

## EDUCATION

- 2020 - 2022 **Teachers College, Columbia University**, New York, NY  
M.A., Clinical Psychology  
Mentor: Lisa M. Ranzenhofer, Ph.D.
- 2017 - 2020 **University of Toronto, Innis College**, Toronto, ON  
HBS, Specialist in Psychology, Major in Industrial Relations and Human Resources  
Mentors: Brett A. Cochrane Ph.D. & Jay Pratt Ph.D.

## RESEARCH INTERESTS

I am interested in using computational modeling and a multi-method approach (neurocognitive tasks, neuroimaging, and ecological momentary assessment) to identify transdiagnostic mechanisms and protective factors of psychopathology, including but not limited to eating, mood, and anxiety related disorders. Particularly, I aim to examine the visual information processing and decision-making attributed to "bottom-up" and "top-down" disturbances. I am committed to developing novel evidence-based interventions for these disorders using an idiographic approach that targets person-specific maintenance and cultural factors.

## PUBLICATIONS AND MANUSCRIPTS

1. **Gu, S. J.**, Aimufua, I., Pagliaccio, D., Shankman, S. A., Steinglass, J. E., Auerbach, R. P., & Ranzenhofer, L. M. (*In Preparation*) Self-referential Processing Biases in Patients with Anorexia Nervosa.

## PAPER PRESENTATIONS

1. **Gu, S. J.**, Aimufua, I., Pagliaccio, D., Shankman, S. A., Steinglass, J., Auerbach, R. P., & Ranzenhofer, L. (2023, June). *Self-referential Processing Biases in Patients with Anorexia Nervosa*. [Paper Presentation] International Conference for Eating Disorders (ICED), United States, Washington D.C.
2. Patmore, J., Ranzenhofer, L., Attia, E., **Gu, S. J.**, Xu, S., & Kalich, V. (2022, June). *The Role of Alliance in a Peer Mentorship Program for Individuals with Eating Disorders*. [Paper Presentation] International Conference for Eating Disorders (ICED) (Virtual Conference).
3. Patmore, J., Ranzenhofer, L., Attia, E., Kalach, V., **Gu S. J.**, Chiao, S., Nathan, R., Akason, T., Atri, E., Clarizio, D., Agrawal, P., & Farber, B. (2022, July). *How Patient Knowledge of Provider Lived Experience with an Eating Disorder Facilitates Positive Outcomes*. [Panel Discussion] Society for Psychotherapy Research (SPR), University of Denver, Denver, Colorado.
4. Patmore J., Sinclair C., Cao E., Ng S., Mayall D., Agrawal P., **Gu S. J.**, Chiao S., & Kalach V. (2021, July). *The Utility of Lived Experience with an Eating Disorder as a Therapeutic Tool to Facilitate Client Self-disclosure: An Evaluation of a Peer-Based Community Support Group*. [Paper Presentation] Society for Psychotherapy Research (SPR), United States (Virtual Conference).

## POSTER PRESENTATIONS

1. Ranzenhofer, L., Trivedi, E., Aimufua, I., **Gu S. J.**, Steinglass J., Auerbach R. P. (2023, September) *Passive Sensing Of Social Processes In Adolescents With An Eating Disorder* Eating Disorders Research Society, United States, Boston.
2. Aimufua, I., Ranzenhofer, L., **Gu S. J.**, Steinglass, J., Walsh, T. B. (2023, June) *Concordance of the EDE-Q and EDE-12 in a Clinical Sample of Patients with Eating Disorders* International Conference for Eating Disorders (ICED), United States, Washington D.C.
3. Tang J. E., Kurylo, D. D., **Gu S. J.**, Jain, M., Waxman, R., & Gordon, P. (2021, May). *Neural Correlates of*

*Visual Perceptual Organization (PO) in an EEG Oddball Paradigm.* Association for Psychological Science (APS), United States (Virtual Conference).

4. Cochrane B.A., **Gu S. J.** & Pratt J. (2020, November). *Are Event Files due to a Long-Term or a Short-Term Memory Process?* The Psychonomic Society 61st Annual Meeting. (Virtual conference).
5. Cochrane B.A., **Gu S. J.** & Pratt J. (2020, June). *Are Event Files due to a Long-Term or a Short-Term Memory Process?*. The Transdisciplinary Research Association on Cognition and Embodiment 7th Annual Meeting, Germany, Würzburg (Cancelled conference).

