

# Han Zhang

POSTDOCTORAL RESEARCH FELLOW

Department of Psychology, University of Michigan

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## Research Interests

Visual attention; cognitive control; mind-wandering; learning in educational contexts

## Education

### University of Michigan

POSTDOCTORAL RESEARCH FELLOW, DEPARTMENT OF PSYCHOLOGY

- Advisor: Dr. John Jonides

Ann Arbor, MI, USA

06/2020-present

### University of Michigan

DOCTOR OF PHILOSOPHY, EDUCATION AND PSYCHOLOGY

- Dissertation: Mind-wandering: What Can We Learn from Eye Movements?

Ann Arbor, MI, USA

09/2014-05/2020

### University of Michigan

MASTER OF SCIENCE, PSYCHOLOGY

Ann Arbor, MI, USA

09/2014-04/2018

### Beijing Normal University

BACHELOR OF SCIENCE, PSYCHOLOGY

Beijing, China

09/2010-07/2014

## Awards and Grants

### SINCE POSTDOC

#### Probing Attentional Allocation with a Novel Forced-Response Method

STANDARD GRANT, NATIONAL SCIENCE FOUNDATION

- Role: Key Personnel (Postdoc)

2023

\$659,877

#### Investigating Interference-Control in ADHD Using a Novel Forced-Response Method

R21, NATIONAL INSTITUTE OF MENTAL HEALTH

- Role: Key Personnel (Postdoc)

2023

\$429,000

### BEFORE POSTDOC

#### Stanley E. and Ruth B. Dimond Best Dissertation Award

SCHOOL OF EDUCATION, UNIVERSITY OF MICHIGAN

- Dissertation: Mind-wandering: What Can We Learn from Eye Movements?

