

# Jiaying Zhao

Department of Psychology  
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## Academic Appointments

Assistant Professor 2013 – present  
Department of Psychology and Institute for Resources, Environment and Sustainability  
University of British Columbia

## Education

Ph.D.	Princeton University (Cognitive Psychology)	2010 - 2013
M.A.	Princeton University (Cognitive Psychology)	2008 - 2010
M.A.	University College Dublin (Cognitive Science)	2006 - 2007
B.A.	American College Dublin (Psychology)	2002 - 2006

## Awards & Fellowships

BX2015 Award for Outstanding Research	2015
Canada Research Chair (t2) in Behavioral Sustainability (\$500,000)	2014 - 2019
Green College Leading Scholar	2014 - 2016
Center for Interactive Research on Sustainability Researcher	2014 - pres.
Porter Ogden Jacobus Honorific Fellowship	2012 - 2013
Woodrow Wilson Scholar	2010 - 2012
Travel Award of Cognitive Science Conference, National Science Foundation	2009
Student of the Year Award, Higher Education and Training Awards Council	2006
First Prize in Student Thesis Presentation, American College Dublin	2006
Thesis Presentation Highly Recommended, Psychological Society of Ireland	2006

## Research Grants

*Social Sciences and Humanities Research Council of Canada* 2018 - 2020  
Title: Scaling-up social mobilization on climate change with digital tools  
Role: co-investigator (PI: Stephen Sheppard, Total: CAD \$199,981)

*Employment and Social Development Canada* 2017 - 2019  
Title: New Leaf Project Society: Innovative Solutions to Homelessness  
Role: PI (with co-PI Claire Williams, Total: CAD \$475,540, with additional CAD \$250,000 in private donations)

*Mitacs-Accelerate Grant (IT10017)* 2017 - 2019  
Title: Reducing homelessness using behavioral interventions  
Role: PI (Total: CAD \$45,000)

*Mitacs-Accelerate Grant (IT09935)* 2017 - 2019  
Title: Cognitive and well-being impacts of tunable LED lighting in secondary school students  
Role: PI (Total: CAD \$30,000)

<i>Mitacs-Accelerate Grant (IT06615)</i>	2016 - 2017
Title: Using goals, tips, and feedback to reduce energy consumption in business environments	
Role: PI (Total: CAD \$60,000)	
<i>Mitacs-Accelerate Grant (IT08085)</i>	2016 - 2017
Title: Social and informational strategies for reducing electricity and natural gas consumption in multi-unit residential buildings	
Role: PI (Total: CAD \$30,000)	
<i>Mitacs-Accelerate Grant (IT07400)</i>	2016 - 2017
Title: Multi-dimensional wellbeing: Examining how financial, social, health, and environmental factors interactively determine subjective wellbeing	
Role: PI (Total: CAD \$30,000)	
<i>U.S. Forest Service (16-IJ-11242309-057)</i>	2016 - 2018
Title: Resource scarcity and ecological concern: Different motivations to sustainable behavior	
Role: PI (co-PI: Sonya Sachdeva, Total: CAD \$42,096)	
<i>Natural Sciences and Engineering Research Council of Canada (EGP 501185-16)</i>	2016 - 2017
Title: Nudging responsible car-sharing behaviors among Modo users	
Role: PI (Total: CAD \$21,500)	
<i>Social Sciences and Humanities Research Council of Canada</i>	2016 - 2018
Title: Sociocultural and situational factors in cognitive responses to climate change	
Role: co-applicant (PI: Rebecca Todd, Total: CAD \$59,160)	
<i>Social Sciences and Humanities Research Council of Canada</i>	2016 - 2017
Title: The Future Delta 2.0 experience: Mobilizing knowledge on climate change education through video games	
Role: collaborator (PI: Stephen Sheppard, Total: CAD \$37,700)	
<i>Canada Foundation for Innovation Infrastructure Operating Fund</i>	2015 - 2018
Role: PI (Total: CAD \$30,616)	
<i>CRC Research Fund</i>	2015 - 2019
Role: PI (Total: CAD \$45,000)	
<i>National Science Foundation (AWD1004241)</i>	2014 - 2019
Title: Some implications of scarcity thinking	
Role: co-investigator (PI: Eldar Shafir, Total: USD \$813,966)	
<i>Sloan Foundation Grant (2014-6-16)</i>	2014 - 2018
Title: The psychology of scarcity: A research proposal	
Role: co-investigator (PI: Eldar Shafir, Total: USD \$577,544)	
<i>Russell Sage Foundation Grant (98-15-01)</i>	2014 - 2016
Title: The psychology of scarcity	
Role: co-investigator (PI: Eldar Shafir, Total: USD \$129,062)	
<i>Natural Sciences and Engineering Research Council of Canada (F13-05469)</i>	2014 - 2019
Title: Attentional control driven by statistical learning	
Role: PI (Total: CAD \$155,000)	

Canada Foundation for Innovation Leaders Opportunity Fund & British Columbia Knowledge Development Fund Title: Building the behavioral sustainability lab Role: PI (Total: CAD \$228,631)	2014 - 2016
Hampton Research Grant (F14-01274) Title: Environment and happiness: Building a well-being map of UBC Role: PI (Total: CAD \$23,000)	2014 - 2016
UBC Sustainability Spotlight Grant Role: PI (Total: CAD \$5,000)	2014 - 2015

