Contents

Welcome

Mission and Research Focus

Roles, Responsibilities, and Expectations
  Everyone
  Principal Investigator
  Doctoral Students
  Research Assistants (Undergraduate students, volunteers)
  Laboratory Staff (Lab managers, project coordinators)

General Lab Policies
  Hours, Schedule, Vacation/Sick Time
  Communication and Calendars
  Data Collection Training and Protocols
  Lab Meetings and Lab Logs
  Recommendation Letters
  Prospective Graduate Students

Diversity, Equity, Inclusion, and Justice

Research Practices
  Authorship and Dissertation Data Policies
  Open Science
  Human Subjects Training
  Starting Projects with Laboratory Data
Welcome to the Iowa ADHD and Development Lab!

I am happy to welcome you to the Iowa ADHD and Development Lab in the Department of Psychological and Brain Sciences at the University of Iowa! Everyone involved in this lab makes important contributions to our scientific and collaborative goals. As such, I have created this manual to help ensure your time in the lab is as productive, informative, and enjoyable as possible. The goal of the manual is to provide clear expectations and guidelines for all involved in the lab to improve both the quality of our work as well as the learning experiences for all involved.

This manual was influenced and borrows heavily from several others, including

Lab For Scalable Mental Health at Stony Brook University (directed by Dr. Jessica Schleider)

Mood Disorders Lab at University of Texas-Austin (directed by Dr. Chris Beevers)

Many thanks to the Lab for Scalable Mental Health and the Mood Disorders lab for sharing their materials and resources so generously.

For lab members – this manual is meant to serve as a living document. I welcome any suggestions, revisions, and changes that may improve its utility.

- Molly A. Nikolas, Ph.D., PI, Iowa ADHD and Development Lab
Mission and Research Focus

ADHD remains one of the most frequently diagnosed psychological disorders among youth and adults, is commonly comorbid with both internalizing and externalizing psychopathology, and is associated with numerous academic, social, and occupational impairments. Despite its common occurrence and its wide-ranging effects, we are only just beginning to discover the many complex etiological pathways that contribute to its onset and its persistence across the lifespan.

Our lab is specifically interested in exploring the interplay of biological and contextual processes that underlie the development and persistence of ADHD from childhood through adolescence and young adulthood. Our lab integrates information from multiple levels of analysis to specify factors that predict heterogeneity in its clinical presentation, patterns of comorbidity, and persistence across development and into adulthood. Our lab casts a wide net and has focused on numerous risk and protective factors and their integrative effects, including genetics, prenatal risk factors, pubertal development, autonomic reactivity, neuropsychological functioning, temperament/personality, family and peer relationships, and socioeconomic status. The goal of our research is to help specify etiological pathways of ADHD to inform the development of novel assessment, intervention, and prevention strategies.

Methods and Measurement

Most of our studies are correlational in nature and involve targeted recruitment of samples enriched for ADHD, psychopathology risk factors, or both. Our participants generally complete comprehensive assessments that include collecting data at multiple levels of analysis. We make use of molecular genetic methods (i.e., genome-wide association derived polygenic scores, Sanger sequencing of rare variants), psychophysiological methods (i.e., electrocardiogram data), neuropsychological measures (i.e., tests of IQ, academic achievement, inhibition, working memory, processing speed, and arousal), and informant ratings of temperament/personality, parenting, parenting stress, peer relationships, and more. Some of our studies also employ ecological momentary assessment to explore within-person variability in symptoms and risk factors using online surveys integrated with SMS messaging.

The Iowa ADHD and Development Lab was established in 2011 and, as of 2022, has been a training home to 7 doctoral students in clinical psychology and over 90 undergraduate research assistants and volunteers. PhD alumni of the laboratory have taken positions at academic medical centers and VA hospitals around the country. Research assistant alumni have gone onto earn PhDs in clinical psychology, counseling psychology, neuroscience, school psychology, developmental psychology, and social work. Additionally, prior research assistants have also successfully gone onto medical school, pharmacy school, law school and master’s level programs in social work, public health, school counseling, and mental health counseling.
Roles, Responsibilities and Expectations

Everyone’s role in the lab is important. To execute our scientific enterprise, we all must fulfill our responsibilities and adhere to the expectations of our roles, both at the big-picture level and at the day-to-day level. Below, I outline general big picture expectations and then turn to describing specific expectations and responsibilities for members of the lab.

Everyone

1. **Mission and Academic Integrity:** Everyone is expected to adhere to our laboratory mission and to the University of Iowa’s policies on academic integrity. This includes protecting confidentiality of participant data and conducting our work with a high level of integrity to ensure all data are collected reliably following lab protocols and are reported comprehensively and accurately in all scientific reports. It is never okay to plagiarize from others, falsify, manipulate, or “fudge” data.

2. **Mutual respect and care:** Everyone is expected to treat all members of the laboratory and all participants in our research with care and with respect for their dignity and autonomy. We are all colleagues and partners in this scientific enterprise and our success hinges on our ability to work productively together.

3. **Appreciation of diversity and approach of cultural humility:** Our lab culture emphasizes the importance of human diversity, among our members and among our participants. Consideration of multiple spectra of human diversity and their intersection is integral to how we approach our scientific questions. Lab members seek to gain greater awareness of diversity, approach scientific questions and problems with cultural humility, and strive to conduct our science in a way that promotes equity and justice.

4. **Take pride in your work:** Make sure you are doing work of the highest quality. Double check everything. Try not to rush and ask others to look over your work if you are unsure about something. Mistakes can happen but we should all work hard to avoid mistakes due to rushing through tasks, especially data collection, entry, and analysis.

