

Suicidology Lab Manual

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Mission

The Suicidology Lab at USU researches suicide and its prevention—including aspects of assessment, treatment, public health, and more. We have a particular focus on youth and young adult populations. Our ultimate goal is to help others build lives worth living.

This lab is dedicated to researching the behavioral and psychosocial aspects of suicide. We focus on youth (under age 25) but sometimes also use data from adult samples. We know building lives worth living will take research efforts at all levels: Basic science, prevention, clinical treatment, and public health / policy approaches. We conduct quantitative research on these topics, using the best analyses possible to tackle the inherent complexity and uncertainty in this work. In addition to directly researching suicide, we also work on psychological constructs or behaviors closely related to suicide, such as mood disorders like depression, personality pathology like borderline personality disorder, and self-harm acts like nonsuicidal self-injurious behaviors.

People

Primary investigator

Dr. Erik Reinbergs serves as the lab PI and is ultimately responsible for all work produced by the lab. You can read more about him on his blog www.erikreinbergs.com. You can find a list of his publications on his [Google scholar page](#). To reach him about lab matters, please use MS Teams chat. This will help your message avoid Dr. Reinbergs's overwhelmed email inbox and make a clearer record of communication as projects evolve. If there is an emergency or you are running late, feel free to text or call his work number (425-797-2293). This number is connected to his cellphone, so it does not matter if he is in the office or not. Speaking of which, his office is room 444 in the Sorenson Center for Clinical Excellence (SCCE). If you'd like to schedule a meeting with him, please use his [MS Bookings page](#).

In addition to his work at USU (research, teaching/clinical, service), Dr. Reinbergs is also involved with several suicide prevention organizations. For example, he attends a yearly meeting with the Texas suicide prevention non-profit called the [Jordan Elizabeth Harris Foundation](#). In Utah, Dr. Reinbergs is a member of the Youth and Young Adult workgroup of the [Utah Suicide Prevention Committee and Coalition](#) and regularly attends meetings of the [Utah School Mental Health Collaborative](#). Additionally, he meets regularly with a community of practice group of suicide researchers organized by by [Dr. Peter Gutierrez](#) of [Living Works](#).

Lab members

We currently have two PhD students in the lab, Ellie Azamian and Tiffany Harris. We have several external collaborators that you might see on current projects. Dr. Reinbergs has two lab mascots, Tessie and Frost. 🐕

Collaborators

We have many external collaborators who you may see on lab research projects. These include [Dr. Megan Rogers](#), [Dr. Jacqueline Anderson](#), [Dr. Tony Roberson](#), and [Dr. Nicolas Oakey-Frost, PhD](#).

Ways of work

Communication

Digital communication is accomplished using Microsoft Teams chat via our USU accounts. This helps us keep a more focused record of communication than email inboxes. In the general channel, I often post trainings, new articles, and celebrations that are likely relevant to most lab members. You can also call or text my cell phone for emergencies.

Please respond to messages/emails from Dr. Reinbergs by the end of the next business day. For example, if you get an email from me on Friday, I expect you to respond by 5pm Monday. I will hold myself to the same standard. Given the flexible nature of academic work, I sometimes send emails after hours or on weekends. Please do not take this to mean I expect a response after work hours or on the weekend.

We meet in person as a lab each week. These meetings help us stay up to take, problem solve, and support each other. I strive to make the lab meetings supportive, collaborative, and non-competitive.

Digital files

All lab files are in a shared Box folder, which can also be accessed via Teams. Some projects (e.g., with restricted data) may involve additional security practices. Files are organized in project folders. Each project folder has subsections including data, analysis, plots, manuscript, scratch, and posted. Files are descriptively named with dashes instead of spaces. More on best practices in project file organization and styling can be found in [Chapter 9 of Data Management in Large-Scale Education Research](#) by [Crystal Lewis](#). Carefully organizing your work is always worth the effort.

Research software

Zotero

[Zotero](#) is a powerful reference management program. It is used to organize journal article PDFs, generate both in-text citations and reference sections, and has useful abilities for annotating PDFs. It is free, open-source, and provides a Microsoft Word plugin that is essential when drafting manuscripts. Although Zotero is free, you may want to consider paying for the subscription that syncs/backs up your Zotero library for peace of mind and to support the project. We keep group

Zotero library with a folder for each manuscript from the lab so that we can all work on the manuscript together without breaking the references system.