2020

\$500

#### 2020 ProQuest Distinguished Dissertation Awards (Nomination)

SCHOOL OF EDUCATION, UNIVERSITY OF MICHIGAN

2020

#### Rackham One-Term Dissertation Fellowship

RACKHAM GRADUATE SCHOOL, UNIVERSITY OF MICHIGAN

2019

\$17417

#### Rackham Graduate Student Research Grant

RACKHAM GRADUATE SCHOOL, UNIVERSITY OF MICHIGAN

2019

\$3000

#### Rackham Conference Travel Grant

RACKHAM GRADUATE SCHOOL, UNIVERSITY OF MICHIGAN

2019, 2018, 2017

\$1050

#### Rackham Summer Training Award

RACKHAM GRADUATE SCHOOL, UNIVERSITY OF MICHIGAN

2018

\$3700

#### Professor & Mrs. Cho-Yee To Travel Grant

SCHOOL OF EDUCATION, UNIVERSITY OF MICHIGAN

2017, 2015

\$500

#### China National Scholarship

MINISTRY OF EDUCATION OF THE PEOPLE'S REPUBLIC OF CHINA

2014

\$1500

## The First Rank Academic Scholarship

FACULTY OF PSYCHOLOGY, BEIJING NORMAL UNIVERSITY

2014, 2013

\$300

## Beijing Student Research and Entrepreneurial Action Plan

BEIJING MUNICIPAL COMMISSION OF EDUCATION

2013

\$1500

## Undergraduate Student Research Grant

FACULTY OF PSYCHOLOGY, BEIJING NORMAL UNIVERSITY

2012

\$280

## Journal Articles

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- Adkins, T. J., **Zhang, H.**, & Lee, T. G. (in press). People are more error-prone after committing an error. *Nature Communications*. <https://doi.org/10.1101/2022.03.17.484792>
- Zhang, H.**, Abagis, T. R., Steeby, C. J., & Jonides, J. (in press). Linger on distraction: Examining distractor rejection in adults with ADHD. *Visual Cognition*. <https://doi.org/10.1080/13506285.2024.2328379>
- Zhang, H.**, Miller, K. F., & Jonides, J. (in press). How does mind-wandering affect distractor suppression? *Visual Cognition*. <https://doi.org/10.1080/13506285.2024.2347605>
- Zhang, H.**, Sellers, J., Lee, T. G., & Jonides, J. (in press). The temporal dynamics of visual attention. *Journal of Experimental Psychology: General*. <https://doi.org/10.31234/osf.io/e4ktq>
- Zhang, H.**, Miyake, A., Osborne, J., Shah, P., & Jonides, J. (2023). A d factor? Understanding trait distractibility and its relationships with ADHD symptomatology and hyperfocus. *PLOS ONE*, 18(10), e0292215. <https://doi.org/10.1371/journal.pone.0292215>
- Osborne, J. B., **Zhang, H.**, Carlson, M., Shah, P., & Jonides, J. (2023). The association between different sources of distraction and symptoms of attention deficit hyperactivity disorder. *Frontiers in Psychiatry*, 14. <https://doi.org/10.3389/fpsy.2023.1173989>
- Fansher, M., Adkins, T. J., Lalwani, P., Boduroglu, A., Carlson, M., Quirk, M., Lewis, R. L., Shah, P., **Zhang, H.**, & Jonides, J. (2022). Icon arrays reduce concern over COVID-19 vaccine side effects: A randomized control study. *Cognitive Research: Principles and Implications*, 7(1), 38. <https://doi.org/10.1186/s41235-022-00387-5>
- Zhang, H.**, Anderson, N. C., & Miller, K. F. (2022). Scene meaningfulness guides eye movements even during mind-wandering. *Attention, Perception, & Psychophysics*, 84(4), 1130–1150.
- Zhang, H.**, Abagis, T. R., & Jonides, J. (2021). The malleability of attentional capture. *Visual Cognition*, 29(9), 571–574. <https://doi.org/10.1080/13506285.2021.1915903>
- Zhang, H.**, Anderson, N. C., & Miller, K. F. (2021). Refixation patterns of mind-wandering during real-world scene perception. *Journal of Experimental Psychology: Human Perception and Performance*, 47(1), 36–52. <https://doi.org/10.1037/xhp0000877>
- Zhang, H.**, Miller, K. F., Sun, X., & Cortina, K. S. (2020). Wandering eyes: Eye movements during mind wandering in video lectures. *Applied Cognitive Psychology*, 34(2), 449–464. <https://doi.org/10.1002/acp.3632>
- Zhang, H.**, Qu, C., Miller, K. F., & Cortina, K. S. (2020). Missing the joke: Reduced rereading of garden-path jokes during mind-wandering. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 46(4), 638–648. <https://doi.org/10.1037/xlm0000745>
- Zhang, H.**, Miller, K. F., Cleveland, R., & Cortina, K. S. (2018). How listening to music affects reading: Evidence from eye tracking. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 44(11), 1778–1791. <https://doi.org/10.1037/xlm0000544>

## Book Chapters and Conference Proceedings

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- Michal, A., Fansher, M., Xin, S., & **Zhang, H.** (2021). Cognitive development: Applications to education. In *The oxford handbook of educational psychology*. Oxford University Press.
- Zhang, H.**, & Jonides, J. (2021). Pre-trial gaze stability predicts momentary slips of attention. *EMICS '21*. ACM CHI '21 workshop on eye movements as an interface to cognitive state. <https://psyarxiv.com/bv2uc/>

## Under Review

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- Zhang, H.**, York, A. K., & Jonides, J. (2024). *Abrupt onsets in visual search: Foundations and emerging issues*. PsyArXiv. <https://doi.org/10.31234/osf.io/3n5gh>
- Zhang, H.**, York, A. K., & Jonides, J. (2024). *Are abrupt onsets highly salient?* PsyArXiv. <https://doi.org/10.31234/osf.io/yckxq>
- Fansher, M., Lalwani, P., Adkins, T. J., **Zhang, H.**, Carlson, M., Boduroglu, A., Lewis, R. L., Jonides, J., & Shah, P. (2024). *A brief intervention to improve stock-flow reasoning*.

