

NATALIE AWAD SCHWOB

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APPOINTMENTS AND EDUCATION

University of Michigan Postdoctoral Research Fellow in Psychology Cognitive Evolution Group, Dr. Alex Rosati	August 2022 – present
Ape Cognition and Conservation Initiative Research Associate	August 2017 – present
The Pennsylvania State University , Dr. Daniel Weiss PhD in Cognitive Psychology Sequencing biases in language and action: A comparative study of humans and bonobos	2022
MS in Cognitive Psychology Easy-First in language and action	2019
Kennesaw State University , Dr. Jared Tagliatalata MS in Integrative Biology Evidence of language prerequisites in <i>Pan</i> : Orofacial-motor and breath control in chimpanzees and bonobos	2017
University of Georgia , Dr. Dorothy Fragaszy BS in Psychology Vocal repertoire of the red and green macaw: A first description	2014

PUBLICATIONS

- Lebkuecher, A.L., **Schwob, N.**, Kabasa, M., MacDonald, M.C. & Weiss, D. J. (2022). Plan reuse in motor and language production. *Quarterly Journal of Experimental Psychology*. [link to paper](#)
- Margiotoudi, K., Bohn, M., **Schwob, N.**, Tagliatalata, J. P., Pulvermüller, F., Epping, A. J., Schweller, K., Allritz, M. (2022). Bo-NO-boubakiki: Picture-word mapping but not sound symbolism in a language trained bonobo. *Proceedings of the Royal Society B*. [link to paper](#); [data and script](#); [preregistration](#)
- Schwob, N.**, Epping, A. J., Tagliatalata, J. P., Weiss, D. J. (2022). The early bonobos gets the juice? The evolutionary roots of pre-crastination in bonobos (*Pan paniscus*). *Animal Behavior and Cognition*. [link to paper](#); [data and script](#)
- Droege, P., **Schwob, N.**, Weiss, D. J. (2021). Fishnition: Developing models from cognition toward consciousness. *Frontiers in Veterinary Science: Current state of fish behaviour & welfare research: Honoring Victoria Braithwaite*. [link to paper](#)
- Droege, P., Weiss, D. J., **Schwob, N.**, & Braithwaite, V. (2021). Trace conditioning as a test for animal consciousness: A new approach. *Animal Cognition*, 1-6. [link to paper](#); [link to Psychology Today](#)
- Weiss, D. J., **Schwob, N.**, Lebkuecher, A. L. (2020). Bilingualism and statistical learning: Lessons from studies using artificial languages. *Bilingualism: Language and Cognition* 1 - 6. [link to paper](#)
- Tagliatalata, J. P., Skiba, S. A., Evans, R. E., Bogart, S., **Schwob, N.** (2020). Social behavior and social tolerance in chimpanzees and bonobos. In: L. D. Hopper and S. R. Ross (eds.), *Chimpanzees in Context: A Comparative Perspective on Chimpanzee Behavior, Cognition, Conservation, and Welfare*. University of Chicago Press. [link to chapter](#)

PUBLICATIONS UNDER REVIEW

Schwob, N., Groner, R., Lebkuecher, A.L., Rudnicki, S.++, Weiss, D. J. (invited revision). Grasping at straws? Consistent second-order motor planning by cotton top tamarins (*Saguinus Oedipus*). Journal of Comparative Psychology. [data and script](#)
++denotes student trainee

Skiba, S., **Schwob, N.**, Carey, R., Tagliatalata, J. P. (under review). The evolution of complex socio-communicative behavior: What chimpanzees and bonobos can tell us about the origins of human language. American Journal of Biological Anthropology.

PUBLICATIONS IN PREPARATION

Schwob, N., Lebkuecher, A. L., Link, A., MacDonald, M. C., Weiss, D. J. (in prep). Easy-First in human motor planning.

Schwob, N., Lebkuecher A. L., Link, A., Epping, A. J., MacDonald, M. C., Weiss, D. J. (in prep). Easy-First language bias present in the motor planning of a language trained bonobo.

Schwob, N., Skiba, S., Hopkins, W., Tagliatalata, J. P. (in prep). Breath control in a nonhuman animal: Inhalation and exhalation capabilities in *Pan*. Scientific Reports.

Schwob, N., Anthony, S.++, Weiss D. J. (in prep) The end-state comfort effect in across the lifespan of Vervet Monkeys.

Schwob, N., Epping, A., Weiss, D. J., Parrillo, I. J.++, Tagliatalata, J. P. (in progress). Anticipatory motor planning in bonobos (*Pan paniscus*): The end-state comfort effect.

