

# Diheng Zhang, M.A.

Email: [dihengzhang@email.arizona.edu](mailto:dihengzhang@email.arizona.edu)

Profile: <https://diheng.github.io/>

Updated: August 31, 2020

## Research Interests

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- Cognitive biases/deficits in mood and anxiety disorders and related neural mechanisms
- Bio/behavioral markers of mood and anxiety disorders
- Computational modeling of brain functions/dysfunctions and predicting symptom/markers

## Summary of Professional Experience

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*Graduate Assistant* *Aug. 2018 – Present*  
Psychophysiology Lab, **University of Arizona** Tucson, AZ  
Supervisor: John J.B. Allen, Ph.D.

*Visiting Researcher* *Jun. 2019 – Aug. 2019*  
Penn Computational Cognitive Neuroscience Lab, **University of Pennsylvania** Philadelphia, PA  
Supervisor: Anna Schapiro, Ph.D.  
*Research projects dedicated to develop neural network model for memory reconsolidation during sleep to simulate process of emotional memories.*

*Project Coordinator* *Jun. 2015 – Jul. 2018*  
Program for Anxiety, Cognition, and Treatment (PACT) Lab, **University of Virginia** Charlottesville, VA  
Supervisor: Bethany Teachman, Ph.D.  
*Research projects dedicated to developing, evaluating and disseminating novel interventions for mood and anxiety disorders.*

*Research Assistant* *Jan. 2013 – Jun. 2014*  
Langone Medical Center, **New York University & Bellevue Hospital Center** New York, NY  
Supervisors: Isaac Robert Galatzer-Levy, Ph.D. & Uzma Samadani, M.D., Ph.D.  
*Research project for establishing for a neural model for predicting early stage brain trauma.*

*Research Assistant: Summer Intern* *Jun. 2013 – Aug. 2013*  
CEDAR Clinic, **Beth Israel Deaconess Medical Center** Boston, MA  
Supervisor: Kristen Woodberry, M.S.W., Ph.D.  
*Research project for understanding the prodromal phase of early onset schizophrenia.*

*Research Assistant: Summer Intern* *May 2013 – Aug. 2013*  
Department of Psychology, **Harvard University** Cambridge, MA  
Supervisors: Jill Hooley, D.Phil. & Kenneth Allen, Ph.D.  
*Research project for underpinning relationship between cognitive deficits and Non Suicidal Self Injury.*

## Education

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**Ph.D. Student in Clinical Psychology, University of Arizona** **Tucson, AZ**  
School of Mind, Brain, and Behavior *Aug. 2018 - Present*

**M.A. Clinical Psychology, Columbia University in the City of New York** **New York, NY**  
Teachers College, GPA: 3.84/4.00 *Aug. 2012 - May 2014*

**B.Sc. Applied Psychology, Nanjing University** **Nanjing, China**  
School of Social and Behavioral Science, GPA: 3.80/4.00 *Sep. 2009 - Jul. 2012*