R/Positron

We primarily use the R statistical environment for analyses. R is an open-source language that is especially suited to working with data, conducting statistical analyses, and reporting/visualizing results. R packages are available for even the most cutting-edge statistical methods. It is highly used in many academic fields, including psychology, as well as in industry settings. [Positron](#) is a next-generation IDE from Posit (the makers of RStudio). First [download and install R](#), then download and install Positron and you'll be up and running.

There are several R packages that you may find useful to supplement working in base R, in no particular order.

- [lavaan](#) - for structural equation modeling
- [psych](#) - exploratory factor analysis and internal consistency estimates
- [data.table](#) - for data management. See this quick [tutorial](#) resource. Alternatively, you may prefer the [dplyr](#) package if you're more comfortable with the [tidyverse](#). There is also [this excellent resource](#) that shows many common data tasks done in data.table vs. dplyr vs. base R.
- [ggplot2](#) - for plotting with endless possibilities. The [tinyplot](#) package is also a good option for more typical plots.
- [gtsummary](#) - for creating standard summary tables (e.g., balance tables, regression tables, demographic tables). Built on the [gt](#) package, with which you can create an endless possibility of highly customized tables. The [tinytable](#) package is also a good option for tables.
- [fixest](#) - regression modeling in a consistent syntax (fixed effects, logistic regression, negative binomial regression, regression with robust standard errors). See this helpful [tutorial page](#).
- [brms](#) - for Bayesian modeling in a user-friendly framework (uses a Stan back end).
- [easystats](#) - a collection of packages with many convenience functions. The [parameters](#) and [performance](#) packages in particular very useful.
- [rblimp](#) - fully Bayesian missing data handling and modeling. For traditional multiple imputation methods (MICE/FCS), the [mice](#) package is indispensable.
- [survey](#) - for analysis of complex survey data. There is also a tidyverse-style wrapped called [srvyr](#) shown in the free [book Exploring Complex Survey Data Analysis Using R](#).

- [marginaleffects](#): For interpreting regression models, calculating average marginal effects, marginal predicted probabilities etc.
- [lme4](#) - for multilevel modeling.

Stata

Dr. Reinbergs also appreciates [Stata](#) (see blog on the topic [here](#)), which is a commercial software for statistics and data analysis (\$179/year for students). If you have interest in using Stata for your analysis, this is a potential option within the lab and I'm happy to help you learn Stata if you wish. There are two use-written commands in particular that are of use to the lab that at least currently do not have an R equivalent. The first is [gologit2](#), which implements generalized ordinal logistic regression / partial proportional odds models with automatic fitting options that works with survey data, the margins command, and all of Stata's robust standard error options. The other set of commands are [totalme](#) and [meinequality](#). These provide statistics for summarizing effects of ordinal regression models and for categorical regression variables. An advantage of Stata is its extensive documentation, which can be useful to learn about the techniques you're using even if you end up applying them in R. It can be helpful to check your R model results in Stata sometimes so that you can have additional confidence that your analysis in R is doing what you hoped it was. Stata is also particularly useful for the analysis of secondary datasets as it handles metadata really well—see [this blog post](#) for more information (e.g., variable names, value labels, dataset notes, etc.). Working with labelled data is possible in R, although it is more difficult (see the [haven](#) and [labelled](#) R packages).

Generative AI

USU has made enterprise Microsoft Copilot accounts available to all students/faculty. These accounts run a modified ChatGPT model. Our enterprise agreement states that Microsoft will not use our data to train their models. Despite this, under no circumstances should you upload raw data or anything potentially identifiable or otherwise private to any generative AI services including Microsoft Copilot with your USU account - especially for information you obtain through your work in lab. Under no circumstances should you write any professional/academic/clinical documents using generative AI. This has the potential to be a huge threat to all of our credibility and, depending on the circumstance, could be a very serious ethical violation.

That said, there are some use cases where generative AI services may be helpful, particularly in coding. AI is safest when you can immediately verify that its solutions work. An example is using AI to help you create a particular plot using ggplot2. Because you can immediately run the AI generated solution and see if it creates the plot you want, you instantly know whether the AI generated solution is true.