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## CURRENT INDEPENDENT RESEARCH PROJECTS

08.2023 - **Project Lead RA, Mentor: Laurel E. Mayer M.D.**

Present **Study: Behavioral Differences between People with Long-Term Weight Loss Maintenance and Controls**

- Conducted literature search on eating behaviors in people with long-term weight loss maintenance
- Ran two-way repeated measure ANOVAs to examine group differences and interaction in eating behaviors in the meal study and food choice task performance
- Currently drafting the manuscript

03.2023 - **Project Lead RA, Mentor: E. tCaitlin Lloyd Ph.D.**

Present **Study: Diffusion Image Differences Before and After Weight Restoration in Anorexia Nervosa**

- Wrote bash commands to organize imaging data from different databases
- Wrote and ran bash commands to remove bad volumes from the diffusion image data
- Wrote bash commands to perform distortion correction on 16 scans in parallel on a 16-core machine
- Ran existing preprocessing script to preprocess the imaging data through fMRIPrep
- Conducted literature search on tractography in different clinical populations
- Currently running probabilistic tractography analysis and drafting the manuscript

08.2021 - **Project Lead RA, Mentor: Lisa M. Ranzenhofer Ph.D.**

Present **Study: Self-referential Processing Biases in Patients with Anorexia Nervosa**

- Cleaned and processed trial-by-trial data (i.e., response, RT) from Self-Referential Encoding Task with Python, including removing outliers and calculating bias scores based on the responses
- Ran two-way repeated measure ANOVAs to examine group differences and interaction in SPSS v.26
- Computed drift rates (incorporating both responses and reaction times) using a computational model (Hierarchical Drift Diffusion Model) to assess the negative/positive bias \*analysis available on GitHub
- Performed a cluster of regression analyses to examine relationships between bias and eating disorder severity (EDE-Q global score, EPSI subscales), controlling for age, BMI, and depression (BDI)
- Performed correlation analysis between bias scores/valence index and eating disorder severity scores
- Drafted the manuscript, currently preparing for submission

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## RESEARCH EXPERIENCE

07.2022 - **Clinical Research Assistant, COLUMBIA CENTER FOR EATING DISORDERS**

- Present [40hrs/week]
- Coordinated the recruiting, screening, and admission process for patients on the inpatient unit
  - Attended rounds to discuss details about patients with eating disorders on the inpatient unit
  - Administered clinical (EDA-5, SCID, K-SADS, AOO, YBC) and cognitive assessments (WASI, LNS)
  - Entered and managed data from multiple databases (CRMS, REDCap, kisEMR, physical charts)
  - Managed and ensured the quality of MRI scans and preprocessed the MRI data with fMRIPrep
  - Coded (N = 6) three behavioral and three scanner versions of neurocognitive tasks in PsychoPy (Food Choice Task (FCT), Two Step Task (TST), Incentive Flanker Task (IFT), available on GitHub)

07.2022 - **Research Coordinator, Grant: UG3 DK128302**

Present **Study: The Physiology of the Weight Reduced State (POWERS) - Laurel E. Mayer, M.D.**

- Coordinated study meetings, and scheduled research procedures
- Developed REDCap survey pipeline to send participants links to the task upon completion of specific questionnaires, and filter participants to appropriate questionnaires
- Set up Columbia Suicide Severity Rating Scale (C-SSRS) on REDCap with complex logic tools
- Developed and revised a manual for task administration
- Trained coordinators at collaborating sites to set up and administer an online experiment
- Troubleshoot with collaborating team for task installation and set up