## Publications

### Journal Articles

- Zelenika, I., Moreau, T., & **Zhao, J.** (in press). Toward zero waste events: Reducing contamination in waste streams with volunteer assistance. *Waste Management*.
- Luo, Y. & **Zhao, J.** (in press). Statistical learning creates novel object associations via transitive relations. *Psychological Science*.
- Whitman, J., **Zhao, J.**, Roberts, K., & Todd, R. M. (in press). Political orientation and climate concern shape visual attention to climate change. *Climatic Change*.
- Yu, R. & **Zhao, J.** (in press). Object representations are biased toward each other through statistical learning. *Visual Cognition*.
- Yu, R., Osherson, D., & **Zhao, J.** (in press). Alternation blindness in the representation of binary sequences. *Journal of Experimental Psychology: Human Perception and Performance*.
- Zhao, J.** & Tomm, B. (2018). Psychological responses to scarcity. *Oxford Research Encyclopedia of Psychology*. In Ed. Oliver Braddick. New York: Oxford University Press. DOI: 10.1093/acrefore/9780190236557.013.41
- Yu, R., Gunn, J., Osherson, D., & **Zhao, J.** (2018). The consistency of the subjective concept of randomness. *Quarterly Journal of Experimental Psychology*, 7, 906-916.
- Shah, A. K., **Zhao, J.**, Mullainathan, S., & Shafir, E. (2018). Money in the mental lives of the poor. *Social Cognition*, 36, 4-19.
- DiGiacomo, A., Wu, D., Lenkic, P., Fraser, B., **Zhao, J.**, & Kingstone, A. (2018). Convenience improves composting and recycling rates in high-density residential buildings. *Journal of Environmental Planning and Management*, 61, 309-331.
- Namaz, M., **Zhao, J.**, & Dowlatabadi, H. (2018). Nudging for responsible carsharing: Using behavioral economics to change transportation behavior. *Transportation*, 45, 105-119.
- Whitman, J., **Zhao, J.**, & Todd, R. M. (2017). Alternation between different types of evidence attenuates judgments of severity. *PLoS ONE*, 12(7): e0180585.

- Wu, R. & **Zhao, J.** (2017). The “item” as a window into how prior knowledge guides visual search (commentary). *Behavioral and Brain Sciences*, 40, e162, p.49.
- Zhao, J.** (2017). Influencing policymakers. *Nature Climate Change*, 7, 173-174.
- Zhao, J.** & Tomm, B. (2017). Attentional trade-offs under resource scarcity. *Augmented Cognition: Enhancing Cognition and Behavior in Complex Human Environments, Lecture Notes in Artificial Intelligence*, 10285, 78-97.
- Echeverri, A., Chan, K. M. A., & **Zhao, J.** (2017). How messaging shapes attitudes toward sea otters as a species at risk. *Human Dimensions of Wildlife*, 22, 142-156.
- Echeverri, A., Callahan, M. M., Chan, K. M. A., Satterfield, T., & **Zhao, J.** (2017). Explicit not implicit preferences predict conservation intentions for endangered species and biomes. *PLoS ONE*, 12(1): e0170973.
- Zhao, J.** & Luo, Y. (2017). Statistical regularities guide the spatial scale of attention. *Attention, Perception, & Psychophysics*, 79, 24-30.
- Wu, R. & **Zhao, J.** (2017). Prior knowledge of object associations shapes attentional templates and information acquisition. *Frontiers in Psychology*, 8:843. doi: 10.3389/fpsyg.2017.00843
- Zhao, J.** & Yu, R. (2016). Statistical regularities reduce perceived numerosity. *Cognition*, 146, 217-222.
- Mole, C. & **Zhao, J.** (2016). Vision and abstraction: An empirical refutation of Nico Orlandi’s non-cognitivism. *Philosophical Psychology*, 29, 365-373.
- Yu, R. & **Zhao, J.** (2015). The persistence of attentional bias to regularities in a changing environment. *Attention, Perception, & Psychophysics*, 77, 2217-2228.
- Zhao, J.**, Hahn, U., & Osherson, D. (2014). Perception and identification of random events. *Journal of Experimental Psychology: Human Perception and Performance*, 40, 1358-1371.
- Zhao, J.**, Karbowicz, D., & Osherson, D. (2014). Implicit learning of stimulus regularities increases cognitive control. *PLoS ONE*, 9(4), e93874.
- Hall, C. C.\*, **Zhao, J.\***, & Shafir, E.\* (2014). Self-affirmation among the poor: Cognitive and behavioral implications. *Psychological Science*, 25, 619-625. (\*equal author contribution)
- Zhao, J.** & Osherson, D. (2014). Category-based updating. *Thinking & Reasoning*, 20, 1-15.
- Mani, A., Mullainathan, S., Shafir, E., & **Zhao, J.** (2013). Response to Comment on “Poverty impedes cognitive function”. *Science*, 342, 1169.
- Mani, A.\*, Mullainathan, S.\*, Shafir, E.\*, & **Zhao, J.\*** (2013). Poverty impedes cognitive function. *Science*, 341, 976-980. (\*equal author contribution)
- Zhao, J.**, Al-Aidroos, N., & Turk-Browne, N. B. (2013). Attention is spontaneously biased toward regularities. *Psychological Science*, 24, 667-677.
- Zhao, J.**, Crupi, V., Tentori, K., Fitelson, B., & Osherson, D. (2012). Updating: Learning versus

supposing. *Cognition*, 124, 373-378.

**Zhao, J.**, Ngo, N., McKendrick, R. & Turk-Browne, N. B. (2011). Mutual interference between statistical summary perception and statistical learning. *Psychological Science*, 22, 1212-1219.

**Zhao, J.** & Turk-Browne, N. B. (2011). Incidental encoding of numerosity in visual long-term memory. *Visual Cognition*, 19, 928-955.

**Zhao, J.** & Osherson, D. (2010). Updating beliefs in light of uncertain evidence: Descriptive assessment of Jeffrey's rule. *Thinking & Reasoning*, 16, 288-307.