GitHub offers free pro accounts to university students. These accounts come with access to GitHub Copilot, which comes with access to nearly all major AI models. For example, it provides access to Anthropic's Claude Sonnet 3.7 Thinking model that is far better at R tasks than Microsoft

Copilot or ChatGPT. Regardless of AI use in coding, you are expected to check the output, understand it thoroughly, and take full responsibility for your work.

Git/GitHub

As noted above, university students get free pro accounts on [GitHub](#). Git itself is open-source and free. Admittedly, [git](#) has a steep learning curve and might not be worth it for every project. Git is primarily used in software development environments and thus has some very technical elements to it. (But, maybe we can push each other in lab this year to make better use of it.) It is a powerful way to implement version control and work on analysis files with collaborators. Git functionality is also implemented in Positron with a GUI. [GitHub Desktop](#) is a git GUI that is also free and works both with local repositories and GitHub repositories. A note of caution: If you are going to use git repositories, store them on your local disk and not with cloud file services like OneDrive or Box as this tends to cause problems.

Google Scholar & ORCID

[Google Scholar](#) is academia's default service for tracking publications and citations. Keep your google scholar account up to date as many academics use these accounts to view your work. Additionally, when searching for literature using Google Scholar, you can connect your account to USU library services to get legal access to many of the articles you'll find while searching.

Increasingly, journals and other services also use [ORCID](#) to properly identify authors. This is a useful service that is free and worth signing up for. For example, if you list your ORCID in addition to your USU email on a publication, people will still be able to reach you when you no longer have access to your USU email.

Authorship

I expect PhD students to lead their own manuscripts and to be authors on manuscripts with myself or other lab members. We follow [APA guidance](#) on establishing authorship credit (see below) We strive to establish whether authorship is warranted and authorship order as early in the research process as possible to foster transparency and prevent misunderstandings. If you have concerns about authorship, please bring them up to Dr. Reinbergs. Additionally, if you work on a project within the lab but do not see it through to completion, move on to other things, become unreachable after leaving lab etc, Dr. Reinbergs reserves the right to take over the project and move it forward without you.

Authorship is reserved for persons who make a substantial contribution to and who accept responsibility for a published work. Individuals should take authorship credit only for work they have performed or to which they have substantially contributed (APA Ethics Code Standard 8.12a, Publication Credit). Authorship encompasses, therefore, not only those who do the writing but also those who have made substantial scientific contributions to a study. Substantial professional contributions may include formulating the problem or hypothesis, structuring the experimental

design, organizing and conducting the statistical analysis, or interpreting the results and findings. Those who so contribute are listed in the byline. Lesser contributions, which do not constitute authorship, may be acknowledged in the author note... Lesser contributions may include such supportive functions as designing or building the apparatus, suggesting or advising about the analysis, collecting or entering the data, modifying or structuring a computer program, recruiting participants, and obtaining animals. Conducting routine observations or diagnoses for use in studies does not constitute authorship. Combinations of these (and other) tasks, however, may justify authorship.

Open science

As a lab, we try to adhere to principles of open science. This means making our work and decision making process transparent and publicly available. We do so by using preprints and by making our analysis code, analysis output, and data (if allowable) public. We host preprints, analysis code/output, and data on the [Open Science Foundation website for the lab](#). We pre-register some projects on OSF as well.

Secondary data

Lab members are encouraged to conduct studies with secondary data. This could be data collected by the lab for a different project, data from outside the lab that was publicly shared by another researcher, or national/state-level datasets. Particularly in suicide research where primary data can be difficult to collect, secondary data allows us to explore many important questions. Secondary datasets can also be rich sources of data for psychometrics projects. Additionally, even if a question has been examined in secondary data before, reproducing this analysis with more robust methods or examining whether the findings hold in a different dataset represent important contributes to the literature. Dr. Reinbergs has access to many different datasets that contain suicide / mental health variables.

Getting to know the field(s)

Organizations & conferences

One of the great things about this work is that is it relevant across many fields. We sit somewhere between clinical psychology (particularly behavior therapies and developmental psychopathology), school psychology (youth mental health, prevention service models, and school-based interventions), and suicidology.

- [ABCT](#): Association of Behavior and Cognitive Therapies. Mostly clinical psychology. There are often suicide/self-harm/depression/BPD researchers presenting at the annual conference. There is also always a pre-conference day on DBT hosted by [ISIT-DBT](#).