FUNDING AND AWARDS

Research and Graduate Studies Office at The Pennsylvania State University

Dissertation Support Competition Award – Teaching Release Spring 2022

Language Learning

Dissertation Grant - \$2,000 July 2021

College of Liberal Arts at The Pennsylvania State University

Teaching and Research Scholarship - \$1,000 Summer 2020

Department of Psychology at The Pennsylvania State University

Eileen Wirtshafter Leibowitz and Herschel W. Leibowitz Graduate Scholarship - \$500 June 2021

Herbert H. Krauss Memorial Graduate Research Endowment in Psychology - \$500 July 2018

Animal Behaviour Collective

Grant for Data Collection - \$250 February 2021

The Graduate College at The Pennsylvania State University

Graduate Scholar Award - \$2,000 Summer 2018

Graduate Scholar Award - \$2,000 Summer 2019

Kennesaw State University – Graduate Research Assistant Support

Office of the Vice President of Research Aug 2016 – May 2017

Graduate College May – July 2016

College of Science and Math May – July 2015

University of Georgia

Center for Undergraduate Research Opportunities Summer Fellowship - \$2,500 Summer 2013

RESEARCH EXPERIENCE

The Pennsylvania State University

Graduate Researcher, Language and Cognition Lab
Graduate Research Assistant, Center for Language Science

Aug 2017 – August 2022
2018 – 2021

Ape Cognition and Conservation Initiative

Research Associate
Graduate Research Assistant

Aug 2017 – present
May 2015 – July 2017

Yerkes National Primate Research Center

Graduate Research Assistant, Chimpanzees

April 2016 – July 2017

Kennesaw State University

Graduate Researcher, Ape Communication Lab

May 2015 – July 2017

Milwaukee County Zoo

Graduate Research Assistant, Bonobos

July 2016 – March 2017

Zoo Atlanta

Research Assistant, Great Apes

Jan – April 2015

Lincoln Park Zoo

Research Intern, Fisher Center for the Study and Conservation of Apes

May – Dec 2014

University of Georgia

Undergraduate Research Assistant, Primate Cognition and Behavior Lab

Aug 2012 – May 2014

Center for Undergraduate Research Opportunities

Summer Research Fellow, University of Georgia

May – Aug 2013

EthoCebus

Field Research Assistant

May – Aug 2013

Whale Shark Observation Program

Volunteer Research Assistant

Jan – May 2013

INVITED TALKS

Schwob, N. (2020). Second order motor planning in primates. Invited talk presented at the Ape Cognition and Conservation Initiative in Des Moines, IA

Schwob, N., Skiba, S. (2016) Sociocommunicative behavior and language prerequisites in Pan. Lecture presented during the Northwest Georgia Math and Science Partnership; Kennesaw, GA

Schwob, N. (2016) The Ape Cognition and Conservation Initiative: Science, conservation, and civic engagement. Lecture presented at reception of the Beta Sigma Sorority Benefit; Des Moines, IA

PRESENTATIONS

Parrillo, I. J.⁺⁺, **Schwob, N.**, Weiss, D. J. (2022, March). Is age a factor in the development of motor planning skills among primates? Poster presentation at The Pennsylvania State University's Psi Chi Conference in University Park, PA.

Schwob, N., Epping, A. J., Weiss, D. J., Tagliatela, J. P. (2021, November). Anticipatory motor planning in the bonobo: Implications for the morphological constraint hypothesis. Presentation at the 43rd meeting of the American Society of Primatologists. **accepted talk but unable to attend*