5. **Learn from mistakes:** If you make a mistake, tell someone as soon as possible. The earlier we catch mistakes, the more we can do to correct them. There is no shame in making mistakes – we all make them! By joining this lab, you are committing to supporting your colleagues when they make mistakes, being open about your own, and working collaboratively to getting things back on track.

6. **Support your lab mates:** Help your lab mates when you can! Be a source of support to others when they need it. We celebrate each other’s achievements because when one of us wins, we all do. Respect your lab mates’ strengths (and weaknesses), their requests for quiet, and their culture, religion, beliefs, and identities. If you know you are going to be away, work to find coverage of visits in advance.

7. **Resolve conflicts constructively:** If you have a conflict with someone in the lab, please work collaboratively with them to resolve it. Talk to me (Dr. Nikolas) if you need help! If your conflict is with me, please come talk to me about it. I try to approach these situations non-defensively and with a solution-focused approach. If you do not feel
comfortable addressing the issue individually, talk to Dr. Nikolas. However, disrespect and rudeness will not be tolerated.

8. **Ask for help:** If you are struggling, please seek support! Lab members' health and wellbeing is a top priority. Don't be concerned about asking for what you need. Feel free to talk to Dr. Nikolas if you like.

9. **Take care of lab spaces and equipment:** Keep workspaces and lab rooms tidy. Take out trash, clean up crumbs/paper. Maintain security of lab rooms by ensuring doors and filing cabinets are locked and computers are logged out when not in use. Be sure to return keys to lockboxes/hooks when you are finished using them. Turn off lights/fans if you are the last one to leave.

10. **Show up!** It is important that everyone shows up to meetings, visits, and other appointments. It is important to follow through on your commitments. It is advisable to arrive in the lab 10-15 minutes early for data collection visits so that you have time to adequately prepare.

11. **Cultivate balance in your life:** It is important to engage in self-care to sustain yourself in this profession (well, in any profession). If you are sick, stay home until you are well. If you have a visit, please do your best to find coverage but let Dr. Nikolas or relevant lab managers know about the situation. Share stories of your adventures, vacations, and favorite movies/shows. We work hard in the lab and it is important to make time for leisure and relaxation.

**Principal Investigator**

All the above plus you can expect Dr. Nikolas to:

1. **Provide Guidance:** As the PI, Dr. Nikolas will work to provide supportive and individualized scientific and professional guidance to members of the lab, appropriate to their training level. Note – this guidance does not guarantee certain results (as much as I would want it to, but I will do my best!). Dr. Nikolas is also ultimately responsible for maintaining the vision of the lab and planning and overseeing research projects that execute that vision.

2. **Support Growth:** It is Dr. Nikolas's job as PI to prioritize your growth as a scientist and professional. Dr. Nikolas will provide opportunities to contribute to ongoing projects; apply for funding and awards; organize and catalog new ideas. Dr. Nikolas will do her best to serve as a mentor, support, and guide to those working on projects in the lab, but she will not micro-manage your work or do things for you. Ultimately, it is the responsibility of trainees to complete independent research projects.

3. **Give Feedback:** Dr. Nikolas will provide written feedback on papers, presentations, and other relevant drafts (essays, personal statements, CVs) in a timely manner. Generally, this should be within 1 week of submission, depending on other factors.

For Doctoral Students: Dr. Nikolas provides semester evaluations for each student regarding their progress in the clinical science program and development of core
competencies. This information is used to generate the program’s yearly progress letter, which is sent annually in July.

4. **Be available:** Dr. Nikolas will be readily available for meetings and consultations, in-person and over email to discuss research, lab-related, and professional development issues. This includes welcoming feedback on how the lab might improve communications and activities.

   Note: Dr. Nikolas prioritizes cultivating balance between work and family life and will generally not respond to email after 6pm. Dr. Nikolas generally checks email over the weekend but prioritizes time with her family and may not respond until Monday morning. She will respond on evenings/weekends to time sensitive issues and is available for any emergencies related to lab data collection issues. If there is an urgent issue, you are also free to text Dr. Nikolas.

5. **Help prepare you for next steps:** Dr. Nikolas prioritizes providing lab members with information on professional development that will help prepare them for the next steps of their training and careers.

**Doctoral Students**

Doctoral students should follow the expectations for everyone above plus:

1. **Develop your research ideas and read relevant background research.** It is critical for doctoral students to begin developing their program of research and the “big picture” questions they want to address in their work. No single study will be able to answer all questions, but it is important to start making links in your work conceptually and methodologically. Your work in graduate school will culminate in your dissertation research, which can involve a selection of related work (staple dissertation) or a new project that focuses on one area in high detail.

2. **Contribute to research publications and presentations.** During the time in your lab, your work will likely involve secondary data analysis of existing lab data and contribution to ongoing data collection efforts. We also occasionally make use of publicly available datasets (i.e., ABCD, Add Health) to complement our own data. You are not required to independently collect your own data, particularly given the difficulty of collecting a sample size of sufficient power to address the questions of interest in the lab. Even so, some students may develop an independent research project for their dissertations, but students may instead use lab datasets or other datasets for research projects, including the dissertation. You are expected to contribute to manuscript writing, both as first author and as a contributing author. You will also be expected to present your work locally (in the clinical science area, in the department) and at national and international meetings. A good goal is to aim for at least one research presentation per year and at least 1-2 first-author manuscripts per year, depending on your career goals and level of training.
3. **Develop goals for training.** Doctoral students enter with a wide variety of prior experiences and skills. Work with Molly to develop individualized activities for training. Keep in mind that even students in this same lab may have different goals, activities, and trajectories so compare with care. You are earning your own PhD and there will be no other path exactly like yours!