**Zhao, J.**, Shah, A. K., & Osherson, D. (2009). On the provenance of judgments of conditional probability. *Cognition*, 113, 26-36.

**Zhao, J.** & Costello, F. J. (2008). Computational modelling of switching behaviour in repeated gambles. *Artificial Intelligence Review*, 27, 209-222.

Song, S., Zhou, H., Fu, X., & **Zhao, J.** (2005). Affective assessment on criminal suspects in preliminary hearing. *Acta Psychologica Sinica*, 38, 1-6.

Xia, F., Wang, H., Fu, X., & **Zhao, J.** (2005). An XML-based implementation of multimodal affective annotation. *Affective Computing and Intelligent Interaction*, 3784, 535-541.

#### **Manuscripts in Progress (available upon request)**

Yu, R. & **Zhao, J.** (under review). Implicit updating of object representations via temporal predictions.

Zelenika, I., Moreau, T., Lane, O., & **Zhao, J.** (under review). Sustainability education in a botanical garden promotes environmental knowledge, attitudes, intentions and willingness to act.

Luo, Y., Zelenika, I., & **Zhao, J.** (under review). Using immediate feedback to improve recycling and composting accuracy.

Echeverri, A., Karp, D. S., Naidoo, R., **Zhao, J.**, & Chan, K. M. A. (under review). Approaching human-animal relationships from multiple angles: A synthetic perspective.

Wu, D., Lenkic, P., DiGiacomo, A., Cech, P., **Zhao, J.**, & Kingstone, A. (under review). How does the design of waste disposal signage influence waste disposal behavior?

Yu, R., Luo, Y., Osherson, D., & **Zhao, J.** (under review). Perception of multi-dimensional regularities is driven by salience.

Luo, A. & **Zhao, J.** (under review). Capacity limit of ensemble perception of multiple spatially intermixed sets.

#### **Conference Proceedings (peer-reviewed)**

Luo, Y. & **Zhao, J.** (2017). Learning induced illusions: Statistical learning creates false

- memories. In G. Gunzelmann, A. Howes, T. Tenbrink, & E. J. Davelaar (Eds.), *Proceedings of the 39<sup>th</sup> Annual Conference of the Cognitive Science Society* (pp. 774-779). Austin, TX: Cognitive Science Society.
- Yu, R., Osherson, D., & **Zhao, J.** (2017). Alternation blindness in the perception of binary sequences. In G. Gunzelmann, A. Howes, T. Tenbrink, & E. J. Davelaar (Eds.), *Proceedings of the 39<sup>th</sup> Annual Conference of the Cognitive Science Society* (pp. 3609-3614). Austin, TX: Cognitive Science Society.
- Tomm, B. & **Zhao, J.** (2017). Scarcity impairs online detection and prospective memory. In G. Gunzelmann, A. Howes, T. Tenbrink, & E. J. Davelaar (Eds.), *Proceedings of the 39<sup>th</sup> Annual Conference of the Cognitive Science Society* (pp. 3350-3355). Austin, TX: Cognitive Science Society.
- Luo, Y. & **Zhao, J.** (2016). Statistical learning creates novel object associations via transitive relations. In A. Papafragou, D. Grodner, D. Mirman, & J.C. Trueswell (Eds.), *Proceedings of the 38<sup>th</sup> Annual Conference of the Cognitive Science Society* (pp. 984-989). Austin, TX: Cognitive Science Society.
- Tomm, B. & **Zhao, J.** (2016). Scarcity captures attention and induces neglect: Eyetracking and behavioral evidence. In A. Papafragou, D. Grodner, D. Mirman, & J.C. Trueswell (Eds.), *Proceedings of the 38<sup>th</sup> Annual Conference of the Cognitive Science Society* (pp. 1199-1204). Austin, TX: Cognitive Science Society.
- Moreau, T., Lane, O., **Zhao, J.**, Geselbracht, D., & Lewis, P. (2015). Sustainable Communities Field School: Innovative environmental education for businesses. In Z. Irwin, C. Hobson, R. P. Selvam, L. Derewnicka (Eds.), *Proceedings of the BGCI 9<sup>th</sup> International Congress on Education in Botanic Gardens* (pp. 147-149). Surrey, UK: Botanic Gardens Conservation International.
- Zhao, J.**, Crupi, V., Tentori, K., Fitelson, B., & Osherson, D. (2012). Updating: Learning versus supposing. In N. Miyake, D. Peebles, & R. P. Cooper (Eds.), *Proceedings of the 34<sup>th</sup> Annual Conference of the Cognitive Science Society* (pp. 1233-1237). Austin, TX: Cognitive Science Society.
- Zhao, J.** & Osherson, D. (2011). Detecting deviations from randomness. In L. Carlson, C. Hölscher, & T. Shipley (Eds.), *Proceedings of the 33<sup>rd</sup> Annual Conference of the Cognitive Science Society* (pp. 1019-1024). Austin, TX: Cognitive Science Society.
- Zhao, J.** & Osherson, D. (2010). Descriptive assessment of Jeffrey's rule. In S. Ohlsson & R. Catrambone (Eds.), *Proceedings of the 32<sup>nd</sup> Annual Conference of the Cognitive Science Society* (pp. 2530-2535). Austin, TX: Cognitive Science Society.
- Zhao, J.** & Turk-Browne, N. B. (2010). The perception of number from long-term memory. In S. Ohlsson & R. Catrambone (Eds.), *Proceedings of the 32<sup>nd</sup> Annual Conference of the Cognitive Science Society* (pp. 1240-1245). Austin, TX: Cognitive Science Society.
- Zhao, J.**, Shah, A. K., & Osherson, D. (2009). On the provenance of judgments of conditional probability. In N.A. Taatgen & H. van Rijn (Eds.), *Proceedings of the 31<sup>st</sup> Annual Conference of the Cognitive Science Society* (pp. 298-302). Austin, TX: Cognitive Science Society.