- Lee, T. G., Sellers, J., Jonides, J., & **Zhang, H.** (2024). *The forced-response method: A new chronometric approach to measure conflict processing*. PsyArXiv. <https://doi.org/10.31234/osf.io/byzqf>
- Zhang, H.**, Xin, S., & Miyake, A. (2024). *On the association between the self-control scale and social desirability measures: A meta-analysis and systematic review*. PsyArXiv. <https://doi.org/10.31234/osf.io/j4vy8>

## Selected Presentations

- Zhang, H.**, York, A. K., & Jonides, J. (2024, May). *Less salient, more capture: The curious case of abrupt onsets*. [Talk session]. VSS 2024. St. Pete beach, FL, USA.
- Zhang, H.**, Sellers, J., Lee, T., & Jonides, J. (2023, November). *Modeling the temporal dynamics of visual attention*. [Talk session]. The psychonomic society's 64nd annual meeting. San Francisco, CA, USA.
- Zhang, H.**, & Jonides, J. (2023, July). *Pretrial stability predicts momentary lapses of attention*. [Talk session]. The current issues in mind-wandering research conference. Heidelberg, Germany.
- Zhang, H.**, Adkins, T., Lee, T., & Jonides, J. (2022, November). *How does the priority map change over time?* [Talk session]. The psychonomic society's 63rd annual meeting. Boston, MA, USA.
- Zhang, H.**, Miyake, A., Shah, P., & Jonides, J. (2021, November). *Uncovering the structure of individual differences in distractibility*. [Talk session]. The psychonomic society's 62nd annual meeting. Virtual conference.
- Zhang, H.**, Anderson, N. C., & Miller, K. F. (2020, November). *Mind-wandering during scene perception: On the role of meaning and salience*. [Poster session]. The psychonomic society's 61st annual meeting. Virtual conference.
- Zhang, H.**, Anderson, N. C., & Miller, K. F. (2020, April). *Scan-paths of mind-wandering during real-world scene perception*. [Graduate student research award]. The 92nd annual meeting of the midwestern psychological association (conference canceled due to COVID-19).
- Zhang, H.**, Qu, C., Miller, K. F., & Cortina, K. S. (2019, November). *Reduced re-reading of garden-path jokes during mindless reading*. [Poster session]. The psychonomic society's 60th annual meeting. Montreal, Québec, Canada.
- Zhang, H.**, Miller, K. F., Cortina, K. S., & Jiang, T. (2019, June). *Mind-wandering in college classrooms: A mobile eye-tracking study*. [Poster session]. SARMAC XIII. Cape Cod, MA, USA.
- Zhang, H.**, & Shah, P. (2019, May). *What can iPhone's screen time tell about your cognitive functioning?* [Poster session]. The association for psychological science annual meeting. Washington, DC, USA.
- Zhang, H.** (2019, April). *Mind-wandering: What can we learn from eye-movements?* [Talk session]. The combined program in education and psychology brownbag. Ann Arbor, MI, USA.
- Zhang, H.**, Miller, K. F., & Sun, X. (2019, March). *Scan-paths of mind-wandering during video lectures*. [Poster session]. The international convention of psychological science. Paris, France.
- Zhang, H.**, & Miller, K. F. (2018, November). *How irrelevant speech affects reading: The role of word predictability*. [Poster session]. The psychonomic society's 59th annual meeting. New Orleans, LA, USA.
- Zhang, H.**, Miller, K. F., & Sun, X. (2018, May). *The wandering eyes: Mind-wandering during video lectures is associated with oculomotor behaviors*. [Poster session]. The association for psychological science annual meeting. San Francisco, CA, USA.
- Zhang, H.**, Miller, K. F., Cleveland, R., & Cortina, K. S. (2016, May). *How listening to music affects reading: Evidence from eye tracking*. [Poster session]. The association for psychological science annual meeting. Chicago, IL, USA.

## Teaching Experience

### PRIMARY INSTRUCTOR

#### EDUC 391: Educational Psychology and Human Development

09/2017 - 12/2017

PARTICIPATED IN COURSE DESIGN; TAUGHT WEEKLY LECTURES; GRADED ASSIGNMENTS AND EXAMS; HELD OFFICE HOURS

### GRADUATE STUDENT INSTRUCTOR

#### PSYCH 111: Introduction to Psychology

01/2019 - 04/2019

TAUGHT THREE ONE-HOUR CLASSES PER WEEK; GRADED STUDENT ESSAYS AND EXAMS; HELD OFFICE HOURS

#### PSYCH 240: Introduction to Cognitive Psychology

09/2016 - 12/2016

TAUGHT THREE ONE-HOUR CLASSES PER WEEK; GRADED STUDENT ESSAYS AND EXAMS; HELD OFFICE HOURS

#### PSYCH 457: Research in Educational and Cross-Cultural Settings

2016 - 2020

GRADED STUDENT ESSAYS AND EXAMS; HELD OFFICE HOURS; SUPERVISED STUDENT RESEARCH PROJECTS

## Grant-writing Experience

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### The Object Perception, Attention, and Memory (OPAM) Conference