4. **Discuss your professional goals.** Talk with Molly early and often about your long-term professional goals. Molly's goal as a mentor is to help you achieve your goals; Molly will give you advice and information, but ultimately, you are the one that must determine what those goals are. It is important to consider if you are interested in an academic career or one in direct service provision or industry (or some combination). This will help Molly tailor training opportunities that are best suited to your goals. Also, it is normal for goals to morph or change during doctoral training – if you think this is happening for you, please discuss it with Molly! If you are interested in a research career in academia, it is helpful to prioritize your research program as much as possible!

5. **Monitor and discuss program requirements and milestones.** Discuss program requirements, milestones, and other activities (i.e., clinical training, teaching, mentoring activities) with Molly at least twice per semester.

6. **Be patient and compassionate with yourself.** Graduate school can be difficult as you are frequently learning, re-learning, and implementing new skills across many domains. It’s no easy task so be sure to be kind and patient with yourself. Seek support from others in the lab when you need it.

7. **Be available to mentor others.** Undergraduates/research assistants highly benefit from talking with you about your experiences as a clinical science doctoral student as well as your preparation for graduate school. **Doctoral students are expected to attend lab meetings each week (regardless of funding source) to ensure that we build connections across all levels of training.** Lab meetings are held **Fridays from 2:30-3:20 p.m.**

8. **Apply for awards/training opportunities.** Apply for awards and training opportunities that interest you. If you need a letter of recommendation, Molly will write it!

9. **Contribute to grant writing.** Whether it's helping Molly with a grant application or developing one of your own (NRSA, GRFP, foundation grant), grant writing is an excellent skill to develop to allow you to hone your ideas and your science communication skills.

**Undergraduate Research Assistants**

Undergraduate RAs should follow the expectations for everyone and:

1. **Complete training and test out.** All RAs should complete the visit testing training and the test-out with Dr. Nikolas prior to beginning data collection. All RAs should also complete CITI training for Human Subjects Research prior to completing testing training.
2. **Assist with data collection by conducting laboratory testing visits.** Focus on collecting high-quality data with every participant you interact with. Your job is incredibly important and the quality of our science hinges on the quality of the data we collect! Participants will follow your cues so come to visits enthusiastic, motivated, and ready to contribute.

3. **Attend and participate in lab meetings.** Lab meetings are a crucial part of being in the lab and all undergraduate RAs are expected to attend (**Fridays at 2:30pm**) and participate in discussions by providing your thoughts and perspectives. Read the articles each week. Questions are always welcome!

4. **Follow through on commitments.** Generally, undergraduate RAs are expected to complete ~ 2 visits per week in the lab. Data collection visits (in addition to some scoring/entry) and lab meeting attendance brings the average time commitment to approximately 7-8 hours per week.

5. **Complete weekly lab logs.** Each Friday, RAs should complete their weekly lab log that documents the tasks performed in the lab during the prior week.

6. **Keep Dr. Nikolas informed about credit enrollment plan.** At the beginning of each semester, let Dr. Nikolas know about your plans for enrolling in Research Practicum (PSY 3994) Honors Research Practicum (HONR 3994), or IBA Research in Biomedical Science (IBA 3992).

**Laboratory Staff (Project Coordinators, Paid Research Support Staff)**

1. **Assist with daily tasks in lab management.** Laboratory staff are generally hired to work on specific data collection projects. However, these lab members will also assist on other daily lab functions as needed.

2. **Conduct data collection.** Lab staff are expected to conduct at least two data collection visits per week during the afternoon/evening or weekend hours. Generally, lab staff will conduct between 4-5 data collection visits per week.

3. **Maintain IRB protocols and lab email.** Lab staff assist Dr. Nikolas with maintaining IRB protocols, including submitting protocols, modifications, or continuing reviews. Lab staff also assist with sending reminders and managing the lab email and phone.

4. **Assist with data collection, cleaning, and analysis.** Lab staff routinely work on data entry, cleaning, and analysis and help create and maintain data dictionaries for our projects.

5. **Oversee scheduling and training of other research assistants.** Lab staff assist with training new research staff in lab protocols, practicing testing/interviewing skills, and conduct test-outs for new research assistants.

6. **Develop research project and/or collaborations.** Many project coordinators have been interested in developing an independent project to prepare for graduate school in psychology or related field. Part of lab staff responsibilities are to contribute to an independent research project (in collaboration with Dr. Nikolas) and/or assist doctoral students in their projects.
7. Assist with processing participant payments, purchasing relevant materials, and other business-related activities. Project coordinators will assist with processing participant payments and purchasing lab supplies as needed.
General Lab Policies

Hours, Schedule, and Vacation

Principal Investigator – Dr. Molly Nikolas

Hours and Schedule. Molly (me!) is generally in the office between 8/8:30 and 5/5:30 p.m. Monday – Friday (although she does generally like to write at home at least one half or one full day during the week). I generally try to keep email exchanges to the workday but may use mornings or evenings to catch up on email. Note – I do not expect immediate responses when I send messages outside of the typical workday hours (M–F, 9–5). I am generally available via email on weekends but try to devote at least one day during the weekend to my family (although I always respond quickly to urgent requests). I also encourage trainees to ensure they are spending time cultivating their lives outside of work with hobbies, friends, partners, family, and more.

Vacation. Lab meetings are not held during university breaks, but I will generally be around campus unless I am at a conference. During the summer, I tend to work remotely more frequently. I will announce any discuss with lab members any days I will be gone and coordinate plans on lab operations/projects in my absence.

Doctoral Students

Hours and Schedule. Generally, PhD students in this lab should expect to work between 40-45 hours per week. Some weeks may involve less work while others may involve more (i.e., an impending grant or paper deadline). Being present in the lab is a great way to feel like part of our community and team, learn from others, mentor fellow lab-mates, think of new project ideas, and escape distractions at home. As such, I suggest that graduate students spend some consistent portion of their work hours in their offices or lab spaces. At the same time, we have cultivated options for a hybrid work environment and I encourage students to use those when needed.