### **Conference Presentations (peer-reviewed)**

- Zhao, J. (2018, August). Distinct impacts of financial scarcity and natural resource scarcity on sustainable choices and motivations. Talk to be presented at the Society for Consumer Psychology (Division 23 of APA) Meeting. San Francisco, CA.
- Zhao, J. (2018, June). Motivated attention in the perception and action of climate change. Talk to be presented at the 29<sup>th</sup> International Congress of Applied Psychology. Montreal, QC.
- Zhao, J. (2018, June). Financial scarcity and environmental resource scarcity shape conservation choices and motivations. Talk to be presented at the 29<sup>th</sup> International Congress of Applied Psychology. Montreal, QC.
- Lacroix, K., Gifford, R., Zhao, J., & Ban, N. (2018, June). Exposure to forest fires, climate change risk perception, and climate policy support: A natural experiment. Talk to be presented at the 29<sup>th</sup> International Congress of Applied Psychology. Montreal, QC.
- Yu, R. & Zhao, J. (2018, May). Statistical learning generates implicit conjunctive predictions. Talk to be presented at the 2018 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.
- Tomm, B., & Zhao, J. (2018, May). Scarcity biases attention to motivationally relevant distractors. Poster to be presented at the 2018 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.
- Luo, Y., & Zhao, J. (2018, May). Automatic prospective and retrospective activation of object representations during statistical learning. Poster to be presented at the 2018 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.
- Zhao, J., & Luo, Y. (2018, May). Motivated attention in the perception and action of climate change. Poster to be presented at the 2018 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.
- Yu, R., Osherson, D., & Zhao, J. (2017, November). Alternation blindness in the perception of binary sequences. Talk presented at the 2017 Annual Conference of the Society for Judgment and Decision Making. Vancouver, BC.
- Tomm, B., Sachdeva, S., & Zhao, J. (2017, November). Distinct impacts of financial scarcity and natural resource scarcity on sustainable behavior. Poster presented at the 2017 Annual Conference of the Society for Judgment and Decision Making. Vancouver, BC.
- Luo, Y. & Zhao, J. (2017, November). Attentional bias in the perception of climate change data driven by political orientation. Poster presented at the 2017 Annual Conference of the Society for Judgment and Decision Making. Vancouver, BC.
- Tomm, B., Sachdeva, S., & Zhao, J. (2017, October). Financial scarcity shapes conservation choices and motivations. Talk presented at the 2017 Behavior, Energy and Climate Change Conference, Sacramento, CA.
- Dwyer, R., Bond, A., Tomm, B., Wells, R., & Zhao, J. (2017, October). Social and informational strategies for reducing shared energy consumption in institutional and multi-unit residential buildings. Poster presented at the 2017 Behavior, Energy and Climate Change Conference, Sacramento, CA.

- Luo, Y. & Zhao, J. (2017, July). Learning induced illusions: Statistical learning creates false memories. Talk presented at the 39<sup>th</sup> Annual Conference of the Cognitive Science Society. London, UK.
- Yu, R., Osherson, D., & Zhao, J. (2017, July). Alternation blindness in the perception of binary sequences. Poster presented at the 39<sup>th</sup> Annual Conference of the Cognitive Science Society. London, UK.
- Tomm, B. & Zhao, J. (2017, July). Scarcity impairs online detection and prospective memory. Poster presented at the 39<sup>th</sup> Annual Conference of the Cognitive Science Society. London, UK.
- Zhao, J. & Tomm, B. (2017, July). Attentional trade-offs under resource scarcity. Talk presented at the 2017 Human Computer Interaction International Conference, Vancouver, BC.
- Zhao, J. (2017, May). The paradox of accuracy and error in decision-making. Symposium talk presented at the 29<sup>th</sup> Association of Psychological Science Annual Convention, Boston, MA.
- Tomm, B. & Zhao, J. (2017, May). Scarcity shapes conservation choices and motivations. Poster presented at the 29<sup>th</sup> Association of Psychological Science Annual Convention, Boston, MA.
- Luo, Y. & Zhao, J. (2017, May). Cognitive biases in the perception of climate change. Poster presented at the 29<sup>th</sup> Association of Psychological Science Annual Convention, Boston, MA.
- Yu, R. & Zhao, J. (2017, May). Alternation blindness in the perception of binary sequences. Poster presented at the 29<sup>th</sup> Association of Psychological Science Annual Convention, Boston, MA.
- Tomm, B. & Zhao, J. (2017, May). Resource scarcity impairs visual online detection and prospective memory. Poster presented at the 2017 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.
- Luo, Y. & Zhao, J. (2017, May). Learning induced illusions: Statistical regularities create false memories. Poster presented at the 2017 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.
- Yu, R. & Zhao, J. (2017, May). Category-based updating of object representations. Poster presented at the 2017 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.
- Zhao, J. (2017, April). Poverty and cognitive function. Invited presentation at the Inaugural Workshop on the Psychological Challenges of Poverty. Washington DC.
- Sachdeva, S., Tomm, B., & Zhao, J. (2017, January). Resource scarcity and environmental conservation: Different pathways to sustainable behavior. Poster presented at the 2017 SPSP Annual Convention, San Antonio, TX.
- Luo, Y. & Zhao, J. (2016, November). Judgment biases in the perception and prediction of non-linear changes. Poster presented at the 2016 Annual Conference of the Society for Judgment and Decision Making. Boston, MA.



