# Table of Contents

Introduction ........................................................................................................... xliii

Conference Awards ............................................................................................... xlvi

Committees ............................................................................................................. xlix

Invited Presentations .............................................................................................. lii

Workshops

*Contemporary Cognitive Approaches to Decision-Making* ........................................ 1
  Daniel Bartels, Oleg Urminsky, Todd Gureckis, and Jennifer Trueblood

*Workshop Understanding Exploration-Exploitation Trade-offs* ............................... 3
  Elizabeth Bonawitz, Alison Gopnik, and Celeste Kidd

*Learning as program induction* ............................................................................. 5
  Neil Bramley, Eric Schulz, Fei Xu, and Josh Tenenbaum

*Conceptual foundations of dynamic field theory: Applications in cognitive and developmental science* ................................................................. 7
  Aaron Buss, Sammy Perone, and Ajaz Bhat

*Massive Online Experiment in Cognitive Science* .................................................. 9
  Joshua K. Hartshorne, Josh de Leeuw, Laura Germine, Katharina Reinecke, and Mariela Jennings

*Computational Methods and Systems for the Cognitive Modelling and Support of Creativity and Creative Problem Solving* ......................................................... 11
  Ana-Maria Olteteanu

Tutorials

*Full Day Tutorial on Quantum Models of Cognition and Decision* ......................... 13
  Jerome Busemeyer, Peter Bruza, Peter Kvam, and Zheng Wang

*Half Day Tutorial on Measuring Mindfulness Behaviorally: Onsite and Online Data Collection with jsPsych* ................................................................. 15
  Samuel Nordli and Thomas Gorman

*Mixed Models in R - An Applied Introduction* ...................................................... 17
  Henrik Singmann

*Statistics as Pottery: Bayesian Data Analysis using Probabilistic Programs* .......... 19
  Michael Tessler and Noah Goodman

Symposia

*Symposium on Event Predictive Cognition* ......................................................... 21
  Martin Butz and Alistair Knott

*The cognitive systems of visual and multimodal narratives* .................................... 23
  Neil Cohn, Emily Coderre, Elizabeth O'Donnell, Aidan Osterby, and Lester Loschky
Dimension-based Attention in Learning and Understanding Spoken Language  ........................................ 25
Frederic Dick, Lori Holt, Howard Nusbaum, Neeraj Sharma, and Barbara Shinn-Cunningham

Relational Categories: Why they’re Important and How they are Learned  ........................................... 27
Dedre Gentner, Nina Simms, Kenneth Kurtz, Garrett Honke, Sean Snoddy, Ken Forbus, Lindsey Richland, Bryan Matlen, Emily Lyons, and Ellen Klostermann

Models of Human Scientific Discovery  ................................................................. 29
Robert Goldstone, Alison Gopnik, Paul Thagard, and Tomer D. Ullman

Cognition under Pressure: Relationships between Anxiety, Executive Functions, and Mathematics  .......... 31
Emily Lyons, Lindsey Richland, Priti Shah, Amira Ibrahim, Marci S. DeCaro, David B. Bellinger, Patricia Ralston, and Susanne Jaeggi

Percepts and Concepts Across Cultures  ................................................................. 33
Asifa Majid, Edward Gibson, Tanya Luhrmann, Josh McDermott, and Artin Arshamian

Data Visualization as a Domain to Research Areas in Cognitive Science  ........................................... 35
Caitlyn McColeman, Audrey Michal, Robert Goldstone, Karen Schloss, Jennifer Kaminski, and Jessica Hullman

Learning-to-Learn from Novice to Expertise: New Challenges and Approaches for One of the Oldest Topics of Cognitive Science  ................................................................. 37
Ray Perez, Wayne Gray, Michael Posner, Sophia Vinogradov, and Micheline Chi

Strategies and representations in physical inference  ................................................................. 39
Kevin Smith, Josh Tenenbaum, Erin Anderson, Susan Hespos, Lance Rips, Chaz Firestone, and Jessica Hamrick

Generalizations, from representation to transmission  ................................................................. 41
Michael Tessler, Noah Goodman, David Danks, Emily Foster-Hanson, Marjorie Rhodes, and Greg Carlson

Lexical evolution, cognition, and computation  ................................................................. 43
Yang Xu, Barbara C. Malt, and Mahesh Srinivasan

Publication-based Talks

A logical investigation of false-belief tasks  ................................................................. 45
Torben Braunr, Irina Polyanskaya, and Patrick Blackburn

Comparing Markov versus quantum dynamic models of changes in confidence during evidence monitoring .. 47
Jerome Busemeyer, Peter Kvam, and Tim Pleskac

Understanding the Dynamics of Learning: The Case for Studying Interactions  ................................ 49
Paulo Carvalho

ICAP: How Students Engage to Learn  ................................................................. 51
Michelene Chi

Fine-Grained Event Structure Representations for Language: Aspect, Force Dynamics, Mental Spaces ........ 53
William Croft

Changing Minds Changing Tools: A Learning-Theoretic Approach to Language Acquisition  ................ 55
Vsevolod Kapatsinski
Not Just a Window: Young Children Learn More from In-Person Events than Video-Mediated Events ........... 57
Heather Kirkorian

Toward a Resolution of the Debate on the Cognitive Penetrability of Perception ................................. 59
Gary Lupyan

No coherent evidence for bilingual advantages in executive functioning .............................................. 61
Kenneth Paap

Ockham’s Razor and Chimpanzee Mind-Reading .......................................................... 63
Elliott Sober

Temporal Dynamics of Categorization: Is There a Best of Both Worlds? .............................................. 65
Haley Vlach

Global and Incremental Updating of Event Representations in Discourse ............................................ 67
Jeffrey Zacks, Heather Bailey, and Christopher Kurby

Information-theoretic efficiency and semantic variation: The case of color naming ............................ 69
Noga Zaslavsky, Charles Kemp, Terry Regier, and Naftali Tishby

Papers-Talks

When teaching breaks down: Teachers rationally select what information to share, but misrepresent learners’ hypothesis spaces ........................................................................................................ 70
Rosie Aboody, Joey Velez-Ginorio, Laurie Santos, and Julian Jara-Ettinger

Success does not imply knowledge: Preschoolers believe that accurate predictions reveal prior knowledge, but accurate observations do not .................................................................................... 76
Rosie Aboody, Holly Huey, and Julian Jara-Ettinger

Interruptions Lead to Improved Confidence-Accuracy Calibration: Response Time as an Internal Cue for Confidence ................................................................................................................ 82
Nathan Aguiar, Kevin Zish, Malcolm McCurry, and Greg Trafton

It’s Complicated: Children Identify Relevant Information About Causal Complexity ............................ 88
Richard Ahl, Erika DeAngelis, Auburn Stephenson, Sehrang Joo, and Frank Keil

Multimodal Surprisal in the N400 and the Index of Cognitive Activity .................................................... 94
Christine Ankener, Heiner Drenhaus, Matthew W. Crocker, and Maria Staudte

Evaluating Reading Support Systems through Reading Skill Test ......................................................... 100
Teiko Arai

Look, I can do it! Young children forego opportunities to teach others to demonstrate their own competence 106
Mika Asaba and Hyowon Gweon

Young children use statistical evidence to infer the informativeness of praise ..................................... 112
Mika Asaba, Emily Hembacher, Helen Qiu, Brett Anderson, Michael Frank, and Hyowon Gweon

Comparing models of semantic fluency: Do humans forage optimally, or walk randomly? .................. 118
Johnathan Avery and Michael N. Jones

When criminals blow up... balloons. Associative and combinatorial information in the generation of on-line predictions in language ................................................................. 124
Adriana Baltaretu and Craig Chambers
What Comes to Mind? A Mix of What’s Likely and What’s Good ........................................ 130
Adam Bear, Samantha Bensinger, Julian Jara-Ettinger, and Joshua Knobe

Cognitive and Experiential Interestingness in Abstract Visual Narrative .......................... 136
Morteza Behrooz, Afshin Mobramaein, Arnav Jhala, and Jim Whitehead

A dynamic neural field model of memory, attention and cross-situational word learning .... 142
Ajaz Bhat, John P Spencer, and Larissa K Samuelson

You can sweat the small stuff, too: Abstraction subordinates perceptual salience to the larger goal in a
category learning paradigm ................................................................. 148
David Bosch, Yaacov Trope, and Gregory Murphy

Sharing is not erring: Pseudo-reciprocity in collective search ........................................ 154
Imen Bouhlel, Charley M. Wu, Nobuyuki Hanaki, and Robert Goldstone

Recommendation as Generalization: Evaluating Cognitive Models In the Wild .................. 160
David Bourgin, Joshua Abbott, and Tom Griffiths

Bias in the Self-Knowledge of Global Communities ...................................................... 166
Eleanor Brower and David Landy

Outputs as inputs: Sequential Models of the Products of Infant ‘Statistical Learning’ of Language .... 172
Angelica Buerkin-Pontrelli, Joseph Coffey, and Daniel Swingley

A resource-rational analysis of human planning ............................................................. 178
Frederick Callaway, Falk Lieder, Priyam Das, Sayan Gul, Paul Krueger, and Tom Griffiths

Multifunctionality in embodied agents: Three levels of neural reuse ................................. 184
Madhavun Candadai and Eduardo Izquierdo

Tracking the Development of Automaticity in Memory Search with Human Electrophysiology .... 190
Rui Cao, Thomas Busey, Robert Nosofsky, Richard Shiffrin, and Geoffrey Woodman

Contrasting Cases Enhance Transfer of Physics Knowledge from an Engineering Design Task ........ 196
Catherine Chase, Laura Malkiewich, and Aakash Kumar

Can Generic Neural Networks Estimate Numerosity Like Humans? ............................... 202
Sharon Chen, Zhenglong Zhou, Mengting Fang, and Jay McClelland

Representations of the Self-Concept and Identity-Based Choice ....................................... 208
Stephanie Chen and Oleg Urminsky

Using object history to predict future behavior: Evidence for essentialism at 9 months of age .......... 214
Chen Cheng, Zsuzsa Kaldy, and Erik Blaser

Preschoolers are more likely to direct questions to adults than to other children (or selves) during spontaneous conversational acts ........................................ 220
Koeun Choi, Elizabeth Lapidow, Jennifer Austin, Patrick Shafto, and Elizabeth Bonawitz

Cognitive pragmatism: Children flexibly choose between facts and conjectures ..................... 226
Junyi Chu and Laura Schulz

Rapid Learning in Early Attentional Processing: Bayesian Estimation of Trial-by-Trial Updating ........ 232
Aaron Cochrane, Joseph Austerweil, Vanessa Simmering, and C. Shawn Green
Where do measurement units come from? ................................................. 238
Kensy Cooperrider and Dedre Gentner

Constraints and Development in Children’s Block Construction .......................... 244
Cathryn Cortesa, Jonathan Jones, Gregory Hager, Sanjeev Khudanpur, Barbara Landau, and Amy Shelton

What’s in an Association? The Relationship Between Similarity and Episodic Memory for Associations .... 250
Gregory Cox and Amy Criss

Learning about Cyber Deception through Simulations: Predictions of Human Decision Making with Deceptive Signals in Stackelberg Security Games .................................................. 256
Edward Cranford, Christian Lebiere, Cleotilde Gonzalez, Sarah Cooney, Phebe Vayanos, and Milind Tambe

Perceptual Learning in Correlation Estimation: The Role of Learning Category Organization ............. 262
Lucy Cui, Christine Massey, and Philip J Kellman

Do children privilege phonological cues in noun class learning? .................................. 268
Jennifer Culbertson, Hanna Jarvinen, Frances Haggarty, and Kenny Smith

Auditory scene analysis as Bayesian inference in sound source models ............................ 274
Maddie Cusimano, Luke Hewitt, Josh Tenenbaum, and Josh McDermott

Learning to act by integrating mental simulations and physical experiments ....................... 275
Ishita Dasgupta, Kevin Smith, Eric Schulz, Josh Tenenbaum, and Samuel Gershman

A Causal Model Approach to Dynamic Control .................................................. 281
Zach Davis, Neil Bramley, Bob Rehder, and Todd Gureckis

Causal Structure Learning with Continuous Variables in Continuous Time ....................... 287
Zach Davis, Neil Bramley, and Bob Rehder

The Applicability and Benefits of Virtual Reality for the Cognitive Sciences ....................... 293
Tycho de Back, Angelica M. Tinga, Rens van Hoef, Erwin M. Peters, and Max M. Louwerse

How to Open the “Window of Attention” in Serial Verb Constructions .............................. 299
YU DENG

Low-level Visual Statistics in Infant-Perspective Scenes Change with Development ............. 305
Christina DeSerio, T. Rowan Candy, Jason Gold, and Linda Smith

Updating Prior Beliefs Based on Ambiguous Evidence ............................................. 306
Stephen Dewitt, David Lagnado, and Norman Fenton

Evidence for hierarchically-structured reinforcement learning in humans .......................... 312
Maria Eckstein and Anne Collins

Cumulative improvements in iterated problem solving ................................................. 318
Pierce Edmiston, Maxime Derex, and Gary Lupyan

