

Melinda C. Somers

Lab Manager, Laboratory on Social & Affective Neuroscience (PI: Abigail A. Marsh, Ph.D.)

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Education

- 2020 – 2024 **The University of North Carolina, Chapel Hill**
 B.S., Neuroscience with honors, minors in Chemistry and Entrepreneurship
 Phi Beta Kappa, Nu Rho Psi
GPA: 3.989; *Major GPA:* 4.000
Advisors: Keely Muscatell, Ph.D.; Gabriella Alvarez, Ph.D.
Honors Thesis: Investigating Minocycline as a Modulator of Perceived Stress Among Chronically-Stressed Adults
- Spring 2023 **DIS Study Abroad in Scandinavia, Copenhagen, Denmark**
 Course in Cognitive Neuroscience of Consciousness
Course Project: Auditory Perceptual Thresholds of Consciousness for Different Sound Categories

Research Interests

prosocial behavior, altruism, wellbeing, empathy, loneliness, social connection, motivation and behavior change, mixed-methods research

Honors & Awards

- 2023 **David Bray Peele Memorial Research Reward**, Department of Psychology, University of North Carolina, Chapel Hill (\$500)
- 2023 **Lindquist Undergraduate Research Grant**, Department of Psychology, University of North Carolina, Chapel Hill (\$350)
- 2023 **Shuford Program in Entrepreneurship Summer Internship & Professional Development Funding**, Shuford Program in Entrepreneurship, University of North Carolina, Chapel Hill (\$3500)
- 2023 **Nu Rho Psi Chapter Activity Grant**, Nu Rho Psi – The National Honor Society in Neuroscience (\$300)
- 2023 **President of Nu Rho Psi alpha of North Carolina chapter**, Nu Rho Psi – The National Honor Society in Neuroscience
- 2023 **Phi Beta Kappa**
- 2020 – 2024 **University of North Carolina at Chapel Hill Dean's List**
- 2020 **Valedictorian**, Glen Rock High School, Glen Rock, NJ
- 2020 **Gold Award**, Girl Scouts of America

Research Manuscripts (*equal contributions)

Nero, N. M., Dressel, M., Amormino, P., Freeburg, P. A., **Somers, M. C.**, Poplinski, L., Duhamel, K., Alvarez-Toro, V., Marsh, A. A. (2025). *Severity of psychopathy in a community-recruited sample is indexed by increased social discounting*. [Preprint].

Somers, M. C., Alvarez, G. M., Newbill, C., Muscatell, K. A. (2024). *Investigating Minocycline as a Modulator of Perceived Stress Among Chronically Stressed Adults*. [Senior Honors Thesis].

In Preparation

Dressel, M., Nero N., Freeburg, P. A., **Somers, M. C.**, VanMeter, A., Rhoads S. A., Marsh, A. A. (2025). *Loneliness predicts reduced self-reported empathy but not empathic multi-voxel neural response patterns after meditation training* [Under revision].

Somers, M. C.*, Williams, M.*, Venticinque, J. S., Verbesey, J. E., Marsh, A. A. (2025). *Self-reported Motivation for Donating Prospectively Predicts Living Kidney Donation* [Manuscript in prep].

Conference Presentations (*equal contributions)

Somers, M. C., Williams, M., Venticinque, J. S., Verbesey, J. E., & Marsh, A. A. (2025, May). *Factors Predicting Costly Altruism Among Potential Living Kidney Donors* [Poster]. Association for Psychological Science.

Somers, M. C., Williams, M., Venticinque, J. S., Verbesey, J. E., & Marsh, A. A. (2025, February). *Using Language Focused on Costs and Benefits Prospectively Predicts the Choice to Donate a Kidney* [Poster]. Society for Personality and Social Psychology Moral Psychology Preconference.

Nero, N. M., Dressel, M., Amormino, P., Freeburg, P. A., **Somers, M.**, Poplinski, L., Duhamel, K., Alvarez-Toro, V., Marsh, A. A. (2025, February). *Psychopathy and social discounting: How individuals from a large, high psychopathy community sample value others and implications on antisocial behavior* [Presentation]. Society for Personality and Social Psychology.

Somers, M. C., Alvarez, G. M., Newbill, C., Muscatell, K. A. (2024). *Investigating Minocycline as a Modulator of Perceived Stress Among Chronically Stressed Adults* [Poster]. University of North Carolina, Chapel Hill Undergraduate Research Symposium.

Harlan, A.*, Healy, M. K.*, Saenger, D.*, **Somers, M. C.*** (2023). *Auditory Perceptual Thresholds of Consciousness for Different Sound Categories* [Poster]. DIS Festival, Copenhagen, Denmark.