- Tomm, B. & Zhao, J. (2016, November). Scarcity impairs retrospective and prospective memory. Poster presented at the 2016 Annual Conference of the Society for Judgment and Decision Making. Boston, MA.
- Tomm, B. & Zhao, J. (2016, November). Scarcity impairs retrospective and prospective memory. Poster presented at the 57<sup>th</sup> Annual Meeting of the Psychonomic Society. Boston, MA.
- Yu, R., Zhao, J., & Snyder, J. (2016, November). Inhibition of adult neurogenesis impairs learning of spatiotemporal regularities. Poster presented at the 46<sup>th</sup> Annual Meeting of the Society of Neuroscience. San Diego, CA.
- Luo, Y. & Zhao, J. (2016, August). Statistical learning creates novel object associations via transitive relations. Poster presented at the 38<sup>th</sup> Annual Conference of the Cognitive Science Society. Philadelphia, PA.
- Yu, R. & Zhao, J. (2016, August). Implicit updating of object representation via predictive associations. Poster presented at the 38<sup>th</sup> Annual Conference of the Cognitive Science Society. Philadelphia, PA.
- Tomm, B. & Zhao, J. (2016, August). Scarcity captures attention and induces neglect: Eyetracking and behavioral evidence. Poster presented at the 38<sup>th</sup> Annual Conference of the Cognitive Science Society. Philadelphia, PA.
- Zhao, J. (2016, August). Perception and prediction of non-linear changes. Talk presented at the Symposium on thinking about non-linear systems at the International Conference on Thinking, Providence, RI.
- Zhao, J. (2016, August). Implicit updating of representations based on statistical regularities. Talk presented at the Symposium on dynamic inference and belief revision at the International Conference on Thinking, Providence, RI.
- Luo, Y., Giammarco, M., & Zhao, J. (2016, June). Identifying and correcting recycling and composting biases. Poster presented at the 77<sup>th</sup> CPA Annual Convention, Victoria, BC.
- Zelenika, I. & Zhao, J. (2016, June). Comparing the effects of visual prompts and volunteer guidance on waste sorting behaviour. Poster presented at the 77<sup>th</sup> CPA Annual Convention, Victoria, BC.
- Tomm, B., Sachdeva, S., & Zhao, J. (2016, June). Moral motivations mediate the relationship between perceived scarcity and environmental conservation. Poster presented at the 77<sup>th</sup> CPA Annual Convention, Victoria, BC.
- Zeng, L. & Zhao, J. (2016, June). Increased accuracy of waste-sorting activities by raising self-awareness with the presence of mirrors and messages. Poster presented at the 77<sup>th</sup> CPA Annual Convention, Victoria, BC.
- Zeng, L., Moreau, T., Lane, O., & Zhao, J. (2016, June). Sustainable communities field school increases environmental awareness. Poster presented at the 77<sup>th</sup> CPA Annual Convention, Victoria, BC.
- Zhao, J. & Luo, Y. (2016, June). Resource visibility reduces consumption. Poster presented at

the 77<sup>th</sup> CPA Annual Convention, Victoria, BC.

- Luo, Y. & Zhao, J. (2016, May). Statistical learning creates novel object associations via transitive relations. Talk presented at the 2016 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.
- Yu, R. & Zhao, J. (2016, May). Implicit updating of object representation via temporal regularities. Talk presented at the 2016 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.
- Tomm, B. & Zhao, J. (2016, May). Attentional trade-offs driven by resource scarcity. Poster presented at the 2016 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.
- Luo, A. & Zhao, J. (2016, May). Capacity limit of ensemble perception. Poster presented at the 2016 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.
- Reed, J., Yu, R., & Zhao, J. (2016, May). Perceiving order: Visual working memory encoding as a basis for judgment. Poster presented at the 2016 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.
- Wang, Y., Luo, Y., Echeverri, A., & Zhao, J. (2016, May). Visual and numerical representations of dynamic systems. Poster presented at the 2016 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.
- Tomm, B., Sachdeva, S., & Zhao, J. (2016, February). Moral motivations mediate the relationship between perceived scarcity and environmental conservation. Talk presented at the Sustainability Psychology Pre-conference at SPSP, San Diego, CA.
- Scheerlinck, B. & Zhao, J. (2016, February). Asymmetric perceptions of environmental behaviors. Poster presented at the Sustainability Psychology Pre-conference at SPSP, San Diego, CA.
- Tomm, B., Fung, D., & Zhao, J. (2015, November). Scarcity captures attention and induces neglect: Eyetracking and behavioral evidence. Talk presented at the 2015 Annual Conference of the Society for Judgment and Decision Making. Chicago, IL.
- Zhao, J. (2015, November). Resource visibility reduces consumption. Poster presented at the 2015 Annual Conference of the Society for Judgment and Decision Making. Chicago, IL.
- Zerbe, T., DiGiacomo, A., Wu, D., Lenkic, P., Zhao, J., & Kingstone, A. (2015, November). Improving composting and recycling rates in high-density residential buildings: Does convenience really matter? Poster presented at the 2015 Annual Conference of the Society for Judgment and Decision Making. Chicago, IL.
- Luo, Y., Giammarco, M., & Zhao, J. (2015, November). Identifying recycling and composting biases. Poster presented at the 2015 Annual Conference of the Society for Judgment and Decision Making. Chicago, IL.
- Wang, Y., Tomm, B., & Zhao, J. (2015, November). Cognitive biases in the perception of climate change. Poster presented at the 2015 Annual Conference of the Society for Judgment and Decision Making. Chicago, IL.