Human Causal Transfer: Challenges for Deep Reinforcement Learning .......................... 324
Mark Edmonds, James Kubricht, Colin Summers, Yixin Zhu, Brandon Rothrock, Song-Chun Zhu, and Hongjing Lu
Shap es in Scatterplots: Comparing Human Visual Impressions and Computational Metrics ................................. 330
Joseph Eilbert, Zameese Peters, Fernanda monteiro eliott, Keivan Stassun, and Maithilee Kunda

Effects of Illustration Details on Attention and Comprehension in Beginning Readers ................................. 336
Cassondra Eng, Karrie Godwin, Kristen Boyle, and Anna Fisher

Contingent Responsiveness in Digital Storybooks: Effects on Children’s Comprehension and the Role of Individual Differences in Attention ..................................................... 342
Cassondra Eng, Anthony Tomasic, and Erik Thiessen

Considering alternatives facilitates anomaly detection in preschoolers ......................................................... 348
Jae Engle and Caren Walker

Social Value Learning Shifts Conceptual Representations of Faces .............................................................. 354
Ariana Familiar and Sharon Thompson-Schill

Can a Recurrent Neural Network Learn to Count Things? ................................................................. 360
Mengting Fang, Zhenglong Zhou, Sharon Chen, and Jay McClelland

Do Humans Navigate via Random Walks? Modeling Navigation in a Semantic Word Game .......................... 366
Mohammad Isyroqi Fathan, Eli K. Renfro, Joseph Austerweil, and Nicole M. Beckage

Metaphor Framing in Multiple Communication Modalities ................................................................. 372
Stephen Flusberg, Mark Lauria, and Paul Thibodeau

Folk economic beliefs moderate the effects of majority group status threat .............................................. 378
Stephen Flusberg, Alexia Toskos Dils, and Krystal Perkins

Word Learning as Network Growth: A Cross-linguistic Analysis ......................................................... 384
Abdellah Fourtassi, Yuan Bian, and Michael Frank

A model of linguistic accommodation leading to language simplification .............................................. 390
Stella Frank and Kenny Smith

Task Expectations Influence Learning from Feedback .................................................................................. 396
Emily Fyfe and Sarah Brown

Consolidation and retention of auditory categories acquired incidentally in performing a visuomotor task .................. 402
Yafit Gabay, Avi Karni, and Lori Holt

Language in Context: Incorporating Demographic Embeddings into Language Understanding .......................... 408
Justin Garten, Brendan Kennedy, Joe Hoover, Kenji Sagae, and Morteza Dehghani

What happened? Reconstructing the past through vision and sound ..................................................... 409
Tobias Gerstenberg, Max Siegel, and Josh Tenenbaum

Wiggleometer: Measuring Selective Sustained Attention in Children ..................................................... 410
Karrie Godwin and Anna Fisher

(Fake News Subtheme) More than just new evidence: How category learning fosters belief revision .............. 416
Micah Goldwater, Monica Bollen, and Josue Giron

An Ownership-Advantage in Preschoolers’ Future-Oriented Thinking .................................................. 422
Brandon Goulding, Cristina M. Atance, and Ori Friedman
Sequences of discrete attentional shifts emerge from a neural dynamic architecture for conjunctive visual search that operates in continuous time ................................. 427
Raul Grieben, Jan Tekülve, Stephan Zibner, Sebastian Schneegans, and Gregor Schöner

The Impact of Gesture and Prior Knowledge on Visual Attention During Math Instruction ................................. 433
Katharine Guarino, Elizabeth Wakefield, Miriam A. Novack, Eliza L. Congdon, Steven Franconeri, and Susan Goldin-Meadow

Emergence of Structured Behaviors from Curiosity-Based Intrinsic Motivation ................................. 439
Nick Haber, Damian Mrowca, Li Fei-Fei, and Daniel L. K. Yamins

Partisan Representations: Partisan Differences in Semantic Representations and their Role in Attitude Judgments ................................. 445
David Halpern and Pedro Rodriguez

Human Decisions on Targeted and Non-Targeted Adversarial Sample ................................. 451
Samuel Harding, Prashanth Rajivan, Bennett Bertenthal, and Cleotilde Gonzalez

A Dynamic Object Recognition Model for Decisions Made Over Dynamic Stimuli ................................. 457
Samuel Harding and Richard Shiffrin

Emerging abstractions: Lexical conventions are shaped by communicative context ................................. 463
Robert Hawkins, Michael Franke, Kenny Smith, and Noah Goodman

Towards a Pedagogical Conversational Agent for Collaborative Learning ................................. 469
Yugo Hayashi

Noisy Time Preference ................................. 475
Lisheng He and Sudeep Bhatia

Modelling reference production using the simultaneity approach: A new look at referential success ............ 481
Daphna Heller and Suzanne Stevenson

An enhanced model of gemination in spelling: Evidence from a large corpus of typing errors ............ 487
Christopher Hepner, Svetlana Pinet, and Nazbanou Nozari

A resource model of phonological working memory ................................. 493
Christopher Hepner and Nazbanou Nozari

How to use context to disambiguate overlapping categories: The test case of Japanese vowel length ............ 499
Kasia Hitzcenko, Reiko Mazuka, Micha Elsner, and Naomi Feldman

Effectively Learning from Pedagogical Demonstrations ................................. 505
Mark Ho, Michael L. Littman, Fiery Cushman, and Joseph Austerweil

Predictors of L2 word learning accuracy: A big data investigation ................................. 511
Elise Hopman, Bill Thompson, Joseph Austerweil, and Gary Lupyan

On the instrumental value of hypothetical and counterfactual thought ................................. 517
Thomas Icard, Fiery Cushman, and Joshua Knobe

Arithmetic Sense Predicts Children’s Mathematical Achievement Better Than Arithmetic Fluency ............ 523
Soo-hyun Im and Sashank Varma
Do social media messages incorporated into television programming impact learning? The effects of disposition to critical thinking ................................................................. 524
Miwa Inuzuka, Yuko Tanaka, and Mio Tsubakimoto

Feature Ratings and Empirical Dimension-Specific Similarity Explain Distinct Aspects of Semantic Similarity Judgments ................................................................. 530
Marius Catălin Iordan, Cameron Ellis, Michael Lesnick, Daniel Osherson, and Jonathan Cohen

A Neural Network Model of Complementary Learning Systems ........................................ 536
Mika Jain and Jack Lindsey

An Instance Theory of Distributional Semantics ............................................................. 542
Randall Jamieson, Brendan Johns, Johnathan Avery, and Michael N. Jones

Modeling the Dunning-Kruger Effect: A Rational Account of Inaccurate Self-Assessment ......................................................... 548
Rachel Jansen, Anna Rafferty, and Tom Griffiths

Conceptual and prosodic cues in child-directed speech can help children learn the meaning of disjunction .......................................................... 554
Masoud Jasbi, Akshay Jaggi, and Michael Frank

From Dissimilar to Similar: Reverse Fading Assistance Improves Learning ............................ 560
Jay Jennings and Kasia Muldner

Psychological Underpinnings of Zero-Sum Thinking ......................................................... 566
Samuel Johnson, Jiewen Zhang, and Frank Keil

The Aesthetics of Mathematical Explanations .................................................................... 572
Samuel Johnson and Stefan Steinerberger

Active Function Learning .................................................................................. 578
Angela Jones, Eric Schulz, Bjoern Meder, and Azzurra Ruggeri

n-task Learning: Solving Multiple or Unknown Numbers of Reinforcement Learning Problems ......................................................... 584
Michael Jovanovich and Joshua Phillips

Effects of visual representations on fraction arithmetic learning ........................................ 590
Jennifer Kaminski

Assumption Violations in Forced-Choice Recognition Judgments: Implications from the Area Theorem ........................................................................ 596
David Kellen, Henrik Singmann, Sharon Yanxiu Chen, and Samuel Winiger

Understanding Attentional Selectivity, Flexibility, and Stability: A Dynamic Neural Field Model Predicts Behavior in 3- and 4-year-olds .................................. 602
Anastasia Kerr-German, Kara Lowery, and Aaron Buss

Hierarchical Drift-Diffusion Model for Moral Dilemma: Understanding Reaction Times and Choices ......................................................... 608
Richard Kim, Niccolo Pescetelli, Max Kleiman-Weiner, Edmond Awad, Sohan Dsouza, Josh Tenenbaum, and Iyad Rahwan

A Hidden Markov Model for Analyzing Eye-Tracking of Moving Objects ............................ 609
Jaeh Kim, Shashank Singh, Anna Vande Velde, Erik Thiessen, and Anna Fisher

Statistical norm effects in causal cognition ............................................................. 615
Lara Kirfel and David Lagnado
The Evolution of Cooperation in Cognitively Flexible Agents ........................................ 621
Max Kleiman-Weiner, Alejandro Vientós, David Rand, and Josh Tenenbaum

Early-Developing Causal Perception is Sensitive to Multiple Physical Constraints .......... 622
Jonathan Kominsky and Susan Carey

Retinotopically specific visual adaptation reveals the structure of causal events in perception ........ 628
Jonathan Kominsky and Brian Scholl

Word Frequency Can Affect What You Choose to Say ........................................... 629
Mark Koranda, Martin Zettersten, and Maryellen MacDonald

These boots are made for walking: Teleological generalizations from principled connections .......... 635
Joanna Korman and Sangeet Khemlani

A neural dynamic architecture that autonomously builds mental models ......................... 641
Parthena Kounatidou, Mathis Richter, and Gregor Schöner

Inferring attention through cursor trajectories ..................................................... 647
Kiran Kumar, Samuel Harding, and Richard Shiffrin

Dynamic and distributional properties of prices .................................................... 653
Peter Kvam and Jerome Busemeyer

But does it really do that? Using formal analysis to ensure desirable ACT-R model behaviour .......... 659
Vincent Langenfeld, Bernd Westphal, Rebecca Albrecht, and Andreas Podelski

Exclusivity in causal reasoning ............................................................. 665
Alexander LaTourrette, Matthew Myers, and Lance Rips

Computational Modeling of Cognitive Control in a Flanker Task ..................................... 671
Sang Ho Lee

“But He’s My Brother”: How Family Obligation Impacts Moral Judgments ...................... 677
Junho Lee and Keith Holyoak

The Cognitive Mechanisms of Contractualist Moral Decision-Making ......................... 683
Sydney Levine, Max Kleiman-Weiner, Nicholas Chater, Fiery Cushman, and Josh Tenenbaum

Roger Levy

Distinct patterns of syntactic agreement errors in recurrent networks and humans .............. 690
Tal Linzen and Brian Leonard

Determinants and Consequences of the Need for Explanation ................................... 696
Emily Liquin and Tania Lombrozo

The Role of Generating Versus Choosing an Error in Children’s Later Error Correction ............ 702
Abbey Loehr, Lisa Fazio, and Bethany Rittle-Johnson

Drawings as a window into developmental changes in object representations ................... 708
Bria Long, Judith Fan, and Michael Frank

Adults and preschoolers seek visual information to support language comprehension in noisy environments 714
Kyle MacDonald, Virginia Marchman, Anne Fernald, and Michael Frank
Partial source dependence and reliability revision: the impact of shared backgrounds
Jens Madsen, Ulrike Hahn, and Toby Pilditch

Delegation of a task to a partner in cooperation with a human partner and with a system partner
Akihiro Maehigashi, Kazuhsa Miwa, and Kazuaki Kojima

Feedback in the Time-Invariant String Kernel model of spoken word recognition
James Magnuson

The psychophysics of society: Uncertain estimates of invisible entities
Tyler Marghetis, Brian Guay, Anish Karlapudy, and David Landy

Crosslinguistic transfer as category adjustment: Modeling conceptual color shift in bilingualism
Yevgen Matusevych, Barend Beekhuizen, and Suzanne Stevenson

Analyzing and modeling free word associations
Yevgen Matusevych and Suzanne Stevenson

Your liking is my curiosity: a social popularity intervention to induce curiosity
Hermish Mehta, Rachit Dubey, and Tania Lombrozo

Children’s Causal Interventions Combine Discrimination and Confirmation
Yuan Meng, Neil Bramley, and Fei Xu

Enhancing Adaptive Learning through Strategic Scheduling of Passive and Active Learning Modes
Everett Mettler, Christine Massey, Timothy Burke, Patrick Garrigan, and Philip J Kellman

An Adaptive Signal Detection Model applied to Perceptual Learning
Percy Mistry, Joshua Skewes, and Michael Lee

Redefining heuristics in multi-attribute decisions: A probabilistic framework
Percy Mistry and Jennifer Trueblood

The Intrinsic Cost of Dissent
Prachi Mistry and Mimi Liljeholm

Value-guided choice sets support efficient planning
Adam Morris, Jonathan Phillips, and Fiery Cushman

Estimating the costs of cognitive control from task performance: theoretical validation and potential pitfalls
Sebastian Musslick, Jonathan Cohen, and Amitai Shenhav

Constraints associated with cognitive control and the stability-flexibility dilemma
Sebastian Musslick, Seong Jun Jang, Michael Shvartsman, Amitai Shenhav, and Jonathan Cohen

Interspecies Distributed Cognition
Zachariah A. Neemeh, Luis H. Favela, and Mary Amon