- 07.2022 - **Research Coordinator**, Grant: Brain & Behavior Research Foundation 2021  
 Present *Study: The Role of Dopamine in the Persistence versus Remission of Anorexia Nervosa during Adolescence - Blair W. Uniacke, M.D.*
- Communicated with IRB, coordinated study meetings and scheduled research procedures
  - Ran structural and neuromelanin scans on adolescents/young adults with and without eating disorders
  - Administered the Two Step Task money version and the Age of Onset interview with participants
  - Cleaned the behavioral data with Python for preliminary analysis
- 07.2022 - **Research Coordinator**, Not-Funded  
 Present *Study: Longitudinal Follow-up for the Eating Disorders Research Unit - Evelyn Attia, M.D.*
- Consented (and assented if < 18 years old) patients (and parents) for the study and answered questions
  - Managed participant database (N = 475) with 10-year and 20-year follow-up questionnaires
  - Communicated with IRB and submitted the annual progress report
  - Sent annual questionnaires from REDCap to past patients
- 08.2021 - **Research Coordinator**, Grant: K23 MH121780  
 Present *Study: Restrictive and Binge Eating during Adolescence: the Role of Self-Related Cognitions and Social Stress - Lisa M. Ranzenhofer, Ph.D.*
- Coordinated study meetings and scheduled research procedures
  - Modified Food Choice Task for the EEG study in MATLAB
  - Ran EEG experiments on adolescents with and without eating disorders
  - Conducted Multi-Item Meal (MIM) with participants and recorded food intake
  - Messaged participants and ensured the collection of Ecological Momentary Assessment (EMA) data
- 08.2021 - **Graduate Research Assistant**, COLUMBIA CENTER FOR EATING DISORDERS  
 07.2022 [20hrs/week] *Study: Aging and Cognitive Reserve Using Magnetic Resonance Spectroscopy - Yunglin Gazes, Ph.D.*
- Scored EDE-Q, SRHI, BDI, STAI(T), AOO and entered data into REDCap
  - Conducted phone interviews with HC and patients with EDs to screen for research eligibility
  - Translated phone screening, admission processes with AN adolescent patients and parents in Mandarin
  - Listened to recordings of assessments (e.g. SCID, KSADS, EDA-5) for patients with eating disorders
- 06.2021 - **Graduate Research Assistant**, COLUMBIA NEUROIMAGING LAB  
 06.2022 [10hrs/week] *Study: Aging and Cognitive Reserve Using Magnetic Resonance Spectroscopy - Yunglin Gazes, Ph.D.*
- Preprocessed MRS data with INSPECTOR neuroimaging tool and ran LCM analysis
  - Conducted literature search on MRS studies in aging-related topics and cognitive reserve
  - Documented all the processes and analyses and presented them in lab meetings
- 11.2020 - **Graduate Research Assistant**, SUICIDE RESEARCH LAB  
 07.2022 [5hrs/week] *Study: Suicide Prevention - Training, Implementation & Evaluation - Christa Labouliere, Ph.D.*
- Evaluated and coded Stanley-Brown Suicide Prevention Safety Plan (N = 378) via REDCap
  - Discussed with team members to reach consensus on ambiguous safety plans
  - Attended patient update meetings and sat in diagnosis consensus meetings
- Study: Social Stress in People with Suicide Intent and Ideation - Barbara H. Stanley, Ph.D.*
- Ran the Trier Social Stress Test (TSST) experiments as a confederate
  - Accompanied participants (suicide attempters/ideators/healthy control) to Exam Rooms to draw blood
  - Briefed the participants after experiments and escorted them to the exits safely
- 11.2020 - **Graduate Research Assistant**, EATING DISORDERS & DISCLOSURE LAB  
 06.2021 [5hrs/week] *Study: Project Healing: The Utility of Lived Experience with an Eating Disorder as a Therapeutic Tool: an Evaluation of Peer-Based Community Support Group - Jacqueline Patmore*
- Edited an abstract for submission, and slides for two conference presentations
  - Coded thought units in responses to HEALing Support Group Survey
  - Organized data collected from Qualtrics survey in Google sheet
- 11.2020 - **Graduate Research Assistant**, LANGUAGE AND COGNITIVE NEUROSCIENCE LAB  
 06.2021 [10hrs/week] *Study: Neural Correlates of Visual Perceptual Organization in Patients with Schizophrenia/Schizotypal Personality Disorder using EEG and Gazeport - Jean E. Tang, Ph.D. & Peter Gordon, Ph.D.*
- Created a complete set of eight visual/color stimuli with JavaScript
  - Developed visual experiment to examine perceptual organization in schizophrenia via PsychoPy
  - Collected behavioral data from Qualtrics and cleaned them with Python in Google Colab
  - Cleaned Gazeport data in Google Colab and exported as excel sheets for further analysis
  - Conducted literature review on perceptual organization in schizophrenic patients and healthy controls

- 01.2020 - **Undergraduate Research Assistant**, VISUAL COGNITION LAB  
 05.2020 *Study: Event Files Formed in Short/Long-Term Memory - Brett A. Cochrane, Ph.D. & Jay Pratt, Ph.D.*  
 [8hrs/week]
  - Presented four research papers, and wrote one review for a research paper
  - Ran PsychoPy program and conducted 3 simultaneous experiments in the lab in 1 hour
  - Performed t-test and two-way ANOVA in R, learned to write scripts in R and Matlab
- 11.2019 - **Undergraduate Research Assistant**, ANXIETY RESEARCH AND TREATMENT LAB  
 05.2020 *Study: A Diary Study: Reassurance Behaviors in Patients with Body Dysmorphic Disorders - Olivia Provost-Walker & Martin Antony, Ph.D.*  
 [2hrs/week]
  - Recruited participants with various platforms, connections and resources efficiently
  - Conducted literature review on body dysmorphic disorder and reassurance behaviors
- 05.2019 - **Undergraduate Research Assistant**, MIND AND BODY LAB  
 05.2020 *Study: The Effect of Pain on Moral Judgments - Spike Lee, Ph.D.*  
 [4hrs/week]
  - Conducted 15-minute experiments with strangers of different races/ethnicities on the street
  - Collected data, accurately entered the data and assisted in literature review on embodiment
  - Individually completed the qualitative coding task for 2000 MTurk data sets
  - Coordinated meetings with other coders to generate consistent coding schemes