## Presentations

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- Eberle, J.W., Boukhechba, M.O., Sun, J., **Zhang, D.**, Funk, D.H., Barnes, L.E. & Teachman, B.A. (2019, November). *Online Cognitive Bias Modification to Shift Negative Prospection: A Randomized Controlled Trial Using Technology to Extend Reach*. Poster to be presented at Association for Behavioral and Cognitive Therapies' 2019 convention in Atlanta, GA.
- Zhang, D.**, Allen, J.J. (2019, September). *A Comparison of Normothetic and Individualized Alpha Frequency Approaches to Measuring Frontal EEG Alpha Asymmetry*. Poster presented at Society for Psychophysiological Research's 2019 convention in Washington D.C..
- Zhang, D.**, Shi, Y., Wang, H. & Teachman, B.A. (2017, November). *Predictors of Attrition in a Public Online Interpretation Training Program for Anxiety*. Poster presented at Association for Behavioral and Cognitive Therapies' 2017 convention in San Diego, CA.
- Werntz, A.J., **Zhang, D.**, Geyer, E. & Teachman, B. A. (2017, November). *Am I anxious?: Implicit and explicit self-concepts of anxiety predict symptom acknowledgement*. Poster presented at Association for Behavioral and Cognitive Therapies' 2017 convention in San Diego, CA.
- Calicho-Mamani, C., **Zhang, D.**, Blaisdell, K.N., Friedmann, C.I., Werntz, A.J. & Teachman, B.A. (2017, November). *Gender and Age Differences in Social Media Advertising Reception: Using Facebook to Promote Free, Web-Based Interventions*. Poster presented at Diversifying Scholarship at UVA Interdisciplinary Conference in Charlottesville, VA.
- Calicho-Mamani, C., **Zhang, D.**, & Teachman, B.A. (2017, August). *Responding and Flexibility: Relationship between Variability on Interpretation Bias Measures and Anxiety and Depressive Symptoms*. Poster presented at University of Virginia Summer Research Symposium in Charlottesville, VA.
- Bacon, G., Teachman, B.A., **Zhang, D.** (2017, August). *The Impact of Education Level on Drinking Identity*. Poster presented at University of Virginia Summer Research Symposium in Charlottesville, VA.
- Matsuba, M., **Zhang, D.**, Graham, A., Hong, J., Dorfman, M. & Chen, X. (2014, August). *Analysis of Universal and Culture-Specific Negative Coping in Chinese Immigrants with Schizophrenia*. Poster presented at American Psychological Association's 2014 convention in Washington, D.C..
- Zhang, D.**, Luguya, C., Chhuon, R., Wang, L. & Matsuba, M. (2013, August). *'Excessive Thinking' as a Cultural Idiom Used by Chinese to Explain Relatives' Psychiatric Etiology*. Poster presented at American Psychological Association's 2013 convention in Honolulu, HI.
- Zhang, D.** (2012, November). *Chinese Adolescence Depression and Identity Formation*. Poster presented at International Education Week at Teachers College, Columbia University, New York, NY.

## Manuscripts and Publications

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- Zhang, D.**, & Allen, J.J. (In Prep). *A Comparison of Normothetic and Individualized Alpha Frequency Approaches to Measuring Frontal EEG Alpha Asymmetry*.
- Eberle, J. W., Boukhechba, M., Sun, J., **Zhang, D.**, Funk, D., Barnes, L., & Teachman, B. (2020). *Shifting Episodic Prediction With Online Cognitive Bias Modification: A Randomized Controlled Trial*.
- Ji, L. J., Bae, S., **Zhang, D.**, Meyers, J., Funk, D., Portnow, S., Barnes, L., & Teachman, B. (Submitted). *Multi-session online interpretation bias training for anxiety in a community sample*.
- Steinman, S. A., Portnow, S., Billingsley, A. L., **Zhang, D.**, & Teachman, B. A. (2019). *Threat and benign interpretation bias might not be a unidimensional construct*. *Cognition and Emotion*, 1-10.
- Chow, P.I., Portnow, S., **Zhang, D.**, Salemink, E., Wiers, R.W., & Teachman, B.A. (2018). *Comorbid Interpretation and Expectancy Bias in Social Anxiety and Alcohol Use*. *Anxiety, Stress, and Coping*
- Zhang, D.** (2014). *Identity formation as a mediator between early separation from parents and adolescence mental health issues*. Unpublished manuscript
- Geng, L., Zhang, L., & **Zhang, D.** (2011). *Improving spatial abilities through mindfulness: Effects on the mental rotation task*. *Consciousness and Cognition*, 20(3), 801 - 806. doi: <http://dx.doi.org/10.1016/j.concog.2011.02.004>