How Much Support is Optimal during Exploratory Learning?
Phillip Newman and Marci S. DeCaro

Syntactic production is not independent of inhibitory control: Evidence from agreement attraction errors
Nazbanou Nozari and Akira Omaki

Time-Based Resource Sharing in ARCADIA
Kevin O’Neill, Will Bridewell, and Paul Bello
Evidence of Partial Number Word Knowledge on the Give-N Task ........................................ 834
Connor O’Rear, Nicole McNeil, and Patrick Kirkland

Adults use gradient similarity information in compositional rules ........................................ 840
Lauren Oey, Francis Mollica, and Steven Piantadosi

Building and Dismantling Trust: From Group Learning to Character Judgments .......................... 846
Philip Parnamets, Tobias Granwald, and Andreas Olsson

Interpersonal Coordination of Perception and Memory in Real-Time Online Social Interaction ........ 852
Alexandra Paxton, Thomas J. H. Morgan, Jordan Suchow, and Tom Griffiths

Intuitive Statistics & Metacognition in Children and Adults .................................................... 858
Madeline Pelz and Laura Schulz

Stronger evidence isn’t always better: A role for social inference in evidence selection and interpretation ... 864
Amy Perfors, Danielle Navarro, and Patrick Shafto

Human decision making in black swan situations ................................................................. 870
Amy Perfors and Nicholas Van Dam

Capturing human category representations by sampling in deep feature spaces .......................... 876
Joshua Peterson, Jordan Suchow, Krisha Aghi, Alexander Ku, and Tom Griffiths

Integrating dependent evidence: naive reasoning in the face of complexity .............................. 882
Toby Pilditch, Ulrike Hahn, and David Lagnado

Time and numbers on the fingers: Dissociating the mental timeline and mental number line ........ 888
Benjamin Pitt, Kamilah Scales, and Daniel Casasanto

Improving pre-algebraic thinking in preschoolers through patterning ..................................... 894
Tasha Posid, Sydney Clark, Megan Bonawitz, and Vladimir Sloutsky

Bilingual infants process mixed sentences differently in their two languages ............................ 900
Christine Potter, Eva Fourakis, Elizabeth Morin-Lessard, Krista Byers-Heinlein, and Casey Lew-Williams

Articulating lay theories through graphical models: A study of beliefs surrounding vaccination decisions ... 906
Derek Powell, Kara Weisman, and Ellen Markman

Task dynamics reveal how fraction values are constructed ....................................................... 912
Richard Prather

Rote versus Rule: Revisiting the Role of Language in Mathematical Thinking ............................ 918
Jike Qin and John Opfer

Bootstrapping from Language in the Analogical Theory of Mind Model .................................. 924
Irina Rabkina, Clifton McFate, and Ken Forbus

Representational and sampling assumptions drive individual differences in single category generalisation .. 930
Keith Ransom, Andrew Hendrickson, Amy Perfors, and Danielle Navarro

Same-different problems strain convolutional neural networks ............................................... 936
Matthew Ricci, Junkyung Kim, and Thomas Serre

Dorsal Premotor Cortex and Conditional Rule Resolution: A High-Frequency TMS Investigation ........ 942
Patrick Rice and Andrea Stocco
Episodic Control through Meta-Reinforcement Learning ...................................................... 948
Samuel Ritter, Jane Wang, Zeb Kurth-Nelson, and Matthew Botvinick

Emergence of vowel-like organization in a color-based communication system ...................... 954
Gareth Roberts and Robin Clark

This and that back in context: Grounding demonstrative reference in manual and social affordances ........ 960
Roberta Rocca, Mikkel Wallentin, Cordula Vesper, and Kristian Tylen

Dynamic speech adaptation to unreliable cues during intonational processing .......................... 966
Timo Roettger and Michael Franke

Black Dialect Activates Violent Stereotypes ................................................................. 972
Rebecca Rosen, Laura Staum Casasanto, Amritpal Singh, and Daniel Casasanto

The Phenomenology of Eye Movement Intentions and their Disruption in Goal-Directed Actions ........ 973
Maximilian Roszko, Lars Hall, Petter Johansson, and Philip Parnamets

Topics and Trends in Cognitive Science ............................................................... 979
Anselm Rothe, Alexander Rich, and Zhiwei Li

Movement as a message: inferring communicative intent from actions ............................... 985
Amanda Royka, Rosie Aboody, and Julian Jara-Ettinger

Joint inferences of speakers’ beliefs and referents based on how they speak ......................... 991
Paula Rubio-Fernandez and Julian Jara-Ettinger

Endogenous orienting in the archer fish ............................................................................ 997
William Saban, Shai Gabay, and Raymond M. Klein

Efficiency of learning vs. processing: Towards a normative theory of multitasking ................ 1002
Yotam Sagiv, Sebastian Musslick, Yael Niv, and Jonathan Cohen

A Rational Distributed Process-level Account of Independence Judgment ......................... 1008
Ardavan Salehi-Nobandegani and Ioannis N. Psaromiligkos

Ecological Psychology and the Environmentalist Promise of Affordances .............................. 1014
Guilherme Sanches de Oliveira

Emotion as a Form of Perception: Why William James was not a Jamesian ....................... 1020
Guilherme Sanches de Oliveira

Using Deep-Learning Representations of Complex Natural Stimuli as Input to Psychological Models of Classification ................................................................. 1025
Craig Sanders and Robert Nosofsky

Agent versus Non-Agent Motions Influence Language Production: Word Order and Perspective in a VOS language ........................................................................... 1031
Manami Sato, Keiyu Niikuni, Amy Schafer, and Masatoshi Koizumi

Intuitive archeology: Detecting social transmission in the design of artifacts ...................... 1037
Adena Schachner, Timothy F. Brady, Kiani Oro, and Michelle Lee

Texture as a Diagnostic Signal in Mammograms ......................................................... 1043
Yelda Semizer, Melchi Michel, Karla K Evans, and Jeremy M Wolfe
For Teaching Perceptual Fluency, Machines Beat Human Experts ................................. 1049
Ayon Sen, Purav Patel, Martina Rau, Blake Mason, Robert Nowak, Timothy Rogers, and Jerry Zhu

Analyzing Human Negotiation using Automated Cognitive Behavior Analysis: The Effect of Personality . 1055
Pedro Sequeira and Stacy Marsella

Physical Inference for Object Perception in Complex Auditory Scenes .......................... 1061
Max Siegel, Josh Tenenbaum, and Josh McDermott

Word length, proportion of overlap, and phonological competition in spoken word recognition ............. 1062
Elizabeth Simmons and James Magnuson

Using Ensembles of Cognitive Models to Answer Substantive Questions ...................... 1068
Henrik Singmann, David Kellen, Eda Mizrak, and Ilke Öztekin

Monotonicity and the Complexity of Reasoning with Quantifiers .................................. 1074
Jonathan Sippel and Jakub Szymanik

Assessing Singular Causation: The Role of Causal Latencies ....................................... 1080
Simon Stephan, Ralf Mayrhofer, and Michael R. Waldmann

Supervised Learning of Action Selection in Cognitive Spiking Neuron Models .................. 1086
Terrence Stewart, Sverrir Thorgeirsson, and Chris Eliasmith

Empirical Evidence from Neuroimaging Data for a Standard Model of the Mind ................ 1092
Andrea Stocco, John Laird, Christian Lebiere, and Paul Rosenbloom

The First Step in Harnessing the Self Conscious Emotions: A Quantitative Exploration of Shame .......... 1098
Jeremiah Sullins, Katie Console, Clayton Henrichson, Rebecca Denton, Shelby Roberts, and Katherine Howell

Preschoolers adapt their exploratory strategies to the information structure of the task ............ 1102
Nora Swaboda, Azzurra Ruggeri, and Alison Gopnik

Not unreasonable: Carving vague dimensions with contraries and contradictions .................. 1108
Michael Tessler and Michael Franke

Generalization of novel names for relations in comparison settings: the role of conceptual distance during learning and at test. ................................................................. 1114
Jean-Pierre Thibaut and Arnaud Witt

Automatic Estimation of Lexical Concreteness in 77 Languages .................................... 1120
Bill Thompson and Gary Lupyan

Children Don’t Just Wanna Have Fun: An Experimental Demonstration Of Children’s Curiosity For How Things Work. ................................................................. 1126
Emmanuel Trouche, Aaron Chuey, Kristi Lockhart, and Frank Keil

A neurocognitive model for predicting the fate of individual memories ............................ 1127
Shannon Tubridy, David Halpern, Lila Davachi, and Todd Gureckis

Game Theoretic Models of Clear versus Plain Speech ....................................................... 1133
Paul Tupper, Jie Jian, Keith Leung, and Yue Wang

High Chances and Close Margins: How Different Forecast Formats Shape Beliefs ................ 1139
Oleg Urminsky, Lucy Shen, and Sondre Skarsten
Color naming reflects both perceptual structure and communicative need .................................................. 1248  
Noga Zaslavsky, Charles Kemp, Naftali Tishby, and Terry Regier

Comparing Theories of Speaker Choice Using Classifier Production in Mandarin Chinese .......................... 1254  
Meilin Zhan and Roger Levy

Prominence in Multi-Attribute Choice: A Drift Diffusion Analysis ......................................................... 1255  
Wenjia Joyce Zhao and Sudeep Bhatia

Automatic Biases in Intertemporal Choice ........................................................................................................ 1261  
Wenjia Joyce Zhao, Adele Diederich, Jennifer Trueblood, and Sudeep Bhatia

Assessing the Validity of Three Tasks of Risk-Taking Propensity: Behavioral Measure and Computational  
Modeling .......................................................................................................................................................... 1267  
Ran Zhou, Jay Myung, Carol Mathews, and Mark Pitt

Papers-Posters

Hand-Eye Coordination and Visual Attention in Infancy .................................................................................. 1268  
Drew Abney, Hadar Karmazyn, Linda Smith, and Chen Yu

Parafoveal-on-Foveal Effects in High-Skill Spellers: Disambiguating Previews Influence Ambiguous Word  
Recognition ......................................................................................................................................................... 1274  
Ashley Abraham, Michael Eskenazi, Jennifer Roche, and Jocelyn Folk

Face Recognition and Bilingual Lexical Access: Familiarized faces prime performance in a written  
language-selection task ........................................................................................................................................ 1280  
David Abugaber

From Middle School to Graduate School: Combining Conceptual and Simulation Modeling for Making  
Science Learning Easier ....................................................................................................................................... 1286  
Akshay Agarwal, Taylor Hartman, and Ashok Goel

The Fractal Structure of Extended Communicative Performance ................................................................ 1292  
Camila Alviar, Rick Dale, and Christopher Kello

Preserved Structure Across Vector Space Representations ................................................................................. 1298  
Andrei Amatuni, Estelle He, and Elika Bergelson

Auditory Versus Visual Stimulus Effects on Cognitive Performance During the N-back Task ......................... 1304  
Mary Amon and Bennett Bertenthal

Deep Convolutional Networks do not Perceive Illusory Contours .................................................................. 1310  
Nicholas Baker, Gennady Erlikhman, Philip J Kellman, and Hongjing Lu

What You Are Getting and What You Will Be Getting: Testing Whether Verb Tense Affects Intertemporal  
Choices .............................................................................................................................................................. 1316  
Akshina Banerjee and Oleg Urminsky

The Role of Affective Involvement and Knowledge in Processing Mixed Evidence for Social Issues .............. 1317  
Megan Bardolph and Seana Coulson