- Dhaliwal, N., Zhao, J., & Hardisty, D. (2015, November). Green biases: Perceived differences between renewable and non-renewable energy. Poster presented at the 2015 Annual Conference of the Society for Judgment and Decision Making. Chicago, IL.
- Ebrahimi, G., Wittman, H., & Zhao, J. (2015, November). When nudge backfires: A conflict between intrinsic values and social norm messaging. Poster presented at the 2015 Annual Conference of the Society for Judgment and Decision Making. Chicago, IL.
- DiGiacomo, A., Kingstone, A., & Zhao, J. (2015, November). The mere presence of a smartphone lowers IQ. Poster presented at the 2015 Annual Conference of the Society for Judgment and Decision Making. Chicago, IL.
- Whillans, A., Chen, F., & Zhao, J. (2015, November). The upside of flextime: open-ended time facilitates creative insight. Poster presented at the 2015 Annual Conference of the Society for Judgment and Decision Making. Chicago, IL.
- Tomm, B., Fung, D., & Zhao, J. (2015, November). Resource scarcity enhances memory encoding. Poster presented at the 56th Annual Meeting of the Psychonomic Society. Chicago, IL.
- Zhao, J. & Wang, Y. (2015, October). Cognitive biases in the perception of climate change. Poster presented at the 2015 Behavior, Energy and Climate Change Conference. Sacramento, CA.
- Whitman, J., Picardo, R., Roberts, K., Zhao, J., & Todd, R. M. (2015, October). Concern about climate change tunes attention to its signals. Poster presented at the 2015 Behavior, Energy and Climate Change Conference. Sacramento, CA.
- Echeverri, A., Chan, K., & Zhao, J. (2015, June). How messaging shapes attitudes towards sea otters as a species at risk. Talk presented at the Annual Meeting of Canadian Association of Geographers. Vancouver, BC.
- Cakal, S. & Zhao, J. (2015, June). How campus environments influence subjective wellbeing. Talk presented at the 2015 International Conference on Health Promoting Universities and Colleges. Kelowna, BC.
- Moreau, T., Lane, O., Zhao, J., & Lewis, P. (2015, May). Sustainable communities field school: Innovative education for sustainable habits. Talk presented at the BGCI International Congress on Education in Botanic Gardens, St. Louis, MO.
- Luo, Y. & Zhao, J. (2015, May). Stimulus-specific regularities as a basis for perceptual induction. Poster presented at the 2015 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.
- Yu, R. & Zhao, J. (2015, May). Numerosity perception is distinct from mean or sum perception. Poster presented at the 2015 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.
- Cakal, S., Yu, R., & Zhao, J. (2015, May). The perception of multi-dimensional regularities. Poster presented at the 2015 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.
- Zhao, J. & Yu, R. (2015, May). Statistical regularities compress numerical representations.

Poster presented at the 2015 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.

Picardo, R., Whitman, J., Zhao, J., & Todd, R. M. (2015, May). Visual working memory for negative events is weakened by alternation between event types during judgments of trends. Poster presented at the 2015 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.

Whitman, J., Picardo, R., Roberts, K., Zhao, J., & Todd, R. M. (2015, May). Attentional tuning to events associated with long-term concerns. Poster presented at the 2015 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.

Zhao, J. (2014, November). Cognitive and behavioral consequences of time scarcity. Talk presented at the 35th Annual Conference of the Society for Judgment and Decision Making. Long Beach, CA.

Zhao, J. (2014, November). Cognitive burdens of poverty. Talk presented at the 3rd Conference of Poverty, Homelessness and Migration. Sudbury, ON.

Zhao, J. (2014, November). Which environmental features impact subjective well-being. Poster presented at the 55th Psychonomic Society Annual Meeting. Long Beach, CA.

Zhao, J. & Mole, C. (2014, June). The visual impact of statistical regularities. Talk presented at the symposium of the 40th Annual Meeting of the Society for Philosophy and Psychology. Vancouver, BC.

Cakal, S. & Zhao, J. (2014, June). How environmental features causally impact subjective well-being. Poster presented at the 75th Canadian Psychological Association Annual Convention. Vancouver, BC.

Cakal, S. & Zhao, J. (2014, May). How environmental features causally impact subjective well-being. Poster presented at the 26th Association for Psychological Science Annual Convention. San Francisco, CA.

Luo, Y. & Zhao, J. (2014, May). Statistical regularities alter the spatial scale of attention. Talk presented at the 2014 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.

Cakal, S. & Zhao, J. (2014, May). Statistical regularities shape object perception. Talk presented at the 2014 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.

Zhao, J. & Turk-Browne, N. (2014, May). The timecourse of the attentional bias to regularities. Talk presented at the 2014 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.

Yu, R. & Zhao, J. (2014, May). Familiarity wins over novelty: A persistent attentional bias toward regularities. Poster presented at the 2014 Vision Sciences Society Annual Meeting, St. Pete Beach, FL.

Zhao, J. (2014, March). Scarcity: Consequences and interventions. Keynote address at the 16th Annual Psychology Undergraduate Research Conference. Vancouver, BC.

Mani, A., Mullainathan, S., Shafir, E., & Zhao, J. (2013, October). Poverty impedes cognitive function. Talk presented at the NBER Development Program and 26th BREAD Conference on Development Economics. Cambridge, MA.