## CLINICAL EXPERIENCE

- 09.2023 - **Attendee**, Cognitive Behavioral Therapy Class at Columbia Center for Eating Disorders  
 Present *Supervised by Dr. Michael J. Devlin, MD*
  - Attended the CBT classes with medical residents and reviewed relevant class materials
  - Shadowed them applying CBT skills with patients on the inpatient unit for eating disorders
- 08.2022 - **Consenter**, Columbia Center for Eating Disorders  
 Present *Supervised by clinicians at Columbia Center for Eating Disorders*
  - Explained research procedures, answered questions, and consented/assented adult patients/parents and adolescent patients for the following two protocols:
    - Screening Process for Eating Disorders Research Clinic
    - Longitudinal Follow-up for the Eating Disorders Research Unit
- 07.2022 - **Assessor**, Columbia Center for Eating Disorders  
 Present *Supervised by Lisa M. Ranzenhofer, Ph.D. and Alexandra F. Muratore, Ph.D.*
  - Administered the following semi-structured clinical interview:
    - Structured Clinical Interview for DSM-5 Disorders (SCID-5) with adults
    - Kiddie Schedule for Affective Disorders and Schizophrenia (K-SADS) with adolescents
    - Eating Disorder Assessment for DSM-5 (EDA-5) with adolescents and adults
    - Age of Onset (AOO) interview with adolescents and young adult patients (< 24 years old)
  - Administered the following cognitive assessments in interview style:
    - Self-Report Habit Index (SRHI) with adolescents and adult patients;
    - Yale-Brown-Cornell Eating Disorders Scale (YBC-ED) with patients;
    - Wechsler Abbreviated Scale of Intelligence I & II (WASI) with adolescents and adults
- 07.2022 - **Attendee and Presenter at Rounds**, Inpatient Unit at Columbia Center for Eating Disorders  
 Present *Supervised by Blair W. Uniacke, M.D.*
  - Attended rounds to discuss details and progress about patients on the inpatient unit
  - Presented scheduled research procedure and research eligibility during rounds
- 08.2021 - **Phone Screener**, Columbia Center for Eating Disorders  
 Present *Supervised by clinicians at Columbia Center for Eating Disorders*  
 [4hrs/week]
  - Conducted the following phone screens:
    - 10-minute phone interviews with anyone who called the clinic
    - 45-60 minute phone interviews with patients who might have an eating disorder
    - 30-minute phone interview with potential healthy control participants

- 09.2021 - **Study Therapist**, R01MH115128
- 04.2022 *Study: Harnessing Mobile Technology to Reduce Mental Health Disorders in College Populations*  
[4hrs/week] (iAIM EDU) - *Elsa Rojas, Ph.D. & Ellen Fitzsimmons-Craft, Ph.D.*
- Provided feedback for college-student users with eating disorder/anxiety/depression on their progress
  - Attend weekly one-hour supervision on how to provide positive feedback as a coach using CBT skills
  - Used digital CBT evidence-based treatment tools to encourage users to use different self-guided modules