A Novel Measure of Changes in Force Applied to the Perruchet Effect ....................................................... 1323  
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>How Second Language Learning is Helped and Hurt by Native Language Similarity</td>
<td>1329</td>
</tr>
<tr>
<td>James Bartolotti, Aimee van den Berg, and Viorica Marian</td>
<td></td>
</tr>
<tr>
<td>That'll Teach 'em: How Expectations about Teaching Styles may Constrain Inferences</td>
<td>1335</td>
</tr>
<tr>
<td>Ilona Bass, Patrick Shafto, and Elizabeth Bonawitz</td>
<td></td>
</tr>
<tr>
<td>Explaining Human Decision Making in Optimal Stopping Tasks</td>
<td>1341</td>
</tr>
<tr>
<td>Christiane Baumann, Henrik Singmann, Vassilios E. Kaxiras, Samuel Gershman, and Bettina von Helversen</td>
<td></td>
</tr>
<tr>
<td>What Company Do Semantically Ambiguous Words Keep? Insights from Distributional Word Vectors</td>
<td>1347</td>
</tr>
<tr>
<td>Barend Beekhuizen, Saša Milić, Blair Armstrong, and Suzanne Stevenson</td>
<td></td>
</tr>
<tr>
<td>An Attention-Driven Computational Model of Human Causal Reasoning</td>
<td>1353</td>
</tr>
<tr>
<td>Paul Bello, Andrew Lovett, Gordon Briggs, and Kevin O'Neill</td>
<td></td>
</tr>
<tr>
<td>Preschoolers consider expected task difficulty to decide what to do and whom to help</td>
<td>1359</td>
</tr>
<tr>
<td>Grace Bennett-Pierre, Mila Asaba, and Hyowon Gweon</td>
<td></td>
</tr>
<tr>
<td>Characterizing the Temporal Dynamics of Information in Visually Guided Predictive Control Using LSTM Recurrent Neural Networks</td>
<td>1365</td>
</tr>
<tr>
<td>Kamran Binaee, Anna Starynska, Jeff Pelz, Christopher Kanan, and Gabriel Diaz</td>
<td></td>
</tr>
<tr>
<td>Exploration and Attention in Young Children</td>
<td>1371</td>
</tr>
<tr>
<td>Nathaniel Blanco and Vladimir Sloutsky</td>
<td></td>
</tr>
<tr>
<td>Analysis of human problem solving drafts: a methodological approach on the example of Rush Hour</td>
<td>1377</td>
</tr>
<tr>
<td>Mareike Bockholt, Olaf Peters, Susanne Narciss, and Katharina A. Zweig</td>
<td></td>
</tr>
<tr>
<td>Follow my Language! Effect of Power Relations on Syntactic Alignment</td>
<td>1383</td>
</tr>
<tr>
<td>Reihane Boghrati and Morteza Dehghani</td>
<td></td>
</tr>
<tr>
<td>Crosswords, Quiz Shows, and the Geometry of Question-Asking</td>
<td>1389</td>
</tr>
<tr>
<td>Christina Boyce-Jacino and Simon DeDeo</td>
<td></td>
</tr>
<tr>
<td>Grounding Compositional Hypothesis Generation in Specific Instances</td>
<td>1390</td>
</tr>
<tr>
<td>Neil Bramley, Anselm Rothe, Josh Tenenbaum, Fei Xu, and Todd Gureckis</td>
<td></td>
</tr>
<tr>
<td>Changing Signs: Testing How Sound-Symbolism Supports Early Word Learning</td>
<td>1396</td>
</tr>
<tr>
<td>James Brand, Padraic Monaghan, and Peter Walker</td>
<td></td>
</tr>
<tr>
<td>How you learned matters: The process by which others learn informs young children’s decisions about whom to ask for help</td>
<td>1402</td>
</tr>
<tr>
<td>Sophie Bridgers, Hyowon Gweon, Maria Bretzke, and Azzurra Ruggeri</td>
<td></td>
</tr>
<tr>
<td>Enumeration by pattern recognition requires attention: Evidence against immediate holistic processing of canonical patterns</td>
<td>1408</td>
</tr>
<tr>
<td>Gordon Briggs, Christina Wasylyshyn, and Paul Bello</td>
<td></td>
</tr>
<tr>
<td>How do people evaluate problem-solving strategies? Efficiency and intuitiveness matter</td>
<td>1414</td>
</tr>
<tr>
<td>Sarah Brown, David Menendez, and Martha Alibali</td>
<td></td>
</tr>
<tr>
<td>Construct Validity of Procedural Memory Tasks Used in Adult-Learned Language</td>
<td>1420</td>
</tr>
<tr>
<td>Joshua Buffington and Kara Morgan-Short</td>
<td></td>
</tr>
</tbody>
</table>
The production and comprehension of variable number agreement ................................. 1426
Lindsay Butler

REPRISE: A Retrospective and Prospective Inference Scheme .................................. 1427
Martin Butz, David Bilkey, Alistair Knott, and Sebastian Otte

Testing Theories of Working Memory and Their Links to Mathematics Achievement (Education) ........ 1433
Dr. James P. Byrnes and Dana Miller-Cotto

The Modulatory Effect of Expectations on Memory Retrieval During Sentence Comprehension ........ 1434
Luca Campanelli, Julie A. Van Dyke, and Klara Marton

The Acquisition of Vowel Harmony from Simple Local Statistics ............................... 1440
Spencer Caplan and Jordan Kodner

Word Learning as Category Formation ................................................................. 1446
Spencer Caplan

Child-guided math practice: The role of regulatory emotional self-efficacy for children experiencing homelessness .......................................................... 1452
Macey Cartwright, Heidi Kloos, Quintino Mano, and Casey Hord

Not all Active Learning is Equal: Predicting and Explaining Improves Transfer Relative to Answering Practice Questions ......................................................... 1458
Paulo Carvalho, Kody Manke, and Ken Koedinger

The Cognitive Processes Underlying Moral Judgment Across Development .................... 1464
Lisa Chalik, Jay Van Bavel, and Marjorie Rhodes

Words and non-speech sounds access lexical and semantic knowledge differently ............. 1470
Peiyao Chen, James Bartolotti, Scott Schroeder, Sirada Rochanavibhata, and Viorica Marian

Optimal face recognition performance involves a balance between global and local information processing: Evidence from cultural difference ......................................................... 1476
Zhijie Cheng, William G. Hayward, William G. Hayward, Antoni Chan, and Janet Hsiao

Improving predictions of polite and frustrated speech using linguistic features associated with different cognitive states in children ................................................. 1482
Cindy Chiang, Jacqueline Brixy, James Gibson, and Morteza Dehghani

Shaping Perceptions by Hand: The Influence of Motor Fluency on Facial Expression Judgment .......... 1488
Julia Chirils, Maddy Kaplan, Yosan Gebre-Ab, Mia Ortiz, and Lauren Howard

Illusory causation and outcome density effects with a continuous and variable outcome ................ 1494
Julie Chow, Hilary Don, Ben Colagiuri, and Evan Livesey

Mechanistic Knowledge Generalizes Differentially ................................................... 1500
Aaron Chuey, Mark Sheskin, and Frank Keil

Multiple anchors and the MOLE: Benefits for elicitation .......................................... 1506
Marianne Clausen and Matthew Welsh

The role of fast speech in sound change ................................................................. 1512
Uriel CohenPriva and Emily Gleason
Distinct behaviors in convergence across measures .......................... 1518
  Uriel CohenPriva and Chelsea Sanker

Are emoji a poor substitute for words? Sentence processing with emoji substitutions .......................... 1524
  Neil Cohn, Tim Roijackers, Robin Schaap, and Jan Engelen

L2 Speakers’ Reference Resolution in Processing and Production .......................... 1530
  Derya Cokal, Sturt Patrick, and Fernanda Ferreira

Awesome play: Awe increases preschooler’s exploration and discovery .......................... 1536
  Joseph Colantonio II and Elizabeth Bonawitz

Some misinformation is more easily countered: An experiment on the continued influence effect .......................... 1542
  Saoirse Connor Desai and Stian Reimers

The Role of Conceptual Structure in Mathematical Explanation .......................... 1548
  Nathan Couch

Beyond Skill: Predictive Modeling with Individual and Team Attributes in League of Legends .......................... 1554
  Malia Crane, Sarah Farmer, Scott Appling, and Erica Briscoe

Functional Load and Frequency as Predictors of Consonant Emergence across Five Languages .......................... 1560
  Margaret Cychosz

Catastrophic Interference in Neural Embedding Models .......................... 1566
  Prudhvi Raj Dachapally and Michael N. Jones

Changing Minds: The Effect of Stimulated Attention to Another’s Different Point of View on Visual Perspective-Taking .......................... 1572
  Debby Damen, Marije van Amelsvoort, Per van der Wijst, and Emiel Krahmer

The Curse of Knowing: The Influence of Explicit Perspective-Awareness Instructions on Perceivers’ Perspective-Taking .......................... 1578
  Debby Damen, Per van der Wijst, Marije van Amelsvoort, and Emiel Krahmer

Multinomial Processing Models for Syllogistic Reasoning: A Comparison .......................... 1584
  Hannah Dames, Jan Ole von Hartz, Mario Kantz, Nicolas Riesterer, and Marco Ragni

Towards a physio-cognitive model of deep slow-breathing .......................... 1590
  Christopher Dancy and Jong Kim

Evaluating Compositionality in Sentence Embeddings .......................... 1596
  Ishita Dasgupta, Demi Guo, Andreas Stuhlmueller, Samuel Gershman, and Noah Goodman

Presence is Key: Unlocking Performance Benefits of Immersive Virtual Reality .......................... 1602
  Tycho de Back, Rens van Hoef, Angelica M. Tinga, and Max M. Louwerse

Learning word meaning with little means: An investigation into the inferential capacity of paradigmatic information .......................... 1608
  Simon De Deyne, Amy Perfors, and Danielle Navarro

IQ and working memory predict plan-based sequential action learning .......................... 1614
  Roy de Kleijn, George Kachergis, and Bernhard Hommel

Optimized behavior in a robot model of sequential action .......................... 1615
  Roy de Kleijn, George Kachergis, and Bernhard Hommel
A graph-based model to discover preference structure from choice data ........................................... 1616
Cristobal De la maza, Alex Davis, Cleotilde Gonzalez, and Ines Azevedo

Comparing Mediation Inferences and Explaining Away Inferences on Three Variable Causal Structures .... 1622
Cory Derringer and Benjamin Rottman

Children Use Probability to Infer Other People’s Happiness ............................................................ 1628
Tiffany Doan, Ori Friedman, and Stephanie Denison

Is the blocking effect sensitive to causal model? It depends how you ask ........................................ 1633
Hilary Don and Evan Livesey

Putting the Probability Heuristics Model to the Test ................................................................. 1639
Lukas Elflein and Marco Ragni

How to collect data to simulate the dynamic of trains-passengers’ interaction ............................. 1645
Fatma Elleuch, Stephanie Donnet, Axel Buendia, stephane natkin, and Charles Tijus

Children’s Representations of Five Spatial Terms ................................................................. 1651
Jennifer Ellis, Hilary Miller, Lu Ou, and Vanessa Simmering

Learning Inductive Biases with Simple Neural Networks ..................................................... 1657
Reuben Feinman and Brenden Lake

Beyond Principles and Outcomes: Children Determine Fairness Based on Attention and Exactness .... 1663
Madison Flowers, Rosie Aboody, and Julian Jara-Ettinger

Saving-enhanced memory in the real world ................................................................. 1669
Stephen Flusberg and Avianca Ramos

Attention Selectively Boosts Learning of Statistical Structure ........................................... 1674
Tess Allegra Forest and Amy Sue Finn

Confidence Levels in Scientific Writing: Automated Mining of Primary Literature and Press Releases .... 1680
Will Fox and Thomas Donoghue

The effect of expertise on auditory categorization: a domain-specific or domain-general mechanism? .... 1686
Marjorie Freggens and Mark Pitt

A Computational Model of the Acquisition of German Case .................................................. 1687
Daniel Freudenthal, Julian M. Pine, and Fernand Gobet

Tiptoeing around it: Inference from absence in potentially offensive speech .............................. 1693
Monica Gates, Tess Veuthey, Michael Tessler, Kevin Smith, Tobias Gerstenberg, Laurie Bayet, and Josh Tenenbaum

Word learning and the acquisition of syntactic–semantic overhypotheses .................................. 1699
Jon Gauthier, Roger Levy, and Josh Tenenbaum

Testing Expectancy, but not Judgements of Learning, Moderate the Disfluency Effect ................. 1705
Jason Geller and Mary Still

