for "pre-review". Once you and your advisor have worked out the details of your study and have written your protocol, it is often wise to email a Human Subjects Specialist with an electronic copy of your draft protocol. The Specialist can then provide feedback with recommendations and comments noted directly on your electronic protocol. This method of pre-review can facilitate timely protocol review. Remember that a signed copy (signed by you, your advisor, an department head) will need to be submitted to the IRB Office before approval can be issued.



Anticipate revisions. Sometimes the IRB may require major revisions in order to adequately protect research participants. Any study using deception, priming, or a study that examines sensitive issues is

likely to go under full review and may require clarifications or changes. To minimize revisions, always proofread your protocols and try to communicate your plans as though you were speaking to someone who is not an expert in your field.



Common issues in the IRB process

Some elements of the IRB process are more complex and less intuitive to navigate than others. The IRB office maintains an excellent website, covering all issues of the IRB process. Also, IRB staff tends to be very responsive and will guide you through any complexities you encounter.

The IRB review process ensures that research is conducted in accordance with Federal Regulations. In addition, there may be state and institutional requirements that are relevant to a given protocol. The key review criteria can be found here: <http://www.ors.duke.edu/irb/criteria/index.html>.

Deception and debriefing are often difficult to describe for those writing their first protocols. Here are some tips on how these issues can be addressed.



Deception. Some studies use deception, priming, or other technique that must be presented very clearly to reviewers. Here is one example of the justification for the use of priming from an approved protocol involving one study that did not use any priming as well as a second study that was designed to unobtrusively “flash” stimuli on the computer screen in such a way as to manipulate participants’ subsequent behavioral responses without their conscious awareness.

Study 1 involves no deception. Study 2: Although participants will be informed in advance that distracting images will be flashed on the screen during the task, they will not be told that these images involve subliminal priming of emotional faces. However, we believe that the content of the primes (fearful, happy, sad or neutral faces) would not be offensive or disturbing if known to the subjects and would not likely affect their decision to participate. Moreover, the hypotheses of the study depend upon participants remaining unaware of the priming procedure as they may consciously or nonconsciously alter or bias their responses if they were informed in advance of the subliminal priming procedure.

- For any deception, specify why it is necessary and important for your research question.
- It is better that you identify potential risks yourself rather than having a protocol reviewer point them out for you.
- Explain how you intend to mitigate the risk of negative outcomes of your study deception.
- Providing full debriefing at the end of your study about the nature of the deception tends to suffice.



Tips for debriefing participants. The IRB is sensitive to the possibility that participants will discuss the nature and purpose of your study with others, potentially influencing or invalidating data from future participants. To help minimize this possibility:

- The IRB office may allow you to give participants a debriefing document that they cannot take with them or to debrief them verbally. For computer studies, simply include debriefing as one of the last screens they read.
- Although Psychology Subject Pool participants should get substantial debriefing, a general overview of your research program (including information on how you sought to add to it through the present study) may be more informative than describing the specific hypotheses of your study.
- You could also just ask participants to not share their experiences. For example:

We would appreciate it if you would refrain from discussing the specifics of this experiment with your classmates. We have many more students who will be participating in our studies and our data could become meaningless if they know ahead of time what they will be doing in the experimental session. Your cooperation in this regard is greatly appreciated.

Thank you very much for participating in our study!



RESEARCH SUPPORT



Undergraduate Research Assistants

If you are interested in recruiting undergraduate research assistants, please discuss options for a Research Practicum or Independent Study with your faculty advisor. Advertisements for these programs should be made through Robin Dunn (robin.dunn@duke.edu). The independent study is a 1-credit academic course of scholarly content given by a faculty member. The research practicum is a half-credit course that introduces the student to a faculty member's research through readings, data collection and analysis, and/or discussions etc. More information about the independent study and research practicum can be found at:

<http://pn.aas.duke.edu/undergrad/independentstudy>





THE DIISP LAB


Laboratory Overview

The DIISP lab is a 5000 square foot research space available to faculty and graduate students in the social sciences at Duke free of charge. Researchers from other areas of the university are welcome to discuss using the lab with the Director, Dr. David Neal, dneal@duke.edu.


The laboratory offers:


 The **DIISP participant database** is composed of student and community members who have registered to participate in paid research studies. Basic demographic information (age, gender, race, education) is stored in the database. To register your study to be advertised on the database, email Fade Eadeh, fe5@duke.edu, and include (a) a brief name for the study (this will be visible to participants), (b) your IRB approval number, (c) your IRB expiration date. You will then receive a login and password. The database is online at: <http://diisp.sona-systems.com>.


 A **mini-grant program** that provides \$500 grants to pay research participants in studies run at DIISP or using the DIISP participant database. Register as a DIISP Researcher to access grant forms.

 An online share point space called the **DIISP Portal**, where rooms and equipment can be booked, and grant forms and other documents can be accessed. To register as a DIISP Experimenter and access the DIISP Portal, visit this URL: <http://www.ssri.duke.edu/diisp-lab.php>

The laboratory houses:

 Two questionnaire labs (1 ten-person, 1 sixteen-person) with desktops separated by removable partitions.

 Ten acoustically sealed cubicles (9 one-person, 1 two-person); five rooms have networked desktop systems running Windows Vista on LCD monitors. Millisecond keyboards are installed for improved reaction time measurement. All DIISP machines run MediaLab and Direct RT. Other experiment software can be loaded with approval from the Lab Director.

 Four audio-video recording rooms (2 one-two person, 2 one-six person) with high quality cameras and microphones (both visible and clandestine). Psychophysiology measures can also

be deployed in these rooms enabling simultaneous recording of video and physiology for individuals or dyads.



Two psychophysiology recording rooms equipped for the measurement of galvanic skin response, heart rate, blood pressure, skin temperature, EMG, ECG, respiration and finger pulse amplitude. By the end of 2008, these rooms will also have a 12 channel ERP system and an electrogastrogram.



A 20-person seminar room with data projector and multiple format AV capability (DVD, VHS, PC). Seminar table seats 12.



6 IBM laptops for running studies outside the lab. Bookings can be made with Val Mayer, vg26@duke.edu, 919.668.1840.

Remember, a wiki version of this guide can be found
online at:

<http://diispwiki.ssri.duke.edu>