Research and Work Experience

2024 – present **Lab Manager, Lab on Social and Affective Neuroscience (PI: Abigail A. Marsh)**

Social Perceptions & Other-Oriented Decision-Making

Large-scale fMRI study ($N = 150$) examining other-oriented decision making among adults across the caring continuum (i.e., psychopathy, extraordinary altruism).

- Create and manage IRB protocol
- Develop online surveys using Qualtrics
- Recruit participants and coordinate study procedures
- Conduct participant screening and scheduling
- Collect and preprocess fMRI data
- Conduct and transcribe qualitative interviews
- Clean and prepare survey data for analysis in R

Humility as a Promoter of Cooperation Across Contexts

Online experiment testing how third-party perceptions of others' self-evaluative accuracy influences ones' desire to cooperate with them.

- Create and manage IRB protocol
- Develop and pilot online surveys using Qualtrics and Prolific
- Clean and analyze data in R
- Conduct literature reviews to inform study design and interpretation

Collaboration with St. Elizabeth's Psychiatric Hospital

Study of individuals in the community with high levels of psychopathic traits using the PCL-SV in collaboration with psychiatrists at the St. Elizabeth's Psychiatric Hospital.

- Create and manage IRB protocol
- Manage participant database
- Conduct PCL-SV interviews

Living Kidney Donor Intentions Study

Prospective study investigating whether stated intention to sign up as a living kidney donor predicts actual donation outcomes among potential donors.

- Conducted literature reviews
- Cleaned and analyzed data in R
- Writing and preparing manuscript for publication

Overcoming Barriers to Social Connection & Love

fMRI study ($N = 62$) testing whether loving-kindness meditation reduces loneliness and whether this effect is driven by individual differences in empathy.

- Conducted literature reviews to inform study interpretation
- Contributed to manuscript writing and revision
- Created figures and tables for publication

2022 – 2024

Research Assistant & Project Coordinator, The Social Neuroscience and Health Lab (PI: Keely Muscatell, Ph.D.)***Neuroinflammation and Chronic Social Stress***

Within-subjects, placebo-controlled crossover study which pharmacologically attenuated inflammation in the brain to better understand how neuroinflammation impacts reward and motivation neural circuits in people facing chronic social stress.

- Created and managed IRB protocol; registered on ClinicalTrials.gov
- Developed online surveys using Qualtrics
- Recruited participants and coordinated study logistics
- Screened and scheduled participants and monitored medication adherence
- Collected behavioral data (E-Prime task), ECG data, and finger prick blood samples
- Acquired fMRI data
- Cleaned and analyzed data in R for my senior honors thesis

Beta-Adrenergic Inhibition and Stress Contagion

Experimental study examining whether beta-blockers reduce physiological and emotional stress responses in individuals observing others undergoing social stress.

- Conceptualized the study and designed analysis protocol
- Developed immunoassay protocol for salivary alpha-amylase analysis

Stress and Inflammation in the Context of Racial Discrimination

Experimental investigation of the effects of perceived racism-related stress on physiological markers of inflammation.

- Served as an interviewer for the Trier Social Stress Task

2021 – 2022 **Research Assistant, BRAIN Initiative Viral Vector Core (PI: Kimberly Ritola, Ph.D.)**

Adeno-associated Virus (AAV) Production Team

Produced, labeled, and shipped 10-25 custom-made AAV vectors per week to recipient laboratories for neuroscience applications.

- Transfected, collected, purified, concentrated, and shipped viruses
- Ran protein gel electrophoresis
- Cultured HEK293T cell lines
- Prepared buffers and solutions
- Designed the lab's website

Collaboration with Hantman Lab (PI: Adam Hantman, Ph.D.)

Injected an AAV vector into the mouse motor cortex.

- Trained for rodent handling and surgical techniques
- Observed rodent surgery and virus injection
- Assisted with brain post-fixing and storage for fluorescent microscopy

Teaching and Mentoring Experience

2022 **Undergraduate Teaching Assistant**

NSCI 175: Introduction to Neuroscience (Professor: Sabrina Robertson, Ph.D.)

Skills

Programming & Statistical Software: R, Python, Jamovi

Research Tools & Platforms: Qualtrics, E-Prime, Prolific, ResearchMatch

Statistical Modeling: ANOVA, linear & logistic regression, multilevel/hierarchical models

Neuroimaging: fMRI data acquisition & preprocessing (fMRIPrep)

Human Subjects Research Methods: Qualitative interviewing, electrodermal activity (EDA), electrocardiography (ECG) using MindWare & BioLab systems, finger-prick blood sampling

Non-Human Subjects Research Methods: Rodent handling & surgical techniques, mammalian cell culture, fluorescent immunohistochemistry, fluorescent microscopy, cryosectioning

Professional Affiliations

Association for Psychological Science, Society for Personality and Social Psychology

References

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Keely A. Muscatell, Ph.D.

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Gabriella M. Alvarez, Ph.D.

Professor of Biological & Health Psychology at the University of Pittsburgh

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