Preschoolers use analogy to facilitate innovative problem-solving ........................................... 1711
Sarah Gerson, Emily Burdett, and Sarah Beck
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toddlers and Adults Simultaneously Track Multiple Hypotheses in a Causal Learning Task</td>
<td>1717</td>
</tr>
<tr>
<td>Mariel Goddu and Caren Walker</td>
<td></td>
</tr>
<tr>
<td>Examination of the Role of Book Layout, Executive Function, and Processing Speed On Children’s Decoding and Reading Comprehension</td>
<td>1723</td>
</tr>
<tr>
<td>Karrie Godwin, Cassondra Eng, Rachael Todaro, Grace Murray, and Anna Fisher</td>
<td></td>
</tr>
<tr>
<td>If You Don’t Like It, You Won’t Get It: Attitudes Toward Statistics Predict Text Comprehension and Metacomprehension Accuracy on Statistics Texts</td>
<td>1729</td>
</tr>
<tr>
<td>Stefanie Golke and Jörg Wittwer</td>
<td></td>
</tr>
<tr>
<td>Does Training in Inhibition and Working Memory Influence Analogical reasoning and Theory of Mind in Young Children?</td>
<td>1735</td>
</tr>
<tr>
<td>Kristina Gotseva-Balgaranova and Milena Mutaftchieva</td>
<td></td>
</tr>
<tr>
<td>Individual Differences in Relational Reasoning</td>
<td>1741</td>
</tr>
<tr>
<td>Maureen Gray and Keith Holyoak</td>
<td></td>
</tr>
<tr>
<td>Decisions about time in public transport</td>
<td>1747</td>
</tr>
<tr>
<td>Pablo Guarda, Paula Parpart, Nigel Harvey, and Juan Carlos Muñoz</td>
<td></td>
</tr>
<tr>
<td>Effects of text availability and reasoning processes on test performance</td>
<td>1748</td>
</tr>
<tr>
<td>Tricia Guerrero and Jennifer Wiley</td>
<td></td>
</tr>
<tr>
<td>Gender Categories as Dual-Character Concepts?</td>
<td>1754</td>
</tr>
<tr>
<td>Cai Guo, Carol Dweck, and Ellen Markman</td>
<td></td>
</tr>
<tr>
<td>How Communication Can Make Voters Choose Less Well</td>
<td>1760</td>
</tr>
<tr>
<td>Ulrike Hahn, Momme von Sydow, and Christoph Merdes</td>
<td></td>
</tr>
<tr>
<td>An Information-Theoretic Explanation of Adjective Ordering Preferences</td>
<td>1766</td>
</tr>
<tr>
<td>Michael Hahn, Judith Degen, Noah Goodman, Dan Jurafsky, and Richard Futrell</td>
<td></td>
</tr>
<tr>
<td>Cognitive Load Affects Temporal and Numerical Judgments in Distinct Ways</td>
<td>1772</td>
</tr>
<tr>
<td>Karina Hamamouche, Maura Keefe, Kerry Jordan, and Sara Cordes</td>
<td></td>
</tr>
<tr>
<td>Relational inductive bias for physical construction in humans and machines</td>
<td>1773</td>
</tr>
<tr>
<td>Jessica Hamrick, Kelsey Allen, Victor Bapst, Tina Zhu, Kevin McKee, Josh Tenenbaum, and Peter Battaglia</td>
<td></td>
</tr>
<tr>
<td>Multiple heads outsmart one: A computational model for distributed decision making</td>
<td>1779</td>
</tr>
<tr>
<td>Masoumeh Heidari Kaporuchali and Bonny Bannerjee</td>
<td></td>
</tr>
<tr>
<td>Are morphological effects modulated by semantic similarity? A study of priming in Quebec French</td>
<td>1785</td>
</tr>
<tr>
<td>Katherine Hill and Laura Gonnerman</td>
<td></td>
</tr>
<tr>
<td>Transfer in gesture: L2 placement event descriptions</td>
<td>1791</td>
</tr>
<tr>
<td>Marieke Hoetjes</td>
<td></td>
</tr>
<tr>
<td>Reduced Phonemic Convergence in Autism Spectrum Disorder</td>
<td>1797</td>
</tr>
<tr>
<td>Anders Hogstrom, Rachel Theodore, Allison Canfield, Brian Castelluccio, Joshua Green, Christina Irvine, and Inge-Marie Eigsti</td>
<td></td>
</tr>
<tr>
<td>Drivers of Incidental Category Learning</td>
<td>1803</td>
</tr>
<tr>
<td>Lori Holt, Casey Roark, Matthew Lehet, and Frederic Dick</td>
<td></td>
</tr>
</tbody>
</table>
Speakers’ choice of frame based on reference point: With explicit reason or affected by irrelevant prime? … 1809
Hidehito Honda, Masaru Shirasuna, Toshihiko Matsuka, and Kazuhiro Ueda

Conceptual constraints on generating explanations …………………………………………. 1815
Zachary Horne and Sangeet Khemlani

Does extraneous perception of motion affect gesture production? ………………………… 1821
Autumn Hostetter, Kira Boneff, and Martha Alibali

Skilled Bandits: Learning to Choose in a Reactive World ……………………………… 1827
Jared Hotaling, Danielle Navarro, and Ben Newell

A generative model of people’s intuitive theory of emotions: inverse planning in rich social games ……… 1833
Sean Houlihan, Max Kleiman-Weiner, Josh Tenenbaum, and Rebecca Saxe

Order matters: Distributional properties of speech to young children bootstraps learning of semantic representations ………………………………………………………………………………………………………………… 1834
Philip Huebner

Experimental Evidence of Emotional Learning in the Iowa Gambling Task ………………… 1835
Courtney Humeny, Kasia Muldner, and Robert West

Labeling Common and Uncommon Fractions Across Notation and Education ………………… 1841
Michelle Hurst and Sara Cordes

Evidence that the Attention Blink Reflects Categorical Perceptual Dynamics ………………… 1847
Lucas Huszar and David Huber

Symbol grounding and system construction in the color lexicon ……………………………… 1853
Mutsumi Imai, Shohei Hidaka, Noburo Saji, and Masato Ohba

Bridging artificial and natural language learning: Comparing processing- and reflection-based measures of learning ……………………………………………………………………………………………………………………………………… 1859
Erin Isbilen, Rebecca Frost, Padraic Monaghan, and Morten Christiansen

Pragmatic Inference of Intended Referents from Binomial Word Order ……………………… 1865
Anna Ivanova and Roger Levy

Understanding Human Social Kinematics Using Virtual Agents ………………………… 1871
David Jeong, Dan Feng, and Stacy Marsella

Midpoints and Endpoints in Event Perception ………………………………………………… 1877
Yue Ji and Anna Papafragou

Asymmetric Use of Information About Past and Future: Toward a Narrative Theory of Forecasting ……… 1883
Samuel Johnson and David Tuckett

Measuring individual differences in cognitive effort avoidance …………………………… 1889
Ion Juvina, Jeff Nador, Othalia Larue, Randall Green, Assaf Harel, and Brandon Minnery

DeepColor: Reinforcement Learning optimizes information efficiency and well-formedness in color name partitioning …………………………………………………………………………………………………………………….. 1895
Mikael Kågebäck, Devdatt Dubhashi, and Asad Sayeed

Scalar Language is Shaped by the Statistical Properties of the Environment ………………… 1901
Dariusz Kalociński
The Effects of Background Noise on Native and Non-native Spoken-word Recognition: A Computational Modelling Approach ................................................................. 1902
Themis Karaminis and Odette Scharenborg

How World Knowledge Shifts Adjective Interpretation .................................................. 1908
Sara Kessler

The Effects of Greed and Fear in Symmetric and Asymmetric Volunteer’s Dilemma ............. 1914
Boyoung Kim, Johannes Ullrich, and Joachim Krueger PhD

Cognitive Processes in Numerosity Comparison: Theory and Data .................................... 1920
Dan Kim and John Opfer

Resting State Functional Connectivity in Children: A New Paradigm ............................... 1921
Jaeh Kim, Alexander Ruesch, Theodore J. Huppert, Jana Kainerstorfer, Erik Thiessen, and Anna Fisher

Coupling Perception with Action: A Dynamic Account of the Effect of Action on Memory .... 1927
Kaleb Kinder and Aaron Buss

Learning distributions as they come: Particle filter models for online distributional learning of phonetic categories ................................................................. 1933
Dave Kleinschmidt

Seeking Ideal Explanations in a Non-Ideal World ............................................................. 1939
Elizabeth Kon and Tania Lombrozo

Learning Variability from Experience .............................................................................. 1945
Elizaveta Konovalova and Gael Le Mens

How people detect incomplete explanations ................................................................... 1951
Joanna Korman and Sangeet Khemlani

Tuning to the Task at Hand: Processing Goals Shape Adults’ Attention to Unfolding Activity .... 1957
Jessica Kosie and Dare Baldwin

Levels of Analysis in Computational Social Science ......................................................... 1963
Peter Krafft and Tom Griffiths

Wiggle, Wiggle, Wiggle: How Visual Cues Influence Thematic Role Assignment in Children and Adults ... 1969
Julia Marina Kröger, Katja Münster, Michele Burigo, and Pia Knoeferle

Shaping Model-Free Habits with Model-Based Goals ...................................................... 1975
Paul Krueger and Tom Griffiths

Adaptive planning in human search ................................................................................ 1981
Moritz Krusche, Eric Schulz, Arthur Guez, and Maarten Speekenbrink

Physical and Causal Judgments for Object Collisions Depend on Relative Motion ............ 1987
James Kubricht and Hongjing Lu

A Dispositional Account of Aversive Racism .................................................................. 1993
Carole Lee

Collective Implicit Attitudes: A Stakeholder Conception of Implicit Bias .......................... 1999
Carole Lee
The Effects of Age and Event Structure on Timeline Estimation Task ................................. 2005
   Saebryul Lee and Su Keun Jeong

A Sociocognitive-Neuroeconomic Model of Social Information Communication: To Speak Directly or To Gossip .............................................................................................................. 2011
   Jeungmin Lee, Jerald Kralik, and Jaeseung Jeong

Data Availability and Function Extrapolation ................................................................. 2017
   Pablo Leon Villagra, Irina Preda, and Christopher Lucas

Inferences about Uniqueness in Statistical Learning .................................................... 2023
   Anna Leshinskaya and Sharon Thompson-Schill

Case inflection and the functional indeterminacy of nouns: A cross-linguistic analysis .......... 2029
   Nicholas Lester, Sandra Auderset, and Phillip Rogers

Phonetic duration of nouns depends on de-lexicalized syntactic distributions: Evidence from naturally occurring conversation ................................................................. 2035
   Nicholas Lester, Daniel Baum, and Tirza Biron

Language use shapes cultural norms: Large scale evidence from gender ....................... 2041
   Molly Lewis and Gary Lupyan

Explaining away: significance of priors, diagnostic reasoning and structural complexity .......... 2047
   Alice Liefgreen, Marko Tesic, and David Lagnado

The Influence of Schizotypal Traits on a Preference for High Instrumental Divergence ........ 2053
   Mimi Liljeholm, Prachi Mistry, and Susan Koh

Interference effects of novel word-object learning on visual perception ......................... 2059
   Shane Lindsay and Robert Nightingale

Explanation and its Limits: Mystery and the Need for Explanation in Science and Religion ........ 2065
   Emily Liquin, S. Emlen Metz, and Tania Lombrozo

Are you Sure How to Move? Expected Uncertainty Modulates Anticipatory Crossmodal Interactions ............................................................................................................. 2071
   Johannes Lohmann, Anna Belardinelli, and Martin Butz

Dimensional Label Learning Predicts the Developmental Status of Executive Function .......... 2072
   Kara Lowery, Anastasia Kerr-German, and Aaron Buss

Stability in the temporal dynamics of word meanings .................................................... 2078
   Yiwei Luo and Yang Xu

Friends in low-entropy places: Letter position influences orthographic neighbor effects in visual word identification .......................................................... 2084
   Sahil Luthra and James Magnuson

Explanation Hubris and Conspiracy Theories: A Case of the 2016 Presidential Election .......... 2090
   Jessecae Marsh and Joseph Vitriol

Revisiting the poverty of the stimulus: hierarchical generalization without a hierarchical bias in recurrent neural networks .......................................................... 2096
   Richard McCoy, Robert Frank, and Tal Linzen
Effects of priming variability on adults learning about metamorphosis .......................................................... 2102
David Menendez, Martha Alibali, and Karl Rosengren

Predictors of Fraction Knowledge among Young Children .......................................................... 2108
Rui Meng, Percival Matthews, and Edward Hubbard

The interaction between phonological and lexical variation in word recall in African American English ...... 2109
Zion Mengesha and Georgia Zellou

Improving Graph Comprehension With A Visuospatial Intervention .......................................................... 2115
Audrey Michal, Priti Shah, David Uttal, and Steven Franconeri

Differentiation by domain in young children’s analogical reasoning .......................................................... 2116
Hilary Miller, Jennifer Ellis, and Vanessa Simmering

Using Listener Gaze to Refer in Installments Benefits Understanding .......................................................... 2122
Nikolina Mitev, Patrick Renner, Thies Pfeiffer, and Maria Staudte

Pupillometry and Multimodal Processing of Beat Gesture and Pitch Accent: The Eye’s Hole is Greater than the Sum of its Parts .......................................................... 2128
Laura Morett, Jennifer Roche, Scott Fraundorf, and James McPartland

Testing the effectiveness of crossword games on immediate and delayed memory for scientific vocabulary and concepts .......................................................... 2134
Shane Mueller and Elizabeth Veinott

Wayfinding and Spatial Learning with Navigation Assistance .......................................................... 2140
Stefan Münzer, Lucas Lörch, Angela Schwering, Jakub Krukar, and Vanessa Joy Anacta

Semantic compression of episodic memories .......................................................... 2141
David Nagy, Balázs Török, and Gergő Orbán

Modeling Human Inference of Others’ Intentions in Complex Situations with Plan Predictability Bias ....... 2147
Ryo Nakahashi and Seiji Yamada

Addressing Old Mysteries of Gain Scores in a Pretest-Posttest Educational Setting .......................................................... 2153
Jairo Navarrete

Gestures may Help Resolve Disfluencies in Spontaneous Speech .......................................................... 2154
Melvin M. R. Ng, Wing Chee So, and Sotaro Kita

What can Associative Learning do for Driving? .......................................................... 2155
William G. Nicholson, Frederick Verbruggen, and IPL McLaren

Reinforcement Learning, not Supervised Learning, Can Lead to Insight .......................................................... 2161
Arata Nonami, Haruaki Fukuda, Yoshiyuki Sato, Kazuyuki Samejima, and Kazuhiro Ueda

Individual variation in children’s early production of negation .......................................................... 2167
Ann Nordmeyer and Michael Frank

Biology Students Use Gestalt Grouping to Evaluate Evolutionary Relatedness .......................................................... 2173
Laura Novick and Linda Fuselier

Whole Number Bias in Children’s Probability Judgments .......................................................... 2174
Shaun O’Grady and Fei Xu
Learning from uncertainty: exploring and manipulating the role of uncertainty on expression production and interpretation ................................................................. 2266
Amanda Pogue and Michael Tanenhaus