In academia, the workweek is inherently flexible, and everyone works best in different ways. Generally, graduate students who have been successful in the lab tend to adopt regular working hours that are devoted to research, whether you work from your office, the lab, or from home. If you find that working from home one day per week substantially boosts your productivity, then please do so. Molly will generally also work/write from home one day per week. It is also expected that graduate students will likely be in lab spaces sporadically due to their myriad commitments (classes, clients, practica, BBIP rotations). When funded as an RA, doctoral students are expected to spend 20 hours per week working on lab-related tasks. Those duties (and the ideal times/locations for completing them) will be discussed and agreed upon at the beginning of each semester/summer term.

Vacation. Doctoral training in clinical science occurs year-round. Generally, most doctoral students take vacation during university breaks and/or during the summer. Most lab data collection efforts will be suspended during the last two weeks in December (and sometimes the first week in January, depending on the calendar). The Seashore Psychology Clinic is also closed during Thanksgiving Break, the last two weeks in December, and during Spring Break. The clinic also usually also closes for a week in May and a week in August to ensure students are taking time for self-care.

While university breaks may be good times for vacation, many graduate students chose to stay and use the time to make progress (i.e., catch up!) on research, coursework, and other activities. Generally, doctoral students in the lab take a 1–2-week vacation in the summer
and take some time away during university breaks, particularly Winter Break. Doctoral students should discuss plans for vacation and any questions about time away with Molly in advance.

**Undergraduate Research Assistants**

**Hours and Schedule.** Undergraduate student RA schedules are set at the beginning of each semester/summer term. Students provide availability for visits and are scheduled for recurring days/times each week during that term. Data collection visits generally proceed with morning, afternoon, and evening appointments 7 days per week (except for Friday afternoons, which are reserved for lab meetings, and Saturdays in the fall during home football games). RAs are also expected to attend lab meeting on Fridays at 2:30 p.m. If you have a conflict with lab meeting, please talk to Dr. Nikolas about it.

RAs are expected to devote at least 6 hours per week to the lab for 2 semesters. Most RAs work between 8 and 10 hours per week, depending on their availability and interest. RAs may enroll in credit (Research Practicum or Honors Research Practicum) if they wish to receive credit, although this is not a requirement. Work time generally translates to 2 data collection visits per week (2–3 hours each), data entry, and lab meeting. This usually breaks down to 6 hours of visits, 1 hour of data entry/lab meeting preparation, and 1 hour of lab meeting.

**Visit Coverage.** Sometimes events arise that require RAs to find coverage for their visits. RAs are permitted to cover or switch testing visits with other RAs, but must let Dr. Nikolas or the relevant project coordinator know about such plans. If you know in advance that you must be away or have a conflict with a scheduled visit, please work to find coverage for your visit as far in advance as possible. If you are sick or have an emergency that arises before a visit, let Dr. Nikolas or the relevant project coordinator know ASAP. If you are sick or have been exposed to COVID-19, please stay home, and try to arrange coverage for your visit (also let Dr. Nikolas/project coordinator know as well).

**Communication and Calendars**

The lab has several methods of communication regarding different lab activities. These include:

- Lab group email ([ IowaADHDandDevelopmentLab@team.uiowa.edu ])
- Slack Channel ([https://iowaadhdlab-t295217.slack.com/home](https://iowaadhdlab-t295217.slack.com/home))
- Shared Outlook Visit Calendar

Emails for the entire lab can be sent to the group email. The Slack channel includes information about lab meetings, professional development opportunities, and other lab business. Generally, email and Slack will be the primary communication tools for information that goes to the entire lab.

Data collection visits will be posted on the shared Outlook visit calendar. When a visit is scheduled, the term “Lab Visit – Study Name” will be replaced by an ID number. When visits are canceled/rescheduled, the Outlook calendar will be updated to reflect that information.

It is a good practice to check the Outlook calendar regularly (i.e., daily) for updates on visits. Please also respond to emails in a timely fashion.

**Data Collection Protocols and Training**

All data collection projects in the lab have specific protocols that include standardized
instructions. RAs involved in data collection should be familiar with all protocols and instructions and should not deviate from them. Part of our work relies on standardized assessment measures, and it is important that these measures are given to all participants in the same manner. Instructional binders for projects are stored in testing rooms and in the lab workroom (202 Stuit). Data scoring and entry binders are also stored in 202.

All RAs should complete CITI Human Subjects Training and specific visit protocol training prior to working with participants. All RAs are expected to complete a “test-out” to ensure that they have the skills and knowledge to conduct a data collection visit. During training, we make every attempt to allow new RAs to observe visits to better learn how procedures are implemented.

It is important that any issues about data collection procedures or any potential concerns regarding participants are discussed urgently. Generally, RAs should send an email or text Dr. Nikolas (or relevant lab staff) about any issue.

It is critical to also follow protocols on risk assessment for participants when suicide or self-harm questions are included as part of the data collection protocol. Risk assessment instructions are included in the protocol binders and should be reviewed frequently. RAs are encouraged to contact Dr. Nikolas ASAP with any concerns, even if unsure.

**Remember, it is always preferrable to proceed with a “false positive” concern about suicide/self-harm and to evaluate the main issues rather than to allow a “false negative” to proceed without further evaluation.**

Please bring your cell phone with you into the testing room so you can contact Dr. Nikolas or other lab staff should any issues arise.

Mental health resource lists are provided in all testing rooms. RAs are encouraged to distribute these as needed to any participants and indicate that they may contact Dr. Nikolas if they have questions or need more assistance with referrals. Contact sheets are also in the testing rooms.