2024

NATIONAL SCIENCE FOUNDATION

Under Review

- Role: Conceptualization; original draft preparation; reviewing & editing

### Toward a Psychological and Neural Model of Conflict Resolution

2024

NATIONAL SCIENCE FOUNDATION

Funded

- Role: Conceptualization; original draft preparation; formal analysis; reviewing & editing

### Investigating Interference-Control in ADHD Using a Novel Forced-Response Method

2023

R21, NATIONAL INSTITUTE OF MENTAL HEALTH

Funded

- Role: Conceptualization; original draft preparation; formal analysis; reviewing & editing

### Probing Attentional Allocation with a Novel Forced-Response Method

2023

NATIONAL SCIENCE FOUNDATION

Funded

- Role: Conceptualization; original draft preparation; formal analysis; reviewing & editing

### Uncovering Mechanisms of Interference-Resolution with a Novel Forced-Response Method

2022

NATIONAL SCIENCE FOUNDATION

Not Funded

- Role: Conceptualization; original draft preparation; formal analysis; reviewing & editing

### Dissecting Distractibility by the Capture of Attention

2021

NATIONAL SCIENCE FOUNDATION

Not Funded

- Role: Original draft preparation; formal analysis; reviewing & editing

### Mitigating Distraction from External and Internal Sources

2020

NATIONAL SCIENCE FOUNDATION

Not Funded

- Role: Original draft preparation; formal analysis; reviewing & editing

### Failure to Resist External and Internal Distraction in ADHD

2019

R01, NATIONAL INSTITUTE OF MENTAL HEALTH

Not Funded

- Role: Formal analysis; original draft preparation; reviewing & editing

## Professional Service

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### OBJECT PERCEPTION, ATTENTION, AND MEMORY (OPAM) CONFERENCE ORGANIZER

- OPAM 31, November 16th 2023, San Francisco, CA, US
- OPAM 32, November 21th 2024, New York City, NY, US
- <http://www.opam.net/>

### UNDERGRADUATE RESEARCH OPPORTUNITY PROGRAM (UROP) MENTOR

- 2018 - current, mentored undergraduate students conducting research projects.
- Mentored students: Madelyn Evans (2018), Nicole Fraija (2018), Yun Gi Hwang (2019), Alexander Fischer (2019), Esha Brar (2023)

### STAR (SCHOLARSHIP, TRANSFERABLE SKILLS, ACADEMIA & RESEARCH) SCHOLARS MENTOR

- 2018-2020, mentored underrepresented students on academic research engagement and transferable skills.
- <https://lsa.umich.edu/psych/undergraduates/star-scholars-program.html>

### AD HOC REVIEWER

- Memory & Cognition
- NeuroImage
- Visual Cognition
- Cognitive Science
- Scientific Studies of Reading
- Frontiers in Psychiatry

- Psychological Research
- Cognition
- Scientific Reports
- Journal of Experimental Psychology: Human Perception and Performance
- PLOS One
- Journal of Memory and Language
- Neurobiology of Aging

## References

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### **John Jonides, Ph.D.**

*jjonides@umich.edu*

EDWARD E. SMITH PROFESSOR OF PSYCHOLOGY AND NEUROSCIENCE; CO-DIRECTOR, FUNCTIONAL MRI CENTER, UNIVERSITY OF MICHIGAN

### **Priti Shah, Ph.D.**

*priti@umich.edu*

DEPARTMENT CHAIR, ARTHUR THURNAU PROFESSOR OF PSYCHOLOGY, EDUCATION, AND INFORMATION, UNIVERSITY OF MICHIGAN

### **Kevin F. Miller, Ph.D.**

*kevinmil@umich.edu*

PROFESSOR OF PSYCHOLOGY AND EDUCATION, UNIVERSITY OF MICHIGAN

### **Akira Miyake, Ph.D.**

*akira.miyake@colorado.edu*

PROFESSOR OF PSYCHOLOGY, UNIVERSITY OF COLORADO BOULDER