Role vs relational similarity in analogical processing ......................................................... 2272
Vencislav Popov, Margarita Pavlova, and Penka Hristova

Expectations bias judgments of harm against others ......................................................... 2273
Derek Powell and Zachary Horne

Attitude Change on Reddit’s Change My View ................................................................. 2279
John Priniski and Zachary Horne

Does the Blame Blocking Effect for Assignments of Punishment Generalize to Legal Experts? .......................... 2285
Karolina Prochownik and Matthias Unterhuber

Experimentally Testing the Intuitions about Semantic Reference ...................................... 2291
Ana Puljic and Leonidas A. A. Doumas

What do eye movements in the visual world reflect? A case study from adjectives .............. 2297
Ciyang Qing, Daniel Lassiter, and Judith Degen

Egocentric and allocentric learning of social-indexical meaning in American English, Datooga, and Murrinhpatha ......................................................... 2303
Péter Récz, Alice Mitchell, and Joe Blythe

Reasoning about possibilities: human reasoning violates all normal modal logics .................. 2309
Marco Ragni and Phil Johnson-Laird

Individuals become more logical without feedback ........................................................... 2315
Marco Ragni, Nicolas Riesterer, Sangeet Khemlani, and Phil Johnson-Laird

Towards a Formal Foundation of Cognitive Architectures ............................................... 2321
Marco Ragni, Kai Sauerwald, Tanja Bock, Gabriele Kern-Isberner, Paulina Friemann, and Christoph Beierle

Structural similarity superiority in a free-recall reminding paradigm .................................. 2327
Lucas Raynal, Emmanuel Sander, and Evelyne Clément

Look at THAT: Deixis reveals developmental changes in verbal prediction ......................... 2333
Tracy Reuter and Casey Lew-Williams

From visual prominence to event construal: influences (and non-influences) of eyegaze ........ 2334
Lilia Rissman, Susan Goldin-Meadow, and Amanda Woodward

Semantic Processing in Fraction Comparison: An ERP Study ......................................... 2340
Brian Rivera and Dr. Firat Soylu

Lay Understanding of Illness Probability Distributions ................................................. 2346
Talia Robbins and Pernille Hemmer

Optimizing Cue Use in Student Restudy Decisions ......................................................... 2352
Alison Robey and Michael Dougherty

Individual differences in the propensity to verbalize: The Internal Representations Questionnaire .......... 2358
Hettie Roebuck and Gary Lupyan
Changing Children’s Minds about Distributive Justice ..................................................... 2364
Joshua Rottman, Liane Young, Peter Blake, and Deborah Kelemen

Learning list concepts through program induction .......................................................... 2370
Joshua Rule, Eric Schulz, Steven Piantadosi, and Josh Tenenbaum

Emotional Expressions as an Implicit Dimension of Categorization ................................ 2376
Isa Rutten, Wouter Voorspoels, Ernst H.W. Koster, and Wolf Vanpaemel

Cognition and Emotion in Narratives of Redemption: An Automated Analysis ................ 2382
Eyal Sagi and Brady K. Jones

Example Generation Under Constraints Using Cascade Correlation Neural Nets .............. 2388
Ardavan SalehiNobandegani and Thomas Shultz

Over-representation of Extreme Events in Decision-Making: A Rational Metacognitive Account ............................. 2394
Ardavan SalehiNobandegani, Kevin da Silva-Castanheira, A. Ross Otto, and Thomas Shultz

Representational efficiency outweighs action efficiency in human program induction ........ 2400
Sophia Sanborn, David Bourgin, Michael Chang, and Tom Griffiths

The Cognition-Perception Distinction Across Paradigms: An Ecological View ................... 2406
Guilherme Sanches de Oliveira and Vicente Raja

Postural developments modulate children’s visual access to social information ................. 2412
Alessandro Sanchez, Bria Long, Allison M. Kraus, and Michael Frank

Deductive reasoning about expressive statements using external graphical representations .... 2418
Yuri Sato, Gem Stapleton, Mateja Jamnik, and Zohreh Shams

Developmental Differences in the Status of Category Exceptions .................................... 2424
Olivera Savic, Nathaniel Blanco, and Vladimir Sloutsky

Entropy, order and agency: The cognitive basis of the link between agents and order .......... 2430
Adena Schachner and Min-Ju Kim

CALM - A Process Model of Category Generalization, Abstraction and Structuring .......... 2436
Rene Schlegelmilch, Andy Wills, and Bettina von Helversen

Complexity Matching in Collaborative Coordination ...................................................... 2442
Daniel Schloesser, Alma G. Munoz, and Christopher Kello

Complexity Reduction in the Negotiation of New Lexical Conventions .............................. 2448
William Schueler, Vittorio Loreto, and Pierre-Yves Oudeyer

Evidence for an Intuitive Physics Engine in the Human Brain .......................................... 2454
Sarah Schwetmann, Jason Fischer, Josh Tenenbaum, and Nancy Kanwisher

Cross-Domain Influences on Creative Processes and Products ....................................... 2455
Victoria Scotney, Sarah Weissmeyer, and Liane Gabora

Coupling Dynamical and Connectionist Models: Representation of Spatial Attention via Learned Deictic Gestures in Human-Robot Interaction .......................................................... 2461
Baris Serhan, John P Spencer, and Angelo Cangelosi

xxvii
Using Big Data Methods to Identify Conceptual Frameworks .................................................. 2560
Robert Thorstad and Phillip Wolff

Children learn number words slowly because they don’t identify number as relevant to linguistic meaning 2566
Katharine Tillman, Katie Wagner, and David Barner

How can we help others?: a computational account for action completion ............................... 2572
Takuma Torii and Shohei Hidaka

Ordinal ranking as a method for assessing real-world proportional representations .................. 2578
Crystal Trueborn and David Landy

What Am I Supposed to Say?: Anticipating Group Discussion Promotes Cognitive Consistency in
Distributive Choices for Others .................................................................................................. 2584
Atsushi Ueshima and Tatsuya Kameda

All Creatures Great and Small: Category-Relevant Statistical Regularities in Children’s Books ....... 2585
Layla Unger and Anna Fisher

Ready to Learn: Predictive Exposure to Category-Relevant Regularities Facilitates Novel Category Learning 2591
Layla Unger and Vladimir Sloutsky

More like a bee, less like a spider, and not like a tomato: Ecologically-valid enrichment experiences promote changes in how young children differentiate biological categories .......................................................... 2597
Catarina Vales, Sarah States, and Anna Fisher

Modeling garden path effects without explicit hierarchical syntax ............................................. 2603
Marten van Schijndel and Tal Linzen

When and How Children Use Explanations to Guide Generalizations ....................................... 2609
Nadya Vasilyeva, Azzurra Ruggeri, and Tania Lombrozo

Humans aren’t enough: Providing access for simulated participants to behavioral experiment software .... 2615
Vladislav Veksler, Norbou Buchler, Christian Lebier, and Don Morrison

Consistent but not diagnostic: Preschoolers’ intuitions about shared preferences within social groups ...... 2621
Natalia Vélez, Yuerui Wu, and Hyowon Gweon

Bayesian Teaching of Image Categories ...................................................................................... 2627
Wai Keen Vong, Ravi B. Sojitra, Anderson Reyes, Scott Cheng-Hsin Yang, and Patrick Shafto

Putting Theory-Ladenness to the Test ......................................................................................... 2633
Ioannis Votsis

The Influence of Bilingual Language Experience on Working Memory Updating Performance in Young Adults ........................................................................................................ 2639
Deepti Wadhera, Luca Campanelli, and Klara Marton

Risky Intertemporal Choice with Multiple Outcomes and Individual Differences ....................... 2645
Daniel Wall, Gretchen CHAPMAN, and Pernille Hemmer

Lateralized imagery for sentence content: Testing grammar, gender and demonstratives ................ 2651
Mikkel Wallentin, Roberta Rocca, and Sofia Stroustrup

The Influence of Music and Music Familiarity on Time Perception ............................................. 2657
Jie Wan and Niels Taatgen

xxix
When Boys Are More Generous Than Girls: Effects of Gender and Coordination Level on Prosocial Behavior in 4-year-old Chinese Children ................................................................. Yingjia Wan, Hong Fu, and Michael Tanenhaus

Measuring Individual Differences in Visual and Verbal Thinking Styles ................................................................. 2669 Noël Warford and Maithilee Kunda

Explaining Reasoning Effects: A Neural Cognitive Model of Spatial Reasoning ................................................................. 2675 Julia Wertheim and Terrence Stewart

A Bayesian Analysis of Moral Norm Malleability during Clarification Dialogues ................................................................. 2681 Tom Williams, Ryan Jackson, and Jane Lockshin

Multilayer Context Reasoning in a Neurobiologically Inspired Working Memory Model for Cognitive Robots ................................................................. 2687 Arthur Williams and Joshua Phillips

Modeling morphological affixation with interpretable recurrent networks: sequential rebinding controlled by hierarchical attention ................................................................. 2693 Colin Wilson

Pre-Readers at the Alien Zoo: A Preregistered Study of the Predictors of Dyslexia and Linguistic Sound Symbolism in 6-year-olds ................................................................. 2699 Fei Ting Woon, Yap-Seng Chong, Lourdes Mary Daniel, Birgit F.P. Broekman, Shirong Cai, and Suzy J. Styles

Retrieval-based Metacognitive Monitoring in Self-Regulated Learning ................................................................. 2705 Mengjiao WU

Toddlers Connect Emotional Responses to Epistemic States ................................................................. 2711 Yang Wu, Laura Schulz, and Rebecca Saxe

A neural network model for learning to represent 3D objects via tactile exploration ................................................................. 2717 Xiaogang Yan, Alistair Knott, and Steven Mills

Instructor gesture improves encoding of mathematical representations ................................................................. 2723 Amelia Yeo, Susan Cook, Mitchell Nathan, Voicu Popescu, and Martha Alibali

Examining the Independence of Scales in Episodic Memory using Experience Sampling Data ................................................................. 2729 Hyungwook Yim, Paul Garrett, Megan Baker, and Simon Dennis

Measuring Attention Control Abilities with a Gaze Following Antisaccade Paradigm ................................................................. 2735 Jade Yonehiro and Nicholas D. Duran

When in doubt: Using confidence and consensus as ‘summary statistics’ of collective knowledge ................................................................. 2741 Sami Yousif and Frank Keil

Experientially Grounded Learning About the Roles of Variability, Sample Size, and Difference Between Means in Statistical Reasoning ................................................................. 2747 Jingqi Yu, Robert Goldstone, and David Landy

Visual Flexibility in Arithmetic Expressions ................................................................. 2753 Jingqi Yu, David Landy, and Robert Goldstone

Understanding the Rational Speech Act model ................................................................. 2759 Arianna Yuan, Will Monroe, Yu Bai, and Nate Kushman
Children gesture when speech is slow to come .......................................................... 2765
Dan Yurovsky, Madeline Meyers, Nicole Burke, and Susan Goldin-Meadow

Tuning in to non-adjacent dependencies: How experience with learnable patterns supports learning novel regularities .......................................................... 2771
Martin Zettersten, Christine Potter, and Jenny Saffran

Fast Memory Integration Facilitated by Schema Consistency ........................................ 2777
Qiong Zhang, Vencislav Popov, Griffin Koch, Regina Calloway, and Marc Coutanche

Real-time roots of meaning change: Electrophysiology reveals the contextual-modulation processing basis of synchronic variation in the location-possession domain ........................................ 2783
Muye Zhang, Maria Pinango, and Ashwini Deo

Predicting Cognitive Difficulty of the Deductive Mastermind Game with Dynamic Epistemic Logic Models .......................................................... 2789
Bonan Zhao, Iris van de Pol, Maartje Raijmakers, and Jakub Szymanik

A Memory for Goals Account for Priming in Confidence Judgments ................................ 2795
Kevin Zish, Nathan Aguiar, Malcolm McCurry, and Greg Trafton

Abstracts-Posters

A Suite of Adaptive Games for Self-Directed Literacy and Numeracy Education ................ 2801
Katherine Adams, George Kachergis, and Hugo Goulart de Lucena

Exploring automatic metacognitive monitoring processes: Are errors in equations detected without intentional calculation? .......................................................... 2802
Shogo AMANO, Yoshihiro Nakagawa, and Masahiko Okamoto

Comparing Flanker Effects in Direction and Color over Development ............................ 2803
Rebecca E. Leuenberger, Chelsea Andrews, Kristine Kovack-Lesh, and Vanessa Simmering

Strengthening Visual Learned CP Research ................................................................. 2804
Janet Andrews and Josh de Leeuw

Cross-Cultural Differences in Children’s Conceptions of Space Science .......................... 2805
Florencia Anggoro and Benjamin Jee

Bayesian Generalization of Emojis .............................................................................. 2806
Jacqueline Erens and Joseph Austerweil

Possible Mechanisms of Bilingual Advantage on Creativity ........................................... 2807
Kendra Lange, Elise Hopman, Elizabeth Pettit, Anantha Rao, Nicole M. Beckage, Jeffrey Zemla, and Joseph Austerweil

Time perception of intermodal empty intervals when the first marker is auditory ............... 2808
Leila Azari and Simon Grondin

sighted but not blind individuals can form global representations of spatial layout based on verbal descriptions of an imaginary environment ........................................ 2809
danny ball