## CODING AND TASK DEVELOPMENT

- 2023 **Web Surf Task**, Originally developed by Abram et al., 2019  
*This task presents different amounts of time to forage for videos across four types and asks participants to choose whether to stay and wait or skip the video to assess their visual and decision-making processing.*
- Adapted the JavaScript version to launch it on Pavlovia
  - Wrote the behavioral version in JavaScript for online launches
  - Updated behavioral version to sync the stimuli with an MRI scanner
  - Wrote a behavioral version in Python based on the descriptions in the original paper
- 2022 **Incentive Flanker Task**, Originally developed by Norman et al., 2021  
*This task presents five letters, one of which is the target letter, in high/low interference conditions with high/low rewards and asks people to identify the target letter to earn rewards in order to assess their cognitive control and reward processing.*
- Adapted the behavioral version to sync the stimuli with an MRI scanner
  - Wrote a behavioral version in Python based on the descriptions in the original paper
- 2021 - 2023 **Two Step Decision Task**, Originally developed by Foerde et al., 2021  
*This task presents a set of two choices (first two spaceships, then two aliens) at both model-based and model-free learning phases and asks people to learn the probability pattern to earn the reward associated with the choices to assess their goal-directed learning abilities.*
- Wrote the behavioral version in Python for better efficiency of the task
  - Created a behavioral version with PsychoPy Builder based on the original Matlab version
- 2020 - 2023 **Food Choice Task**, Originally developed by Steinglass et al., 2014; Foerde et al., 2015  
*This task presents 76 food images three times in three blocks: healthiness, tastiness, and preferences of the food items and asks participants to rate the items respectively on a Likert scale of 1 to 5 to assess their evaluations and preferences on high fat or low-fat food.*
- Adapted the MRI version for multiple scanners and a different set of stimuli and triggers
  - Updated the MRI version to a universal version for Open Science, available on GitHub
  - Adapted the behavioral version to sync the stimuli with an MRI scanner
  - Adapted the behavioral version to launch on PCs
  - Wrote the behavioral version in Python for better performance of the task
  - Created a behavioral version with PsychoPy Builder based on the original Matlab version
- 2020 **Visual Perceptual Organization Task**, Originally developed by Kurylo et al., 2018  
*This task presents 20 x 20 dot arrays of elements that indicate general organization (Horizontal or Vertical orientation) with motion/color differences at four difficulty levels, and asks participants to detect the stimuli orientations to assess their visual processing system.*
- Adapted the behavioral version to launch it on Pavlovia
  - Created a behavioral version with PsychoPy Builder based on the description in the paper

## TEACHING EXPERIENCE

- 02.2023 **Teaching Assistant**, Eye Tracking Methods and Dynamic Data Analysis
- 01.2022 *Graduate psychology class: BSSN 4070 by Peter Gordon, Ph.D. at TC, Columbia University*
- 05.2021
- Delivered a 90-minute lecture on designing and creating experiments using PsychoPy
  - Prepared sample questions for students to practise creating experiments
  - Explained components of PsychoPy, application of different components in creating experiments
  - Presented how to create Stroop Task, Posner Task, and Perceptual Organization Task



- 01.2022 **Teaching Assistant**, Explorations in Madness: Schizophrenia and Other Psychotic Disorders  
*Graduate clinical psychology class: CCPX 4070 by Paul Saks, Ph.D. at TC, Columbia University*
- Contributed to the development of appropriate teaching materials (e.g. syllabus)
  - Performed teaching duties and assisted assessment of homework, assignments, and exams
- 09.2021 **Teaching Assistant**, Adult Personality and Psychopathology  
*Graduate clinical psychology class: CCPX 5032 by Paul Saks, Ph.D. at TC, Columbia University*
- Contributed to the development of appropriate teaching materials (e.g. syllabus)
  - Performed teaching duties and assisted assessment of homework, assignments, and exams

## RELEVANT EXPERIENCE

- 05.2019 - **Research Assistant**, WORKPLACE SAFETY & INSURANCE BOARD, SURVEY UNIT
- 08.2019 [10 hrs/week]
- Conducted telephone interviews with injured workers, employers, providers, and other stakeholders
  - Used active listening and other techniques to elicit thorough and comprehensive responses
  - Recorded responses by keyboard into Computer Assisted Telephone Interview (CATI) System
- 08.2018 - **Residence Advisor**, UNIVERSITY OF TORONTO, SCARBOROUGH
- 04.2019 [25 hrs/week]
- Promoted inclusivity through facilitated dialogue, community development, and peer education
  - Highly flexible and reliable to students seeking support for academic/personal/community concerns
  - Responded to all emergency, crisis in residence, and documented incidents appropriately/timely
  - Planned and hosted various biweekly events for 30-40 students within the expected timeframe

## SKILLS

Languages	Mandarin, English, Python, JavaScript
Questionnaires	REDCap, Qualtrics
Webserver	AWS, Ginsburg, HPC cluster
Recruitments	RecruitMe, SONA, MTurk
Experiments	PsychoPy, Pavlovia, E-prime, MATLAB
Neuroimaging	Python, bash, fMRIPrep, INSPECTOR, MATLAB
Statistics	Python, SPSS, Excel, R, STATA
Analysis	HDDM, HSSM, ANOVA, (multiple) linear regression, chi-square

## PROFESSIONAL AFFILIATIONS

- 2023 - Present Academy for Eating Disorders
- 2022 - Present American Psychological Association