## Honors and Awards

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GPSC Research and Project Grants <b>University of Arizona, Graduate &amp; Professional Student Council (GPSC)</b>	Fall 2019
GPSC Travel Grants <b>University of Arizona, GPSC</b>	Summer 2019
Departmental Scholarship <b>University of Arizona, Department of Psychology</b>	Spring 2019
Flexibility Fund Awards <b>Academy of Psychological Clinical Science</b>	Dec. 2018
Graduate Student Fellowship <b>University of Arizona, Department of Psychology</b>	Aug. 2018 - Present

## Research Experience

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*Graduate Assistant* Aug. 2018 – Present  
Psychophysiology Lab, **University of Arizona** Tucson, AZ  
Supervisors: John J.B. Allen, Ph.D.

- Under training of psychophysiology research methods and data analysis techniques, including EEG signal preprocessing and alpha power asymmetry analysis.

*Visiting Researcher* Jun. 2019 – Sept. 2019  
Penn Computational Cognitive Neuroscience Lab, **University of Pennsylvania** Philadelphia, PA  
Supervisors: Anna Schapiro, Ph.D.

- Developed and extended previous neural network models for mimicking memory reconsolidation during sleep to include emotional valence representation.
- Used the developed model to simulate memory reconsolidation process of emotional materials for both “depressive” and “normal” conditions as hypothesis testing for etiology theories of depression.

*Project Coordinator* Jun. 2015 – Jul. 2018  
Program for Anxiety, Cognition, and Treatment (PACT) Lab, **University of Virginia** Charlottesville, VA  
Supervisor: Bethany Teachman, Ph.D.

- Developed and managed the MindTrails Project, an online platform for testing and delivering novel Cognitive Bias Modification (CBM) interventions for anxiety disorders, with a reach over 2,500 participants.
- Developed programs and packages in Python and R to automatize data management, data cleaning, and analyses for multiple research studies to ensure data integrity and streamlining data preparation. (See **Github**).
- Recruited participants, analyzed research data and facilitated grant writings for multiple grant applications which resulted in a R01 grant.
- Programmed and managed online studies with Project Implicit and Amazon Mechanical Turk to assist graduate students’ research projects.
- Recruited, trained and supervised research assistants for daily lab tasks, including participant recruitment, data management, data cleaning, and programming.
- Administrated study IRBs, dataset codebooks, experiment documentations, and lab supplies to enable smooth lab functioning.

*Other collaborative projects at UVA:*

- Extended the current computational model of the hippocampus, to achieve a higher level of temporal resolution in simulation with Matlab/C++, with Professor William Levy.

- Applied machine learning (ML) algorithms on MindTrails datasets for multiple research topics, including users' dropout prediction and subgroup classification, with Professor Hongning Wang.
- Modeled participants' mood fluctuations with datasets from an ecological momentary assessment (EMA) study to predict optimized-timing for intervention, with Professor Laura Barnes' group.
- Programmed fMRI studies with PsychoPy to facilitate lab transition from Matlab to Python, with Professor James Coan.

*Research Assistant*

Jan. 2013 – Jun. 2014

Langone Medical Center, **New York University & Bellevue Hospital Center**

New York, NY

Supervisors: Isaac Robert Galatzer-Levy, Ph.D. & Uzma Samadani, M.D., Ph.D.

*Research project for establishing model to predict PTSD in early stage.*

- Assessed concussion or other trauma patients in emergency room (ER) to recruit eligible participants for research.
- Operated Eye-tracker to collect research data.
- Reviewed literature and collected trauma-related scales to facilitate experimental design.
- Administered data and case management including data entry, updating research logs, tracking new patients from patient regulation system and arranging further research appointment to assist project operation.

*Research Assistant: Summer Intern*

Jun. 2013 – Aug. 2013

CEDAR Clinic, **Beth Israel Deaconess Medical Center**

Boston, MA

Supervisor: Kristen Woodberry, M.S.W., Ph.D.