- Mani, A., Mullainathan, S., Shafir, E., & Zhao, J. (2013, August). Poverty impedes cognitive function. Talk presented at the Stanford Institute for Theoretical Economics Summer Workshop. Palo Alto, CA.
- Zhao, J., Goldfarb, L., & Turk-Browne, N. B. (2013, May). When numbers and statistics collide: Competition between numerosity perception and statistical learning. Talk presented at the Vision Sciences Society 13<sup>th</sup> Annual Meeting. Naples, FL.
- Zhao, J. & Shafir, E. (2012, November). The consequences of poverty's distractions. Talk presented at the 33<sup>rd</sup> Annual Conference of the Society for Judgment and Decision Making, Minneapolis, MN.
- Seidl, K. N., Zhao, J., Kastner, S., & Osherson, D. (2012, October). Mapping object recognition in the brain. Poster presented at the 42<sup>nd</sup> Annual Meeting of the Society of Neuroscience. New Orleans, LA.
- Zhao, J., Crupi, V., Tentori, K., Fitelson, B., & Osherson, D. (2012, August). Updating: Learning versus supposing. Talk presented at the 34<sup>th</sup> Annual Conference of the Cognitive Science Society. Sapporo, Japan.
- Zhao, J., Al-Aidroos, N., & Turk-Browne, N. B. (2012, May). Attention is drawn spontaneously to regularities during statistical learning. Talk presented at the Vision Sciences Society 12<sup>th</sup> Annual Meeting. Naples, FL.
- Hall, C., Zhao, J., & Shafir, E. (2012, January). Self affirmation and low-income decision making. Symposium at the 13<sup>th</sup> Annual Meeting of the Society for Personality and Social Psychology, San Diego, CA.
- Zhao, J. & Shafir, E. (2011, November). Mental accounting under scarcity: Perceived costs in low-income consumption. Poster presented at the 32<sup>nd</sup> Annual Conference of the Society for Judgment and Decision Making, Seattle, WA.
- Zhao, J. & Osherson, D. (2011, July). Detecting deviations from randomness. Poster presented at the 33<sup>rd</sup> Annual Conference of the Cognitive Science Society. Boston, MA.
- Zhao, J., Ngo, N., McKendrick, R. & Turk-Browne, N. B. (2011, May). Statistical summary perception interferes with statistical learning and vice versa. Poster presented at the Vision Sciences Society 11<sup>th</sup> Annual Meeting. Naples, FL.
- Zhao, J., & Shafir, E. (2010, November). On the psychology of scarcity: Thinking about financial problems affects cognitive performance. Talk presented at the 31<sup>st</sup> Annual Conference of the Society for Judgment and Decision Making. St. Louis, MO.
- White, J. M., Zhao, J., Lee, R., Turk-Browne, N. B., & Osherson, D. (2010, November). Visual cortex detects the amount of structure in novel abstract images. Poster presented at Society for Neuroscience Annual Meeting. San Diego, CA.
- Zhao, J. & Osherson, D. (2010, August). Descriptive assessment of Jeffrey's rule. Talk presented at 32<sup>nd</sup> Annual Conference of the Cognitive Science Society. Portland, OR.
- Zhao, J. & Turk-Browne, N. B. (2010, August). The perception of number from long-term memory. Talk presented at the 32<sup>nd</sup> Annual Conference of the Cognitive Science Society.

Portland, OR.

White, J. M., Zhao, J., Lee, R., Turk-Browne, N. B., & Osherson, D. (2010, June). Visual cortex detects the amount of structure in novel abstract images. Poster presented at the 16<sup>th</sup> Annual Meeting of the Organization for Human Brain Mapping. Barcelona, Spain.

Zhao, J. & Oppenheimer, D. M. (2009, November). Continuous vs. binary: On the compensatory strategies of judgments. Poster presented at the annual meeting of the Society for Judgment and Decision Making. Boston, MA.

Zhao, J. & Oppenheimer, D. M. (2009, August). Beyond binary: Limitations of the binary choice paradigm for studying judgment heuristics. Talk presented at the biennial meeting for Subjective Probability, Utility, and Decision Making. Rovereto, Italy.

Zhao, J., Shah, A. K., & Osherson, D. (2009, August). On the provenance of judgments of conditional probability. Talk presented at the 31<sup>st</sup> Annual Conference of the Cognitive Science Society. Amsterdam, Netherlands.

Zhao, J. & Costello, F. J. (2008, July). Computational modelling of switching behaviour in repeated gambles. Poster presented at the Summer Institute on Bounded Rationality in Psychology and Economics. Berlin, Germany.

## Invited Talks

<i>Department of Psychological Sciences</i>	Case Western Reserve University	Feb 2018
<i>Financial Wellness Conference</i>	Conference Board of Canada	Feb 2018
<i>Department of Psychology</i>	Columbia University	Oct 2017
<i>Department of Psychology</i>	Yale University	Sep 2017
<i>Psychological and Brain Sciences</i>	Johns Hopkins University	Sep 2017
<i>Evans School of Public Policy and Governance</i>	University of Washington	Oct 2016
<i>Invited Keynote at the</i>	Annual Convention of the	
<i>Environmental Psychology Section</i>	Canadian Psychological Association	Jun 2016
<i>Invited talk at the Executive Symposium</i>	Annual Meeting of the	Jun 2016
<i>on Cognitive Neuroscience in the Real World</i>	Canadian Society for Brain, Behaviour, and Cognitive Science	
<i>Psychology Seminar</i>	Quest University	May 2016
<i>Seminar</i>	Deep Springs College	May 2016
<i>Financial Capability Summit</i>	The Prosperity Agenda	May 2016
<i>Department of Psychology</i>	University of Victoria	Apr 2016
<i>Invited keynote</i>	Sustainability Research Symposium	Mar 2016
<i>Mayor's Task Force on Mental Health</i>		
<i>and Addictions</i>	City of Vancouver, BC	Jan 2016
<i>School for Population and Public Health</i>	University of British Columbia	Jan 2015
<i>Blavatnik School of Government</i>	University of Oxford	Nov 2014
<i>Peter Wall Institute for Advanced Studies</i>	University of British Columbia	May 2014
<i>Interdisciplinary Workshop on</i>		
<i>Perception and Cognition</i>		
<i>Sauder Business School</i>	University of British Columbia	Apr 2014
<i>Psychology</i>	Simon Fraser University	Jan 2014
<i>Vancouver School of Economics</i>	University of British Columbia	Jan 2014
<i>President's Lunch</i>	University of British Columbia	Sep 2013
<i>Brain &amp; Cognitive Sciences</i>	University of Rochester	Jan 2013
<i>Department of Psychology</i>	University of British Columbia	Jan 2013