- [NASP](#): National Association of School Psychologists. This is the national school psychology organization / annual conference. Mostly focused on practitioners.
- [IASR](#): International Academy of Suicide Research. Conference every two years that is the most research-focused suicide conference in the field.
- [SRS](#): Suicide Research Symposium. An excellent, free, online annual conference for suicide researchers sponsored by the [American Foundation for Suicide Prevention](#).

Conferences and professional organizations in related fields include [AERA](#) (education, applied measurement), [ABAI](#) (behavior analysis), [APS](#) (psychology research from multiple fields), [ACBS](#) (ACT / contextual behavior science), [APA](#) (psychology research from multiple fields), and the [Advancing School Mental Health Conference](#) from the National Center on School Mental Health.

I also encourage you to sign up for the [CAMS-Care](#) newsletter, which includes important training announcements, new articles in the field of suicide, and upcoming grant opportunities.

Journals

There are a seemingly endless number of journals out there, many of them predatory or not well regarded. Here are a sampling of legitimate journals within our related subfields—although there are of course many more!

- Suicidology: [*Suicide and Life-Threatening Behavior*](#), [*Crisis*](#), [*Archives of Suicide Research*](#), [*Death Studies*](#).
- School psychology: [*School Psychology*](#), [*School Psychology Review*](#), [*Contemporary School Psychology*](#), [*Psychology in the Schools*](#), [*School Mental Health*](#), [*Assessment for Effective Intervention*](#), [*Journal of Applied School Psychology*](#), [*Journal of Psychoeducational Assessment*](#), [*Journal of Educational and Psychological Consultation*](#).
- Child Clinical: [*Child & Family Behavior Therapy*](#), [*Evidence-Based Practice in Child and Adolescent Mental Health*](#), [*Journal of Clinical Child & Adolescent Psychology*](#).

Social media

Currently (following the sale of, and subsequent demise of, twitter), the most robust academic community on social media is found on [Bluesky](#). I have learned so much from members of academic twitter/bluesky. I highly recommend following researchers and topics you care about. You can start by following accounts that I follow, look for starter packs of researchers to follow, or browse hashtags like #rstats. Reminder that social media is public, so be ethical in your posts etc.

Professional reputation

The fields of school psych, child clinical psych, and suicidology are all small. Your professional reputation is extremely important to your success. You do not have to look far to find examples of

unethical researchers and clinicians. Do not sacrifice your professional reputation for anyone. Your professional reputation is more important than a grade or looking smart or having the last word. Never, ever claim work that is not your own. Treat everyone well. Fostering this trust is also important for the public to have trust for the profession of psychology and for science in general. If you feel you may be walking into something in an ethical grey area, or have an ethics question, notify Dr. Reinbergs immediately.

More resources

I have a book buying habit and am constantly bookmarking links to useful tutorials for all kinds of things. Please ask me for resources for things you want to learn, whether that is data management in R, different statistical analysis methods, manuscript writing, clinical resources, key literature for a lab topic etc. A key to success in grad school is identifying the right resources and diving in!

Onboarding tasks

Now that you've read the lab manual, please complete the following tasks:

1. Complete USU's [CITI training](#) (or transfer your previous CITI training).
2. Upload your CITI trainings to our lab teams folder and message Dr. Reinbergs to let him know they're there.
3. Create accounts in [Google Scholar](#), [GitHub](#), [OSF](#), and [ORCID](#) if you have not already. If you already have these accounts, add your USU email to them.
 1. In Google Scholar, add the USU library to your profile. Settings > Library links > type USU and add all > Save.
4. Download and install the software we use: [Zotero](#), [R](#), and [Positron](#).
 1. You can also consider signing up for a paid Zotero account so that your files are synced across computers / backed up, but this is not required.
 2. Send Dr. Reinbergs a reminder message to add you to the shared Zotero lab group library if he hasn't already.
 3. Also download Microsoft Teams and the Box desktop sync app if you haven't already.
5. Sign up for the [CAMS-Care](#) newsletter
6. Send a photo and 2-3 sentence bio to Dr. Reinbergs so he can add you to the people section of the lab website. If you do not want to be included on the website, that is fine — just send Dr. Reinbergs a message that you do not wish to be included.