Lastly, we expect our participants to treat RAs and laboratory staff with respect. If any RA experiences harassment or discomfort as the result of participant behavior, it is expected that they will end the data collection visit. In these cases, provide the participant with compensation and tell them the procedures have concluded. Then, please contact Dr. Nikolas immediately to discuss the situation. In some cases, we may need to inform the IRB or other university offices (Title IX) if participants have engaged in inappropriate conduct.

**Professionalism and Security of Data.** RAs are responsible for maintaining rapport and professionalism when representing our research project. This includes, but is not limited to, being proficient in testing procedures, being punctual and present at all scheduled appointments, dressing in a neat and relatively conservative manner (i.e., no clothing that is provocative or advocates alcohol or drug consumption, and students should demonstrate appropriate hygiene). Generally, you should dress to look comfortable and professional (jeans are fine) while considering that you will likely be interacting with children, teens, and their parents. Consult with laboratory staff when problems arise, responding to e-mail correspondence in a timely manner, and submitting lab logs to account for completed duties.

Research data is **confidential** according to federal guidelines, and we should therefore take every possible measure to protect the identity of our participants as well as any information that we acquire from them. Along these lines: RAs should not allow participants to be alone
in the testing rooms for longer than necessary to retrieve snacks, forms, or to complete testing; data should be filed appropriately and not left in plain view; all rooms should be locked when unoccupied; users should log off from computers when they are not in immediate use. All computers should not be used for any purpose other than data entry.

**Please lock all lab rooms after you leave the laboratory. Also, please ensure that all laptop computers are stored appropriately, lights are turned off, data stored in filing cabinets, and all cabinets locked.**

**Lab Meetings and Lab Logs**

All lab members are expected to attend lab meetings (Fridays at 2:30 p.m. in 369 PBSB). Lab meetings will focus on the following:

- Discussion of data collection protocols, troubleshooting any issues with administration, scoring, or interpretation
- Discussion of professional development issues, including pursuing and applying to graduate programs in psychology or related fields
- Discussion of laboratory journal article for the week

**Lab Meeting Articles.** At the beginning of each term, RAs will sign up for a week to present an article at lab meeting. RAs should select an article that falls broadly within the topics of ADHD, developmental psychopathology, and/or clinical science.

When it is your week to present, please select your article and post it on the Slack channel for lab meeting and email a PDF to the lab group at IowaADHDandDevelopmentLab@team.uiowa.edu. **Please post and send your article within 1 week of your presentation date. Dr. Nikolas will also post the PDF on the lab website.**

**Guide to Selecting Articles:** PsycINFO, PubMed, and Google Scholar are likely the best databases to utilize when searching for articles. When searching, **please emphasize work published in the last 5-7 years (2016 or later).** Also, please try to emphasize work published in journals that tend to promote rigorous clinical science research. Examples include: Research in Child and Adolescent Psychopathology (formerly Journal of Abnormal Child Psychology), Journal of Clinical Child and Adolescent Psychology, Clinical Psychological Science, Developmental Psychology, Child Development, Research in Psychopathology and Clinical Science (formerly Journal of Abnormal Psychology), Journal of Child Psychology and Psychiatry, Biological Psychiatry, Neuropsychology, Psychological Assessment, Assessment, JAMA Psychiatry, etc.

**Guide to Participation:** The discussion leader will provide a very brief (5 minute) overview of the findings of the article and will introduce a minimum of 3 discussion questions for the group. As everyone is expected to read the article prior to lab meeting, please **do not read from the article during your presentation.** Discussion questions should focus on the study methodology, findings, or relevance to the research being conducted in the laboratory. **All lab members are expected to participate during discussion.**

It is not expected that lab members will understand every nuance of their article (especially the stats) so focus on trying to highlight the take-home messages of the paper and any methodological strengths or weaknesses of the research.
Lab Logs

RAs are expected to complete a weekly lab log that briefly documents their work in the lab during the prior week. Lab logs are due on Fridays at lab meeting (submitted electronically) and should run from the prior Friday to the following Thursday. In each lab log, RAs should document their tasks and the dates/times they spent working on those particular tasks.

Recommendation Letters

Dr. Nikolas is happy to write letter of recommendation for RAs applying to graduate school, scholarships, or other honorifics. To facilitate the efficient writing and sending of letters of recommendation, Professor Nikolas asks students to prepare materials in a standardized manner. Here is what you need to complete.

Please provide the following materials (electronic materials are fine):

- A brief paragraph describing your career goals. Also include any special factors that might be relevant to your application that you want me to know about (e.g., explaining freshman year grades, surprising GRE score, etc.). This is only for informational purposes for Dr. Nikolas.
- Please complete the standardized table that includes program/school information and sort by deadline (on Slack). This information will include the following information: Deadline of application, Name of School and Program, program type, Potential Faculty Mentors and Area of Interest, Electronic or Hard Copy Letter. This form will be used as a checklist by Dr. Nikolas so please be sure it is complete.
- Your vita/resume (a draft is fine)
- An unofficial copy of your transcript that includes the following additional information: Your overall GPA, last two years GPA, and psychology GPA, and your GRE/MCAT/etc. scores if relevant (if you plan on retaking them, note that as well)
- Your Statement of Purpose (a draft is fine)

Other points:

- Please give me your materials no later than 3 weeks before the first letter is due.
- I will help you maintain a space in the lab to store this information. Be sure to let Dr. Nikolas know when your materials are complete.
- Send me a reminder e-mail approximately 1 week before the first letter is due.
- Except under rare circumstances, my letters are confidential. This means that I will send my letters directly to a school.