*Psychological and Brain Sciences*  
*Department of Psychology*  
*Cognitive, Linguistic &*  
*Psychological Sciences*  
*Geary Institute*

Johns Hopkins University  
Drexel University  
Brown University  
  
University College Dublin

Dec 2012  
Dec 2012  
Nov 2012  
  
Sep 2007

## **Professional Activities**

### **Editorial Boards**

*Journal of Experimental Psychology: Human Perception and Performance* (consulting editor)  
*Frontiers in Psychology* (review editor)

### **Ad hoc reviewer**

*Attention, Perception, & Psychophysics*  
*Cognition*  
*Cognitive Processing*  
*Developmental Science*  
*Environmental Research Letters*  
*Energy Research & Social Science*  
*Experimental Psychology*  
*Journal of Environmental Psychology*  
*Journal of Experimental Psychology: General*  
*Journal of Experimental Psychology:*  
*Learning, Memory and Cognition*  
*Journal of Experimental Psychology: Human*  
*Perception and Performance*  
*Journal of Vision*

*Judgment and Decision Making*  
*Nature Communications*  
*Nature Climate Change*  
*PLoS One*  
*Proceedings of the National Academy of*  
*Sciences*  
*Psychological Science*  
*Psychonomic Bulletin & Review*  
*Quarterly Journal of Experimental*  
*Psychology*  
*Science*  
*Thinking & Reasoning*  
*Visual Cognition*  
*National Science Foundation*

### **Society memberships**

Association for Psychological Science  
Psychonomics Society  
Cognitive Science Society  
Vision Sciences Society  
Society for Judgment and Decision Making

## **Mentoring**

### **Graduate students & Postdocs**

Rumi Naito (PhD), Alejandra Echeverri (PhD), Ivana Zelenika (PhD), Brandon Tomm (PhD),  
Ru Qi Yu (PhD), Katherine Cramer (MA), Yu Luo (MA), & Jennifer Whitman (PDF)

### **Graduate students (completed)**

Alejandra Echeverri (MA), Anna Xiao Luo (MSc), Brandon Tomm (MA), Ru Qi Yu (MA)

### **Undergraduate students**

Nishtha Parag, Justin Reed, Michelle Lee, Ivy Tam, Nhi Ngo, Ryan McKendrick, Devin  
Karbowicz, Sumeyye Cakal, Lenore Riches, Thea Zerbe, James Jiang, Ryan Eveleigh, Desmond  
Fung, Yu Wang, Mary Etey, Vera Chong, Delane Espinueva, Ruzzelle Gasmen, Dylan Meng,  
Elizabeth Ponce, Majot Khosah, Martin Hui, Hannah Barath, Yimiao Gong, Aida Mwanzia,

Leanne Zeng, Sebastian Leon, Abigail Bond, Amit Chhina, Katie Edge, Irma Melunovic, Mark Ng Shun, Patricia Sun, Songyue Wang

### Thesis committees

Ashley Whillans, Kostadin Kushlev, Michiko Namazu, Megan Callahan, Sanjana Bajracharya, Dinara Yusufzyanova, William Kendall, Elizabeth Blundon, Madison Elliott, Spencer Murch, Karine Lacroix, Ke Zhang, Gabe Smith, Seth Wynes, Kyle Gooderham, Arielle Swett, Rainer Lempert

### **Teaching**

PSYC-321 Environmental Psychology Department of Psychology, UBC	2014 - present
RES 502-201 Interdisciplinary Case Analysis and Research Design Institute for Resources, Environment and Sustainability, UBC	2016 - present
RES 500N Behavioral Foundations in Public Policy Institute for Resources, Environment and Sustainability, UBC	2014 - 2017
Assistant in Instructions in PSY-255 Cognitive Psychology Department of Psychology, Princeton University	2010
Assistant in Instructions in PSY-321 Decision Making and Judgment Department of Psychology, Princeton University	2009
Lecturer in BEH-321 Advanced Statistics in Behavioral Sciences Department of Psychology, American College Dublin	2007

### **Service**

Graduate student awards committee, IRES, UBC	2017 – present
Board of Directors, New Leaf Project Society	2016 – present
Research consultant, Seattle Jobs Initiative	2017 – present
Research consultant, Policy Horizons Canada	2017 – present
Research consultant, City of North Vancouver	2018 – present
Advisor, Marine Debris Project of Ocean Wise	2018 – present
Head search committee, IRES, UBC	2017
Faculty search committee, Department of Psychology, UBC	2016 – 2017
Graduate admission committee, IRES, UBC	2013 – 2016
Sustainability in residences working group, UBC	2015 – 2016
Sustainability Group, City of Vancouver	2015 – 2016
Graduate admission committee, Department of Psychology, UBC	2013 – 2016
Research consultant, The White House Social & Behavioral Sciences Team	2015 – 2016
Faculty of Science curriculum committee, UBC	2015 – 2016
Faculty wellbeing steering committee, UBC	2015 – 2016
Merit and PSA committee, IRES, UBC	2013 – 2015
Hampton Fund Research Grant review committee, UBC	2015
Graduate School orientation panel speaker, Princeton University	2012
Departmental colloquium committee, Princeton University	2010 – 2013
Statistics tutor, Princeton University	2009 – 2010