- Schwob, N.**, Weiss, D. J. (2020, November). Avoiding the short end of the stick: Consistent second-order motor planning by Cotton-top Tamarins (*Saguinus Oedipus*). Virtual short talk presented at the 61st meeting of the Psychonomic Society. [link to presentation](#)
- Anthony, S.++, **Schwob, N.**, Weiss, D. J. (2020, July). The end-state comfort effect in vervet monkeys (*Chlorocebus pygerythrus*). Virtual talk presented at the 57th meeting of the Animal Behavior Society. [link to presentation](#)
- Lebkuecher, A. L., **Schwob, N.**, Kabasa, M., MacDonald, M., Weiss, D. J. (2019, November). Plan reuse in motor and language production. Poster presentation at the 60th meeting of the Psychonomic Society in Montreal, Canada.
- Weiss, D. J., Lebkuecher, A. **Schwob, N.** (2019, September) The role of sequencing biases in the evolution of syntax. Talk presented at the Center for Language Science meeting at The Pennsylvania State University in University Park, PA
- Schwob, N.**, Epping, A., Weiss, D. J. (2019, July). Sequence planning in bonobos. Presentation at the 56th Meeting of the Animal Behavior Society in Chicago, IL
- Epping, A., **Schwob, N.**, Weiss, D. J., Tagliatalata, J. P. (2019, July). Anticipatory motor planning in bonobos. Poster presentation at the 56th meeting of the Animal Behavior Society in Chicago, IL.
- Schwob, N.**, Epping, A., Weiss, D. J. (2019, March). Get the show on the road: Pre-crastination in bonobos. Presentation at the 111th meeting of the Southern Society for Philosophy and Psychology in Cincinnati, OH
- Schwob, N.**, Lebkuecher, A. L., Kabasa, M., Kwon, J., Mason, A., MacDonald, M., Weiss, D. J. (2018, November). Common constraints in language and motor planning. Poster presentation at the 59th meeting of the Psychonomic Society in New Orleans, LA
- Schwob, N.**, Hopkins, W., Tagliatalata, J. P. (2018, August). Differences in the orofacial-motor control of an active articulator: Tongue protrusions in chimpanzees and bonobos. Poster presentation at the 27th meeting of the International Primatological Society in Nairobi, Kenya.
- Skiba, S., **Schwob, N.**, Tagliatalata, J. (2018, August). The adaptive value of socio-communicative behavior in chimpanzees and bonobos. Presentation at the 27th meeting of the International Primatological Society in Nairobi, Kenya.
- Schwob, N.**, Hopkins, W., Tagliatalata, J. (2017, August). Evidence of language prerequisites in Pan Orofacial-motor and breath control in chimpanzees and bonobos. Presentation at the 40th meeting of the American Society of Primatologist in the District of Columbia, USA.
- Schwob, N.**, Moore, B., Russell, J., Hopkins, W., Tagliatalata, J. P. (2016, August). Chimpanzees that produce attention getting sounds show similar flexibility in vocal production as compared to those that do not. Poster presentation at the 26th meeting of the International Primatological Society in Chicago, IL.
- Evans, R., **Schwob, N.**, Skiba, S., Hopkins, W., Tagliatalata, J. (2016, August). Microsatellites in the non coding region of arginine vasopressin receptor 1a gene (AVPR1a) contribute to the differential sociality observed between captive Pan species: chimpanzees and bonobos. Poster presentation at the 26th meeting of the International Primatological Society in Chicago, IL.
- Widness, J., **Schwob, N.**, Beirsdorf, C., Shender, M., Ross, S. (2014, October). Impacts of rearing history on captive western lowland gorilla development. Poster presented the 11th meeting of the Midwestern Primate Interest Group in Madison, WI.
- Schwob, N.**, Salmi, R., Fragaszy, D. (2014, April). Vocal repertoire of the red-and-green macaw: A first description. Presentation at the Center for Undergraduate Research Opportunities Symposium in Athens, GA.

Jordan, T., Howard, A., Bernardes, S., **Schwob, N.**, Madden, M. (2014, March). Structure from motion and bearded capuchin Monkey tool use: 'Casual' photogrammetry for research and field. Presentation at the American Society of Photogrammetry & Remote Sensing in Louisville, KY.

TEACHING EXPERIENCE

Lab Instructor

- Basic Methods of Psychology at The Pennsylvania State University Aug 2019 – Dec 2021
- Principles of Organismal Biology II at Kennesaw State University Aug 2015 – May 2016

Teaching Assistant

The Pennsylvania State University Aug 2017 – May 2019

- Psych 260 – Neural Basis of Human Behavior
- Psych 426 / Ling 429 – Language and Thought
- Psych / Ling 446 – First Language Acquisition
- Psych 268 – Animal Minds
- Psych 445 – Forensic Psychology