Please note: Dr. Nikolas wants to write you a strong, personalized letter, but to do so, I need your help to maintain organization and efficiency in this process. The happier you keep me by organizing your materials, the happier I will be when I write your letter! ☺
For each recommendation form (from the schools), fill out with my information:

Name: Molly A. Nikolas, Ph.D.
Position: Associate Professor, Director of Clinical Training, Clinical Science PhD Program
Department: Psychological and Brain Sciences
Institution: University of Iowa
Address: G60 Psychological and Brain Sciences Building
        University of Iowa
        340 Iowa Avenue
        Iowa City, IA, 52242-1407
Phone: 319-335-2455
Fax: 319-335-0191
Email: molly-nikolas@uiowa.edu
Prospective Graduate Students

Graduate students in the Department of Psychological and Brain Sciences matriculate into different training areas. Dr. Nikolas currently accepts students in the clinical science and individualized training tracks. However, there are also several broad research groups in the department. Dr. Nikolas is primarily affiliated with the clinical science and developmental psychopathology research groups.

Am I a good fit for the Iowa ADHD and Development Lab?

Generally, I am interested in taking students with interdisciplinary interests in clinical science and developmental psychopathology and those who have or want to develop strong skills in quantitative methods. Since much of the work also focuses on biological processes (i.e., genetics, psychophysiology, cognitive/neuropsychological functioning), students with those interests are encouraged to apply as well. While much of our work focuses specifically on ADHD, we often have students with broad interests in psychopathology and comorbidity that involves ADHD. You do not need to have a sole focus on ADHD to be a good fit for the lab.

Students who are competitive for admission generally have a strong undergraduate training record in psychological science and some experience working in research, usually as both an undergraduate and as a post-baccalaureate research assistant. I do not expect students to have publications prior to graduate school. However, I am interested in students who want to focus on research training and are interested in pursuing science-oriented careers once they have completed their PhD training. Evidence of independent research experience (i.e., Honor's thesis/projects, co-authored manuscripts) are desirable but not the only way to demonstrate research interests. I am interested in your ideas and goals.

What topics can I study in the lab as a PhD student?

Given that the work in the lab focuses on multiple levels of analysis, there are generally a wide range of topics we are pursuing. Generally, we tend to focus on different risk and protective factors and pathways that led to heterogeneous clinical presentations of ADHD and comorbid profiles across different stages of development. Dissertations in the lab have focused on (1) comorbidity between ADHD and substance use in young adults, (2) the impact of pubertal development on ADHD and comorbid mental health problems, (3) sluggish cognitive tempo and transdiagnostic links between ADHD and internalizing psychopathology in adults, (4) pre- and perinatal risk factors for ADHD and comorbid neurodevelopmental disorders, (5) self-regulation and psychopathology among LGBTQ young adults, and (6) between and within-person variability in internalizing psychopathology in young adults. We have ongoing data collection and several archival data sets that allow students to pursue a variety of questions related to genetics, cognition, emotional processing, comorbidity, psychosocial adversity, and development as they relate to ADHD.

What current research is happening in the lab?

We are continuing to conduct research that focuses on multilevel risk processes for ADHD and comorbid outcomes among youth and young adults. We are currently actively collecting data for our Teen Transition Study that focuses on pubertal development, cognitive and emotion regulation, peer and parent relationships, and psychosocial context for ADHD and comorbid problems during early adolescents. We implement multiple methods, including genetics, psychophysiology, cognitive testing, and multi-informant
clinical assessment. We are also using ecological momentary assessment to measure within-child and within-parent variability in mental health and stress in an intensive longitudinal framework. In the coming years, this line of work will likely continue in addition to other studies that focus on continuation of ADHD during early adulthood.

**What should I do before applying?**

You should read through this manual to gain a sense of expectations and email Dr. Nikolas to discuss your interests further. I would also encourage reading some of our prior publications to gain a sense of the type of work we do.

**What should I include in my application?**

1. Be sure to list Dr. Molly Nikolas as a prospective mentor on your application.
2. Develop your application materials (CV, personal statement, and letters) with the above information in mind.
3. If you have a writing sample (Honor’s thesis, college paper, publication) that reflects your work, please include it in your materials.

**What should I include in my Personal Statement?**

Generally, I find the following to be helpful to include in your personal statement.

1. A clear statement of your general research interests and how they relate to our lab’s mission and work
2. A clear statement of why you are interested in our lab and some ideas about topics/questions you may want to pursue
3. A statement about your career goals (even if they are approximate/might change, it is helpful to see your thinking!)
4. Description of your prior research experience, emphasizing the skills you developed and how those experiences informed your research questions.
**Diversity, Equity, Inclusion, and Justice**

The Iowa ADHD and Development Lab aims to provide an inclusive, supportive, and stimulating environment for all interested in learning more about the casual processes, correlates, and developmental outcomes associated with ADHD. Our lab seeks to foster a culture grounded in mutual respect, humility, and appreciation for our joint labor and for our participants who generously share their lives and perspectives with us so that we can learn more about mental health. Our lab is committed to creating an empowering work environment free from all forms of sexual harassment, racism, oppression, discrimination, exploitation, and intimidation. Such an environment is critical for all our team members to learn and thrive – and, more broadly, to help promote a more equitable world through our work.

As such, **all lab members are expected to commit to an anti-racist, anti-oppression, and justice-oriented approach to clinical science.** Our goals are to uplift minoritized and marginalized individuals and groups and to act against systems of oppression. This includes systems that may occur within our own team in addition to those that may occur within our scientific endeavors, our department, and our university community.

We aim to achieve these goals in at least three ways:

1. We strive to support a culture of mutual support and accountability (specifics described below, in this section).

2. We prioritize open, rigorous scientific methods to ensure that our analytic code and our outputs are accessible to all audiences, regardless of privilege and proximity to academia, and (2) that our work does justice to our research participants and the communities we aim to support (i.e., by maximizing odds of replicability and practical utility).