Measuring strategy adaptivity ...................................................................................... 2810
Kevin Barnes, Aaron Wong, Gary Bradshaw, and Jarrod Moss
Does a 12 week intervention of metacognitive strategies improve self-efficacy and lessen test anxiety in high stakes testing for 10-12 year olds? ................................................. 2811
helen barsham

Available referents and prompt specificity influence induction of feature typicality ................... 2812
Claire Bergey and Dan Yurovsky

Fractions War: An iOS Game to Measure and Train Magnitude Processing with Fractions .............. 2813
John Binzak, Elizabeth Toomarian, Percival Matthews, and Edward Hubbard

A deep learning approach to training a brain activity-based trial-by-trial classifier for rapid serial visual presentation imagery ................................................................. 2814
Katherine Porterfield, Leslie Blaha, Jonathan Suter, Johnathan Cree PH.D, Gianluca Longoni, Jesse Johns, Gerges Dib, and Kayla Duskin

Characterizing the peripheral bumps of serial dependence in visual working memory .................. 2815
Daniel Patrick Bliss and Mark D’Esposito

MathByExample: Testing the Worked Example Principle in Elementary School Math .................. 2816
Julie Booth Ph.D., Kelly McGinn, and Laura K. Young

Evaluating models of productivity in language acquisition ....................................................... 2817
Mika Braginsky

What kind of problem is this? Labels guide generalization of math strategies .............................. 2818
Sarah Brown and Martha Alibali

Novel methods for measuring the cost of cognitive control in a patch foraging task and a demand selection task with Stroop ............................................................... 2819
Laura Bustamante, Augustus Baker, Allison Burton, Amitai Shenhav, Chloe Hoeber, Nathaniel Daw, and Jonathan Cohen

Is grammatical gender assignment arbitrary? ................................................................. 2820
Alexandra Carstensen, Paloma Opazo, Christina Tsaousi, and Asifa Majid

Week-long practice matching 2D objects by shape improves 3D shape bias and accelerates children vocabulary growth ................................................................. 2821
Paulo Carvalho and Linda Smith

Children Acquire Implicit Attitudes From Instructed, But Not From Experienced, Stimulus Pairings .... 2822
Tessa Charlesworth, Benedek Kurdi, and Mahzarin Banaji

The Mediation Effect of Context for Empathy on Emotion Judgment .................................... 2823
Chen Jung Chen and Jon-Fan Hu

The Onset Form Preparation Effect in Korean Single Word Production ...................................... 2824
Jenn-Yeu Chen

Determinants of Inhibitory Interference in Processing Reflexive-antecedent Dependencies ............. 2825
Zhong Chen

Instruction on the stroke sequence of Chinese characters facilitates children’s learning of handwriting .... 2826
Rong-Ju Cherng, Yi-Wen Liao, and Jenn-Yeu Chen

Using eye tracking to examine verb learning in the midst of distractions .................................... 2827
Jane Childers and Blaire Porter
Examining the Pre-Test and Interim-Test Effect in Inductive Learning ........................................ 2828
Heeseon Choi and Hee Seung Lee

Do humans have two systems to be creative?: Asymmetric underlying mechanisms of relation-based and
property-based conceptual combination ................................................................. 2829
Mingyeong Choi and Sangsuk Yoon

Effects of Visuomotor Engagement on Object Knowledge Retrieval ........................................ 2830
Evangelia Chrysikou and Hannah Morrow

Investigating the Learning of Classifier in the Learners of Chinese as a Second Language ........... 2831
Pei-Chuen Chuang and Jon-Fan Hu

No Changes in Speed and Selectivity in Mobile Dating Choices Over Time ................................ 2832
Samantha Cohen and Peter Todd

Using Bayesian Hierarchical Modeling and DataShop to Inform Parameter Estimation with the Predictive
Performance Equation ............................................................... 2833
Michael Collins and Kevin Gluck

Does minimally altering toddlers’ environments change the words they learn? .......................... 2834
Eliana Colunga and Jennifer Ellis

When being wrong makes you right: Incorrect examples improve complex concept learning ........... 2835
Daniel Corral, Shana Carpenter, and Samara Clingan-Siverly

Learning to read with a machine teacher: Discovering efficient procedures for training the orth-to-phon
relationships in English .................................................................................... 2836
Christopher Cox, Matthew Cooper Borkenhagen, and Mark Seidenberg

When less is not more: Violations of a Gricean maxim facilitate visual search .............................. 2837
Reese Cullimore, Gwendolyn Rehrig, John M Henderson, and Fernanda Ferreira

Measuring the vigor of trolley problem lever pulling ..................................................... 2838
Zach Catron and Gregory Dam

Creating an affordable, effective, adaptive & personalized attention tasks for children with developmental
disorders. .............................................................................................................. 2839
Amarnath Dasaka and Bapiraju Surampudi

Hierarchical Models of Individuals Engaged in Statistical Learning ...................................... 2840
Josh de Leeuw and Isabella Destefano

Efficiency in Solving the Traveling Salesman Problem as Predictor of Perceived Humanness ........ 2841
Serena De Stefani, Samuel Sohn, Jacob Feldman, Mubbasir Kapadia, and Peter Pantelis

Testing Effects in Children’s Storybook Reading ......................................................... 2842
Catherine DeBrock and Haley Vlach

Investigating re-representation through categorisation ...................................................... 2843
Shir Dekel, Micah Goldwater, and Bruce Burns

Facial thermal responses to moodboards: confirming implicit preferences to colors as a function of
motivation profiles for physical activity ...................................................................... 2844
Yvonne Delevoye-Turrell, Adamantia Batistatou, and Antoine Deplancke

xxxiii
Who sees a flanker? Individual differences in cognitive control ............................................. 2845
Yinjie (Giselle) Yao and Wei (Sophia) Deng

Wandering mice: Computer mouse-tracking as a behavioral measure of mind wandering ................. 2846
Mariana Rachel Dias da Silva and Marie Postma

Initial learning experience affects learners' selection of subsequent study schedule ......................... 2847
Lan Anh Do and Hee Seung Lee

Do Actions During Math Learning Leave a Legacy in Gesture? .................................................. 2848
Andrea Donovan and Martha Alibali

Using Machine Learning to Understand Transfer from First Language to Second Language .............. 2849
Tiwalayo Eisa'pe, Will Merrill, Joshua K. Hartshorne, and Sven Dietz

Exploring model-based versus model-free pupillometry correlates to reinforcement learning parameters ... 2850
Chris Endemann

Causal Questions and Explanations - What do Theories of Causal Reasoning predict? ..................... 2851
York Hagemayer and Neele Engelmann

Mind wandering during conversations affects subjective but not objective outcomes .................... 2852
Myrthe Faber, McKenzie Rees, and Sidney D'Mello

Phonological Representations in Spanish-English Bilinguals: Unitary or Dual Sets? ......................... 2853
James Falandays, Michael Spivey, and Joseph Toscano

Faultless disagreement judgments track adults' estimates of population-level consensus over adjective-referent pairs .................................................. 2854
Ruthe Foushee and Mahesh Srinivasan

The other Fox News effect: Attractive people and women more strongly impact belief formation .......... 2855
Vincent Frigo and Timothy Rogers

The impact of social network topology on open-ended and fixed solution problems ......................... 2856
Riccardo Fusaroli, Dan Mønster, Andrea Baronchelli, and Kristian Tylen

Leader-follower Dynamics, Agency, and Anxiety in Joint Action Braking: A First-Order Dynamical Systems Model ................................................................. 2857
Devin Gill, Ian Ruginski, and Brandon J. Thomas

Extending an integrated computational model of the time-based resource-sharing theory of working memory ............................................................... 2858
Joseph Glavan and Joseph Houpt

A mouse-tracking study of how exceptions to a probabilistic generalization are learned .................. 2859
Karina Tachihara, Kenneth Norman, Nicholas Turk-Browne, and Adele Goldberg

Spatial language and visual attention: A new approach to test linguistic relativity. .......................... 2860
Florian Goller, Soonja Choi, and Ulrich Ansorge

Predicting Reading Comprehension From Eye Gaze ................................................................. 2861
Julie Gregg and Sidney D’Mello

Unexpected problem recognition task reveals semantic differences in arithmetic word problem representations ........................................................................................................................................ 2862
Hippolyte Gros, Emmanuel Sander, and Jean-Pierre Thibaut

xxxiv
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does Testing Change the Way Students Use Their Study Time?</td>
<td>2863</td>
</tr>
<tr>
<td>Hyorim Ha and Hee Seung Lee</td>
<td></td>
</tr>
<tr>
<td>Examining the role of the motor system in the beneficial effect of</td>
<td>2864</td>
</tr>
<tr>
<td>speaker's gestures during encoding and retrieval</td>
<td></td>
</tr>
<tr>
<td>Alexa Bushinski, Caitlin Hilverman, and Kimberly Halvorson</td>
<td></td>
</tr>
<tr>
<td>Expertise seeks rewards: Error-related negativities and defensive</td>
<td>2865</td>
</tr>
<tr>
<td>motivation in spelling decisions</td>
<td></td>
</tr>
<tr>
<td>Lindsay Harris, Benjamin Rickles, Luis Lopez, and Charles Perfetti</td>
<td></td>
</tr>
<tr>
<td>Music, language, and gesture: Neural oscillations and relational</td>
<td>2866</td>
</tr>
<tr>
<td>cognition</td>
<td></td>
</tr>
<tr>
<td>Courtney Hilton, Micah Goldwater, and Michael Jacobson</td>
<td></td>
</tr>
<tr>
<td>Hand gesture reflects visual and motor features from multiple memory</td>
<td>2867</td>
</tr>
<tr>
<td>systems</td>
<td></td>
</tr>
<tr>
<td>Caitlin Hilverman, Melissa Duff, and Susan Cook</td>
<td></td>
</tr>
<tr>
<td>Inductive Biases in the Evolution of Combinatorial Structure in</td>
<td>2868</td>
</tr>
<tr>
<td>Language</td>
<td></td>
</tr>
<tr>
<td>Matthias Hofer, Josh Tenenbaum, and Roger Levy</td>
<td></td>
</tr>
<tr>
<td>Analogical comparison of semantic categories across languages</td>
<td>2869</td>
</tr>
<tr>
<td>challenges beliefs about category discreteness</td>
<td></td>
</tr>
<tr>
<td>Sarah Q. Husney, Andrew Kopel, and Kevin Holmes</td>
<td></td>
</tr>
<tr>
<td>Discrimination difficulty modulates effects of language on</td>
<td>2870</td>
</tr>
<tr>
<td>perceptual discrimination</td>
<td></td>
</tr>
<tr>
<td>Robert Welch, Nicolas Ravitch, and Kevin Holmes</td>
<td></td>
</tr>
<tr>
<td>Cross-linguistically shared spatial mappings of abstract concepts</td>
<td>2871</td>
</tr>
<tr>
<td>guide non-signers’ inferences about sign meaning</td>
<td></td>
</tr>
<tr>
<td>Ruth Rabinovitch and Kevin Holmes</td>
<td></td>
</tr>
<tr>
<td>Spatial categories in language and thought: Evidence for</td>
<td>2872</td>
</tr>
<tr>
<td>categorical perception at the cardinal axes</td>
<td></td>
</tr>
<tr>
<td>Ian Carey, Andrew Kirvin-Quamme, Nora Newcombe, and Kevin Holmes</td>
<td></td>
</tr>
<tr>
<td>Increased similarity between source and target eases explanatory</td>
<td>2873</td>
</tr>
<tr>
<td>reasoning</td>
<td></td>
</tr>
<tr>
<td>Samantha Roberts, Zachary Horne, and Sangeet Khemlani</td>
<td></td>
</tr>
<tr>
<td>The Effect of Theory of Mind on Detecting Social Norm Violation</td>
<td>2874</td>
</tr>
<tr>
<td>Nai Ching Hsiao and Jon-Fan Hu</td>
<td></td>
</tr>
<tr>
<td>Self-Construals on Tightness and Looseness Culture</td>
<td>2875</td>
</tr>
<tr>
<td>Nai Ching Hsiao and Jon-Fan Hu</td>
<td></td>
</tr>
<tr>
<td>The Effect of Facial Expression Bearer’s Gender on the Assimilation</td>
<td>2876</td>
</tr>
<tr>
<td>for Emotion Judgement</td>
<td></td>
</tr>
<tr>
<td>Jon-Fan Hu, Su-Ling Peng, and Posheng Huang</td>
<td></td>
</tr>
<tr>
<td>Examining the Representational Change Theory on the interpretation</td>
<td>2877</td>
</tr>
<tr>
<td>of Remote Associates Problem Solving</td>
<td></td>
</tr>
<tr>
<td>Posheng Huang, Shu-Ling Peng, Jon-Fan Hu, and Cheng-Hong Liu</td>
<td></td>
</tr>
<tr>
<td>Understanding Direction Giving in the Service of Wayfinding on a</td>
<td>2878</td>
</tr>
<tr>
<td>University Quad</td>
<td></td>
</tr>
<tr>
<td>Alycia Hund</td>
<td></td>
</tr>
<tr>
<td>A Perspective-Taking Intervention to Decrease Gender-Based</td>
<td>2879</td>
</tr>
<tr>
<td>Exclusion</td>
<td></td>
</tr>
<tr>
<td>Bailey Immel, Katharine Scott, Patricia G Devine, and Kristin Shutts</td>
<td></td>
</tr>
</tbody>
</table>
A new similarity measure to reveal individual differences and growth in implicit number conceptions .......................... 2880
Rachel Jansen, Ruthe Foushee, and Tom Griffiths