*Research project for understanding prodromal phrase of early onset schizophrenia.*

- Setup EEG, biofeedback equipments and experiment environment for study data collection.
- Assessed clients with SIPS to recruit participants for research study.
- Organized interview toolkits and salivation and blood collecting kits to support study recruitment.
- Reviewed research articles and feedbacks from reviewers to assist grant application.
- Established online surveys to collect feedback about research outcome to help design future researches.
- Applied administrative tasks including case management, case follow up and data management to support center daily running.

*Research Assistant: Summer Intern*

May 2013 – Aug. 2013

Department of Psychology, **Harvard University**

Cambridge, MA

Supervisors: Jill Hooley, D.Phil. & Kenneth Allen, Ph.D.

*Research project for underpinning relationship between cognitive deficits and Non Suicidal Self Injury.*

- Operated portable EEG, delivered assessment (WAIS, etc.) and cognitive tests (Iowa Gambling Test, etc.) to collect experimental data.
- Scored questionnaires with Excel to establish dataset, calculated first-step research outcome and helped generate preliminary conclusion for research project.
- Coded case subjective responses to PANAS questions, discussed and proposed new ideas based on collected data to extend research project with further hypothesis.
- Conducted literature review on neuroimaging researches with fMRI targeting Default Mode Network to facilitate proposal writing.
- Organized case files, entered and cleaned up data to help with data management, storage and prepare for later analysis.

*Research Assistant*

Oct. 2012 – May 2014

Mailman School of Public Health, **Columbia University in the City of New York**

New York, NY

Supervisor: Lawrence H. Yang, Ph.D.

*Research group for investigating stereotypes towards schizophrenia consumers among Chinese immigrants.*

- Translated research interviews whose battery included a wide array of tests with Chinese immigrants with psychosis and their family caregivers to prepare for further analysis.

- Coded, and trained lab members to code interview materials according to various coding schemes with Atlas.TI, to extend original stigma model to culture specific immigrant population in U.S..
- Prepared and submitted poster and symposium proposals to national conferences including APA, AAPA, and Teachers College Winter Roundtable to share research outcome. (See **Presentations** for more detail.)

## Clinical Experience

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### *Therapist Trainee*

Sept. 2018 - Present

#### **Behavioral Health Clinic, University of Arizona**

Tucson, AZ

Supervisor: Samantha Reznik, M.A.; Autumn Wiley-Hill, Ph.D.

#### *Clinical Assessment and Therapy Training Program*

- Provided Evidence Based Treatments (including Cognitive Behavioral Therapy and Acceptance and Commitment Therapy) via individual therapy to alleviate clients' panic attacks and adjustment issues.

### *Clinical Assessment Trainee*

Jan. 2019 - May 2019

#### **Casa de Vida, La Frontera Center**

Tucson, AZ

Supervisor: Kathleen Prouty, Ph.D.

#### *A substance abuse treatment program*

- Administered, scored, and interpreted neuropsychological assessments (WAIS-IV, WMS-V, etc.) and Structured Clinical Interview for inpatient substance abuse clients.

### *Intern*

Sept. 2013 – May 2014

#### **Hamilton Madison House**

New York, NY

Supervisor: Angela Yeung, Psy. D.

#### *Personalized Recover-Orientated Services (PROS) Program*

- Designed and co-led multiple training groups to assist participants who experiencing Schizophrenia or Schizoaffective disorders to ameliorate their cognitive function and prepare them for returning to the community.
- Facilitated annual assessment for participants, and updated cases and documentation to assist daily operations.
- Shadowed core staffs and sat in multiple skills-enhancement groups to gain clinical experience as a trainee.