University of Georgia

Aug – Dec 2013

- BioL 3700 – Animal Behavior

Guest Lectures

- **Schwob, N.**, Weiss, D.J. (2020) Motor planning and the evolution of language. Lecture presented during a Cognitive Psychology speaker series at The Pennsylvania State University; University Park, PA
- **Schwob, N.** (2019) The evolution of language and its neural correlates. Lecture presented during Psych 260: Neural Basis of Human Behavior at The Pennsylvania State University; University Park, PA
- **Schwob, N.**, Epping, A. (2018) A conversation with Kanzi: Language competent apes and the science behind it. Lecture presented during Psych 268: Animal Minds at The Pennsylvania State University; University Park, PA
- **Schwob, N.** (2018) Continuity of language in the animal kingdom. Lecture presented during Psych 426: Language and Thought at The Pennsylvania State University; University Park, PA
- **Schwob, N.**, van Hell, J. (2018) Later language development. Lecture presented during Psych/Ling446: L1 Acquisition at The Pennsylvania State University; University Park, PA
- **Schwob, N.**, Skiba, S. (2018) Ape language studies: What they tell us and what is left to learn. Lecture presented during Psych 457: Psychology of Language at The Pennsylvania State University; University Park, PA
- **Schwob, N.**, van Hell, J. (2018) Language, culture and cognition in language development. Lecture presented during Psych/Ling446: L1 Acquisition at The Pennsylvania State University; University Park, PA
- **Schwob, N.** (2017) Self-recognition in animals. Lecture presented during Psych 268: Animal Minds at The Pennsylvania State University; University Park, PA
- **Schwob, N.** (2016) Antipredator behavior and adaptations. Lecture presented during BioL 3375: Behavioral Biology at Kennesaw State University; Kennesaw, GA
- **Schwob, N.**, Taglialatela, J. (2015) Language prerequisites in *Pan*. Lecture presented during the Primate Cognition and Behavior Lab meeting at the University of Georgia; Athens, GA
- **Schwob, N.** (2013) Animal communication, tool use, and their evolution. Lecture presented during BioL 3700: Animal Behavior at the University of Georgia; Athens, GA

SERVICE

Translational Issues in Psychological Science

Associate Editor

April 2021 – May 2022

- Found appropriate reviewers for a special issue on COVID-19
- Provided feedback to authors on how to improve their manuscript
- Made publication decisions
- Co-authored introduction to special issue

Department of Psychology at Penn State

Dec 2020 – Jan 2021

Cognitive Area Graduate Liaison

- Represented the cognitive area graduate students to the Director of Graduate Studies, the Associate Head of Diversity, Equity and Inclusion, and other areas of the psychology department
- Contributed to department transparency and communication between students, faculty and staff
- Identified issues and solutions for improving graduate training and departmental climate

Center for Language Science, University Park, PA

Spring 2018; Jan - Aug 2021

Social Media Director

- Generated and published content on multiple social media platforms directed towards a general audience
- Significantly increased social media presence on both Facebook and Twitter

Outreach Events

- Skype a Scientist; September 2022
- Children's Day at Arts Fest; July 2019
- ENVISION Girls in STEM; January 2019
- Language and Linguistics Day; April 2018
- Brain Awareness Week; March 2018
- STEAM night at College Park Elementary School; May 2017
- STEAM day at Mary Lin Elementary School; April 2017
- Atlanta Science Festival Expo; March 2016 and 2017
- STEAM night Liberty Point Elementary School; February 2017
- Visiting speaker at the Bedford Middle School; February 2017

Departmental Service

- Selection Committee for Department of Psychology Mentor Award; April 2021
- Psi Chi Conference poster judge; April 2018, 2021, 2022
- Member of Teaching Mentoring Program in the Department of Psychology; Fall 2020
- Panelist on program expectations & milestones for first year graduate students; September 2019
- Graduate Student Peer Mentor; August 2018 - present
- Center for Language Science Speaker Series Selection Committee; Spring 2018
- Panelist on life at Penn State for graduate student recruitment; February 2018
- Kroll Award Committee; Spring 2018

AD-HOC REVIEWER

- American Journal of Primatology, July 2015, November 2021
- Developmental Science, February 2020
- Peer J, September 2018
- Neuroscience and Biobehavioral Reviews, September 2016
- Psychological Bulletin, January 2016

ACADEMIC MEMBERSHIPS

- International Primatological Society
- American Society of Primatology
- Southern Society of Philosophy & Psychology
- Psychonomic Society
- Animal Behavior Society
- Association for Psychological Science
- Association of Zoos and Aquariums

SKILLS

- Comparative methods (highly proficient)
- R (highly proficient)
- MATLAB (basic knowledge)
- Positive reinforcement training (highly proficient)
- Ethology (highly proficient)
- Science communication (proficient)
- French language (elementary proficiency)
- PsychoPy (proficient)
- Python (elementary proficiency)
- Data Visualization (proficient)

RELEVANT COURSES

Psychology	Cognitive Psychology Foundations of Cognitive Development Developmental Psychology Animal Cognition Behavioral Ecology Human Pattern Learning Creative Cognition Abnormal Psychology Evolutionary Psychology
Biology	Neuroscience Advanced Integrated Biology Organismal Biology Microbiology
Methodological	MATLab Psychological Analysis Research Analysis Multilevel Modeling Research Methods Across Biology Psychological Testing
Communication Sciences and Disorders	Ecology of Spoken Language Neurobiology of Language Theories and Current Research Issues in Language Development
Miscellaneous	Primate Ecology and Evolution Primate Conservation Linguistics Phonetics and Phonology