3. We ensure that all lab-initiated studies (starting in July 2022, when this statement was first drafted) include nuanced assessments of gender identity, sex, sexual orientation, race, ethnicity, socioeconomic status, and minority stress and/or perceived identity-based discrimination, to prevent our work from overlooking the potential roles of diverse, intersecting identities and experiences.

**Culture of Mutual Support and Accountability**

Despite our best efforts and intentions, lab members may act in oppressive, discriminatory, or racist ways (e.g., via overtly discriminatory behaviors or via microassaults, microinvalidations, and/or microinsults). If such actions are observed or personally experienced by lab members, reporting is encouraged. There are two avenues for reporting such instances: intra-lab and extra-lab. Both reporting processes are described below.

**Intra-Lab Reporting Process**

At any time, lab members may generate a report via our online incident reporting system. Reports may be made confidentially (name revealed to Molly) or non-confidentially (name not revealed to Molly).
All reports will be received with gratitude and appreciation. Every effort will be made to ensure that reporters are protected from retaliation of any kind; reporters will not be removed from projects, have responsibilities reduced, or be denied lab-based opportunities because of making a report.

Your participation in this process, and willingness to report discrimination in our lab community, reflects dedication to a positive lab culture.

If a particular person is identified as having committed a particular harmful action, Molly will schedule a meeting with the lab member identified as acting in a discriminatory manner about the complaint (she will not reveal the reporter's identity unless the reporter explicitly asked her to do so). She will inform the individual of what was reported, work with the lab member to (1) craft an appropriate apology to the individual or individuals affected, and (2) develop a remediation plan for self-educating on issues of inclusion and systems of oppression, tailored to the nature of the issue.

Whenever possible—and likely in most cases—a restorative approach will guide the intra-lab reporting process. Singular reports of a lab member committing a microaggression, microinsult, and microinvalidation will be viewed as opportunities for them to reflect on, learn, and grow from their actions. However, in cases of repeated (despite remediation attempts), very serious, and/or violent acts of oppression, harassment, or discrimination (i.e., those requiring Extra-Lab reporting), Molly reserves the right to end an individual's involvement with the Lab.

The above procedures apply to all lab members, including reports about the PI. If Molly receives a confidential (or non-confidential) complaint about her own behavior through the Intra-Lab reporting process described above, she will write an apology letter to the affected individual(s) and share her remediation and self-education plan. Ideas for improving this self-education plan will be welcomed, but responses and feedback from affected individuals are neither expected nor required.

Extra-Lab Reporting Process

Discrimination or harassment will not be tolerated in any form, either of or from members of the lab. Harassment includes offensive verbal comments related to gender, gender identity and expression, age, sexual orientation, disability, physical appearance, body size, race, religion, sexual images in public spaces, deliberate intimidation, stalking, following, harassing photography or recording, sustained disruption of talks or other events, inappropriate physical contact, and unwelcome sexual attention. If you are experiencing any form of sexual harassment, sex discrimination, or gender-based violence, you can make a report to the Title IX office at the University of Iowa here. For more information, the Office of Diversity, Equity, and Inclusion maintains many resources that outline university policies, procedures, expectations, common questions, and resources for anyone who may become involved in a Title IX process (students and/or employees).
Research Practices

Authorship

We use guidance from the International Committee of Medical Journal Editors (ICMJE) about how to determine authorship. The ICMJE suggests that authorship should be based on the following four criteria:

1. Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND

2. Drafting the work or revising it critically for important intellectual content; AND

3. Final approval of the version to be published; AND

4. Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

These guidelines are consistent with APA's statement on authorship:

"Authorship credit should reflect the individual's contribution to the study. An author is considered anyone involved with initial research design, data collection and analysis, manuscript drafting, and final approval.

However, the following do not necessarily qualify for authorship: providing funding or resources, mentorship, or contributing research but not helping with the publication itself. The primary author assumes responsibility for the publication, making sure that the data are accurate, that all deserving authors have been credited, that all authors have given their approval to the final draft; and handles responses to inquiries after the manuscript is published."

**We will do our best to determine authorship prior to starting a new paper.** The first author, typically (but not always) the corresponding author, is primarily responsible for the project. This person typically had a central role in the conceptualization, execution, and analysis of the study and moving the manuscript through the submission and review process at a journal. Typically, this person will be a graduate student or a postdoc, although it is possible for lab staff and RAs to lead article submissions. People that played a less central role (but still qualify for authorship based on the above-mentioned guidelines) are usually middle authors.

Molly is typically included as senior author (last author), although there may be some circumstances in which Molly is first author (which will be noted far in advance), is not included as an author (e.g., collaborations between students and faculty in other labs or departments in which Molly was not involved), or is not listed as senior author (e.g., collaborations involving data from another PI's project).

When a student or post-doc leads a project, it can be assumed that this student or post-doc will have the first-author role on the resulting paper. However, if roles on a project change, so too can authorship roles: Although we will discuss authorship from the start of a new project, sometimes even well-thought-out plans need adjustment. Lab members are
expected to be flexible and understand that even if you initially thought you were going to be the first author, if your role substantially changes (e.g., someone else ends up taking the lead on conducting the analyses for and drafting the paper), your authorship may also change. It is also possible, in some cases, for authors to be added partway through a project. Collaborators or students who help over the course of the project may be added to the author list depending on their contribution, and their placement will be discussed with all parties involved in the paper. All these issues will be discussed openly as a given project unfolds. You should feel free to bring them up if you are not sure of your authorship status or have concerns about it.