## Teaching/Mentoring Experience

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### *Instructor*

Jan. 2020 - Jul. 2020

PSY 430: *Advanced Psychological Measurement and Statistics*

Spring 2020

PSY 450: *Drugs and the Brain*

Summer 2020

### *Teaching Assistant*

Aug. 2018 - Present

PSY 480: *Forensic Psychology*

Fall 2020

PSY 381: *Abnormal Psychology*

Fall 2019

PSY 352 : *Personality*

Spring 2019

PSY 150A: *Structure of Mind & Behavior*

Fall 2018

### *Workshops*

*Data Management and Analysis with R - a Five Sessions Bootcamp*

Summer 2017

### *Mentoring*

#### **Undergraduate Research Assistant**

Marissa Luna, *University of Arizona*

Jan. 2020 - Present

Cecelia Guthrie, *University of Arizona*

Jan. 2020 - Present

Erin Lessie, <i>University of Arizona</i>	Jan. 2020 - Present
Valentina Andrea Correa Castillo, <i>University of Arizona</i>	Jan. 2020 - Present
Qihan Hu, <i>University of Arizona</i>	Aug. 2019 - Present
Yeuk Hei Ng, <i>University of Arizona</i>	Aug. 2019 - Present
Hualiang Qin, <i>University of Arizona</i>	Aug. 2019 - May 2020
Maryam Farooqui, B.S., <i>University of Virginia Class of 2017</i>	Aug. 2017 - May 2018
Kaitlin Wray, B.S., <i>University of Virginia Class of 2017</i>	Aug. 2017 - May 2018
Kellyn Blaisdell, B.S., <i>Princeton University Class of 2016</i>	Aug. 2017 - May 2018
Casey Michelle Baker, <i>University of Virginia Class of 2018</i>	Jun. 2017 - May 2018
Claudia Patricia Calicho-Mamani, <i>University of Virginia Class of 2018</i>	Jun. 2017 - May 2018
Imani Nichols, B.S., <i>University of Virginia Class of 2017</i>	Sep. 2016 - May 2018
<b>Graduate Research Assistant</b>	
Anyi Zhang, M. Eng, <i>Graduate School of Engineering, University of Virginia</i>	Jan. - Jun. 2017

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## Conference Attendance

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<i>Society for Psychophysiological Research's 2019 convention</i> in Washington, DC	Nov. 2017
<i>Association for Behavioral and Cognitive Therapies' 2017 convention</i> in San Diego, CA	Nov. 2017
<i>Association for Behavioral and Cognitive Therapies' 2016 convention</i> in New York, NY	Oct. 2016
<i>Social &amp; Affective Neuroscience Society Annual Meeting 2016</i> in New York, NY	Apr. 2016
<i>Association for Behavioral and Cognitive Therapies' 2015 convention</i> in Chicago, IL	Nov. 2015
<i>Social &amp; Affective Neuroscience Society Annual Meeting 2015</i> in Boston, MA	Apr. 2015
<i>American Psychological Association's 2014 convention</i> in Washington, D.C.	Aug. 2014
<i>Depression Among Asian Americans Conference</i> in Edison, NJ	Apr. 2013
<i>The 30th Annual Teachers College Winter Roundtable Conference</i> in New York, NY	Feb. 2013

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## Professional Associations

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<i>Member, Society for Psychophysiological Research</i>	Sept. 2019 – Sept. 2020
<i>Member, Association for Behavioral and Cognitive Therapies</i>	Oct. 2015 – Oct. 2018
<i>Member, The Social and Affective Neuroscience Society</i>	Apr. 2015 – Apr. 2017
<i>Member, Psi Chi National Honor Society in Psychology</i>	Mar. 2013 – May 2014
<i>Vice President, International Students' Psychology Association at Columbia University</i>	Aug. 2013 – May 2014

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## Professional Skills

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**Experienced Working Environment:** Mac OS, MS Windows & Linux  
**Programming Languages:** Python, R, Matlab, Go & L<sup>A</sup>T<sub>E</sub>X  
**Online Service Package:** Amazon Mechanical Turk, Qualtrics & SurveyMonkey

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## References Available Upon Request

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