Students who collect dissertation data in the lab are invited as an author on all manuscripts developed based on those data. Students requesting to use another’s dissertation data (or other data another student has been using on a different project) will submit a summary of their request to Molly to ensure that there is not overlap that needs to be considered.

Open Science

The Iowa ADHD and Development Lab is committed to open science practices. This approach is new to the lab and to the field of clinical psychology more broadly. Nonetheless, we view open science as a valuable and important development in our field—one that can dramatically boost our efficiency as a research team, clarify our own scientific thinking, and speed dissemination of our results. As such, open science practices will be encouraged whenever possible. This includes:

1. **Pre-registration.** Pre-registering a study involves detailing your hypotheses, research design, and analytic plan before starting a project. It is possible, and strongly encouraged, for lab members to pre-register both exploratory/data-driven and hypothesis-driven research projects. Pre-registering helps reduce “researcher degrees of freedom,” reduces our odds of producing false-positive results, and helps assure future readers of our work that we did not engage in statistical “fishing” (i.e., continuing to re-analyze the data until a result was found).

   Pre-registering is also a very helpful educational exercise, in that it allows you to think through your project from start to finish—including all possible analytic ‘choice-points’ (of which there tend to be many!). We generally use the “as predicted” guide to developing pre-registrations.

2. **Documenting code.** Although there is no requirement for using a particular statistical software in this lab, it is necessary to document code relevant to analyses that you conduct. For this reason, R and MPlus can be especially helpful to use, as it promotes an easily reproducible approach to data analysis. However, if you are more comfortable using other software packages (e.g., Jamovi, which automatically produces R code if used in ‘Syntax’ mode; SPSS), consult with a graduate student, post-doc, or Molly to learn how to store your analytic code so that others can reproduce it later. It is necessary for lab members to document their approaches to both data cleaning and analysis to facilitate reproduction of both cleaned datasets and analyses (using cleaned datasets).

3. **Pre-prints.** When submitting a new manuscript to a peer-reviewed journal, we will
also aim to submit a preprint of the manuscript to a preprint server. Preferred preprint servers are PsyArXiv and OSF Preprints.

4. **Posters and Talks.** Lab members are encouraged to make Powerpoints from scientific conferences, invited presentations, and poster presentations publicly available via Open Science Framework. Slides from talks and posters that you author or co-author will also be linked on the lab website next to your bio (or, for graduate students/post-docs, within your CV). This allows others to access your work quickly and easily.

**Human Subjects Research**

Virtually all the research our lab conducts involves human subjects. All research must be IRB approved, and research procedures must adhere to what is proposed and approved by the IRB. There are severe consequences (e.g., the entire lab could be shut down for a period of time) if we violate an approved protocol. The University of Iowa requires all members of the research team who will be involved in conducting human subjects research to complete training and certify financial disclosures and conflicts of interest.

Everyone involved in data collection must complete ethics training (typically CITI training) prior to collecting data. Please save your training certificate in case we need to document your training.

If a participant falls ill, becomes upset, has an accident with lab equipment, or experiences any problems while you are conducting your research, you must notify Molly and relevant lab personnel as soon as possible. We may need to report this information to the IRB and/or funding agencies.

**Starting a New Project in the Lab**

**Doctoral students** routinely start new projects in the lab, either with existing data or they may initiate new data collection (with funding or other relevant supports). Generally, when starting a new project with **existing lab data**, doctoral students should write a brief proposal that includes the aims, rationale, and proposed analyses and schedule a meeting with Molly to review. During that meeting, a plan, including timetable, for executing the project and proposed authorship order will be discussed and included in the proposal. This will then be approved by all authors prior to developing the proposal into a pre-registration for OSF.

**Undergraduate RAs** interested in pursuing a PhD are encouraged to pursue supplemental, mentored research opportunities to complement their project-based experience. These opportunities will involve projects using **secondary data analysis with existing lab data (and in some cases, open/public datasets)**.

Generally, these opportunities will involve working under the mentorship of a PhD student in the lab in addition to Dr. Nikolas. Lab members must have completed at least 2 semesters of work in the lab in order to be eligible to initiate a new project (e.g., Honor’s thesis). All work on the independent project must be completed **outside of your regular lab hours**. Lab project tasks need to come first!

If you are interested in working on an independent project as an undergraduate student,
you must complete the following training-related steps:

1. Complete at least 2 semesters of work in the laboratory.

2. Complete Research Methods I and II with a grade of B or higher.

3. **Watch this series of video tutorials by Andy Field, PhD:**
   https://www.discoveringstatistics.com/statistics-hell-p/. Specifically, complete videos/tutorials 1-7 in “Postverta”; videos/tutorials 1-3 in “Antevorta”; videos/tutorials 1-3 in “Porus”; and videos/tutorials 1-2 in “Egestes”. This will give you an overview of common statistical tests, along with **when** to use them (based on the variables you’re working with) and **what kinds of research questions** each test can help you answer.

4. **Watch the videos from Weeks 1, 3, 4, 5, and 7 from Daniel Lakens’ free Cousera class, “Improving Your Statistical Inferences.”** You are not required to complete the quizzes or assignments, but they can be helpful for those who are interested. Once the above tutorials have been completed, please **email Molly** (Subject Line: “ADHD Lab Research Interest”) attesting that you have completed these steps. Please also include 1-2 written paragraphs describing (a) your tentative career goals; (b) the top 2 skills you are most interested in building from this research opportunity, and why these skills are important to you and (c) any topics within the scope of our work of special interest to you (e.g., cognitive and emotional functioning, genetics, temperament, SES, comorbidity).

Molly will review your proposal and forward your message to any PhD students who may be available to work with you. We will then schedule meeting with all contributing authors to determine timeline, division of labor, and plan for progress. Note – these plans may need adjustment over time and regular meetings are essential for completing independent projects.