Supports for Visual Comparison in STEM textbooks ................................................................. 2881
Benjamin Jee, Bryan Matlen, Nina Simms, and Dedre Gentner

Cross Modal Cue Compensation in Size and Pitch ................................................................. 2882
Gavin Jenkins and Paul Tupper

Children regularize object shape but not object color in visual recognition tasks ......................... 2883
Clint Jensen, Timothy Rogers, and Vanessa Simmering

Inferring other people’s relationships by observing their social interactions .................................. 2884
Alan Jern, Anna Scott, Nathan Blank, and Charles Kemp

Relational Roles and Stem Format in Verbal Analogy .............................................................. 2885
Lara Jones and Gregory Norville

Facilitating interpersonal action coordination in a movement control task ..................................... 2886
Jiuyang Bai, Schloesser Daniel, and J. Scott Jordan

Changing our Minds about Truth and Reality: Wild Systems Theory as a 21st Century Coherence
Framework for Cognitive Science ................................................................................................. 2887
J. Scott Jordan, Daniel Schloesser, and Jasmine Mason

Forming Action-Effect Contingencies Through Observation ...................................................... 2888
J. Scott Jordan, Jasmine Mason, and Alex Dayer

The Development of Deductive Reasoning in Mastermind .......................................................... 2889
Anselm Rothe, George Kachergis, and Maartje Raijmakers

Age, gender, and learning style predict spontaneous explicit learning in an implicit learning task ........ 2890
Priya Kalra

Allowing Children Time to Forget Promotes Their Acquisition and Generalization of Science Concepts ... 2891
Megan Kaul, Emma Lazaroff, and Haley Vlach

Integrating Physiological, Emotional, Rational, and Social Cognition ........................................ 2892
William Kennedy and Jim Thompson

When Less Is More: Fewer Shape Types Result In Higher Quality Parent-Child Shape Talk .................. 2893
Kassie Kerr, Sarah Eason, Michelle Hurst, Alana Dulaney-Foley, Amy Claessens, and Susan C. Levine

Effectiveness of generic-parts technique in idea generation ....................................................... 2894
Maho Akao, Mayu Yamakawa, and Sachiko Kiyokawa

Developmental Differences in Semantic Search Strategies Between Monolingual and Bilingual Children ... 2895
Naomi Kline, Natsuki Atagi, Maxim Bushmakin, and Catherine Sandhofer

The Uncanny Valley: Behavioral, Cognitive, and Neurological Evidence ........................................ 2896
Umesh Krishnamurthy

‘Put the apple on the plate but just move the plate’: Event perception in German and Korean speakers. .... 2897
Alexandra Kroiss, Florian Goller, Ulrich Ansorge, and Soonja Choi
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semi-supervised learning in infancy: Infants integrate labeled and unlabeled exemplars to learn new categories</td>
<td>2898</td>
</tr>
<tr>
<td>Alexander LaTourrette and Sandra Waxman</td>
<td></td>
</tr>
<tr>
<td>The Role of Inquiry in Children’s and Adults’ Memory, Categorization, and Explanation of New Information</td>
<td>2899</td>
</tr>
<tr>
<td>Emma Lazaroff and Haley Vlach</td>
<td></td>
</tr>
<tr>
<td>Modeling dynamics of suspense and surprise</td>
<td>2900</td>
</tr>
<tr>
<td>Zhiwei Li, Neil Bramley, and Todd Gureckis</td>
<td></td>
</tr>
<tr>
<td>A Neural Network Model of Complementary Learning Systems</td>
<td>2901</td>
</tr>
<tr>
<td>Mika Jain and Jack Lindsey</td>
<td></td>
</tr>
<tr>
<td>Gene Duplication, Modularity, and the Evolution of Intelligence in Simulated and Real Robots</td>
<td>2902</td>
</tr>
<tr>
<td>Nicholas Livingston, Ben Tidswell, Meghan Willcoxon, Theresa Law, Gabriel Dell’Accio, Mackenzie Little, John Long Jr., Josh Bongard, and Ken Livingston</td>
<td></td>
</tr>
<tr>
<td>Sign language experience affects comprehension and attention to gesture</td>
<td>2903</td>
</tr>
<tr>
<td>Jenny Lu, Nicole Burke, Susan Goldin-Meadow, and Amanda Woodward</td>
<td></td>
</tr>
<tr>
<td>Measuring representational similarity across neural networks</td>
<td>2904</td>
</tr>
<tr>
<td>Qihong Lu, Peter Ramadge, Kenneth Norman, and Uri Hasson</td>
<td></td>
</tr>
<tr>
<td>Sixteen-month-olds understand the link between words and mental representations of their referents without contextual support</td>
<td>2905</td>
</tr>
<tr>
<td>Elena Luchkina, David Sobel, and James Morgan</td>
<td></td>
</tr>
<tr>
<td>Contextual Separation Shifts Attentional Biases</td>
<td>2906</td>
</tr>
<tr>
<td>Michelle Luna and Catherine Sandhofer</td>
<td></td>
</tr>
<tr>
<td>Belief bias among believers of the paranormal and the pseudoscience</td>
<td>2907</td>
</tr>
<tr>
<td>Yoshimasa Majima</td>
<td></td>
</tr>
<tr>
<td>Natural Human Exploration under Approach and Avoidance Motivation in a Real-Life Spatial Environment</td>
<td>2908</td>
</tr>
<tr>
<td>Deeksha Malhotra, Kimberly Chiew, Mai-Anh Vu, Nicole Heller, Guillermo Sapiro, and Alison Adcock</td>
<td></td>
</tr>
<tr>
<td>Comparison of small sets and number word comprehension</td>
<td>2909</td>
</tr>
<tr>
<td>Elisabeth Marchand</td>
<td></td>
</tr>
<tr>
<td>The embodied, interactional origins of systemic inequality in conversation</td>
<td>2910</td>
</tr>
<tr>
<td>Tyler Marghetis, Samantha Cohen, Peter Todd, Robert Goldstone, and David Landy</td>
<td></td>
</tr>
<tr>
<td>Identifying the structure of hypotheses that guide search during development</td>
<td>2911</td>
</tr>
<tr>
<td>Doug Markant, Angela Jones, Thorsten Pachur, Alison Gopnik, and Azzurra Ruggeri</td>
<td></td>
</tr>
<tr>
<td>Search Your Feelings 2.0: Online Versus Paper-Pencil Version of a Free Recall-Based Emotional Fluency Task</td>
<td>2912</td>
</tr>
<tr>
<td>Masitah Masitah, Li Ying, and Thomas Hills</td>
<td></td>
</tr>
<tr>
<td>Irrelevant variability and interleaved/blacked training in an artificial orthography task and connectionist models</td>
<td>2913</td>
</tr>
<tr>
<td>Bob McMurray, Tanja Roembke, and Eliot Hazeltine</td>
<td></td>
</tr>
</tbody>
</table>
Non-Symbolic Ratio Sense Supports Symbolic Fraction Success ........................................ 2914
Rui Meng, Percival Matthews, and Edward Hubbard

Is there a forward bias in human profile portraits? ......................................................... 2915
Helena Miton, Mikolaj Hernik, and Dan Sperber

Infant Action Prediction in the Wild .................................................................................... 2916
Claire Monroy, Chi-hsin Chen, Irina Castellanos, and Derek Houston

Communicative pressure can lead to input that supports language learning .......................... 2917
Ben Morris and Dan Yurovsky

The Influence of Mechanism Knowledge on Causal Interactions ....................................... 2918
Matthew Myers, Alexander LaTourrette, and Lance Rips

Out of the mouth comes evil: a exploration of an anchoring effect of minimum payment information under "affect rich" and "affect poor" situation .................................................. 2919
Kuninori Nakamura

Object-based attention in multiple frames of reference ..................................................... 2920
Weizhi Nan, Lizhu Yan, Jiamin Huang, Ya Fan, Hong Lu, and Shimin Fu

Sketches and Verbal Descriptions: Indices of Knowledge about Spatial Environments? Prompts to Refine Knowledge? .......................................................... 2921
Alina Nazareth, Allison Jaeger, and Nora Newcombe

Thematic and taxonomic influences in abstract vs. concrete concepts – not so different after all” ................................................................. 2922
Jane Neal and Katja Wiemer

Cognitive interference modulates speech acoustics in a vowel-modified Stroop task .......... 2923
Caroline Niziolek, Sara Beach, and Swathi Kiran

Children’s Generalization of Novel Labels in a System of Contrasting Categories ............... 2924
Nigel Noll, Haley Vlach, and Chuck Kalish

State- and Trait-Creativity as Predictors of Semantic Distance in Verbal Analogy Generation 2925
Gregory Norville and Lara Jones

The impact of social information on the dynamics of decision making within groups .......... 2926
Alan Novaes Tump, Tim Pleskac, and Ralf Kurvers

Effect of denominator in the fraction on number line estimation: an exploration of the list of the basic fraction in Japanese university students .................................................. 2927
Saho Taniguchi, Yuki Tanida, and Masahiko Okamoto

Taking Whorf to School: Does Language Reform Improve Student Learning? .................. 2928
John Opfer, Dan Kim, Pooja Sidney, Charles Fitzsimmons, and Clarissa Thompson

Goodness of ideas is judged based on affective valence: A study using the remote associates task .......................... 2929
Ryo Orita and Masasi Hattori

The Influence of Pretend Play on Children’s and Language and Pre-Literacy Skills .............. 2930
Tanya Paes and Michelle Ellefson

Does shifting ability support interleaved learning of new science concepts in middle school students? ................................................................. 2931
Jimin Park, Keisha Varma, and Sashank Varma
Is covariance ignorance responsible for the success of heuristics? .............................................. 2932
Paula Parpart and Eric Schulz

Do Interactive Simulations in Journal Articles Promote Learning? ............................................... 2933
Purav Patel, Alex Kuo, and Kelsey Wenzel

Complex coordination: How power dynamics and task demands shape interpersonal motor synchrony .... 2934
Alexandra Paxton, Lucien Brown, and Bodo Winter

Deriving uniform information density behavior in pragmatic agents .............................................. 2935
Benjamin Peloquin, Noah Goodman, and Michael Frank

Kindergarten Predictors of Mathematics: Quantitative, Working Memory and Linguistic Skills .......... 2936
Marcie Penner-Wilger, Rylan J. Waring, and Nicole Collins

The role of iconicity in word learning: Insights from child-directed language (CDL) ......................... 2937
Margherita Murgiano, Pamela Perniss, Yasamin Motamedi, and Gabriella Vigliocco

Unsupervised Learning Shapes Emotion Categories ................................................................. 2938
Rista Plate, Adrienne Wood, and Seth D Pollak

Memory for Serial Recall explains Center Embedded Structure .................................................. 2939
Fenna Poletiek

Learning the goal-structure of actions in a connectionist network without inverse planning ............... 2940
Robert Powers and David Plaut

A Disadvantage of Comparison and Contrast in Object Label Learning ..................................... 2941
Gwendolyn Price and Catherine Sandhofer

The Lesson and the Learner: The Effect of Individual Differences and Task Scaffolding on Category Learning ................................................. 2942
Jared Ramsburg and Stellan Ohlsson

People’s (inconsistent) attitudes about foundational moral beliefs ............................................. 2943
Madeline Reinecke and Zachary Horne

What is the Current Classification Relevance of Neurodevelopmental Brain Disorders? .................. 2944
Spyridon Revithis

The effect of trait labels on the perception of clinical disorders ................................................. 2945
Samantha Roberts and Zachary Horne

Pruning incorrect associations in word learning ................................................................. 2946
Tanja Roembke and Bob McMurray

Language Dynamics in Supreme Court Oral Arguments ......................................................... 2947
Eyal Sagi

On the Role of Semantic Map in a Socially-Emotional Cognitive Architecture for Creative Assistants ...... 2948
Alexei Samsonovich

Indexing visual working memory capacity in infancy .............................................................. 2949
Andrew Sanders

Realtime integration of acoustic cues and semantic expectations in speech processing: Evidence from EEG ................................................. 2950
McCall Sarrett, Efthymia Kapnoula, and Bob McMurray

xxxix
Context variability in learning .......................................................... 2951
Nicholas Tippenhauer and Megan Saylor

Preschoolers Evaluate Information about Word Meaning ......................... 2952
Yuyue Sun, Sofia Jimenez, Nicholas Tippenhauer, and Megan Saylor

Computational Model of Spatial Auditory Attention in ACT-R ................... 2953
Jaelle Scheuerman, Maxwell T. Anderson, K. Brent Venable, and Edward Golob

How do pragmatic and object cues affect monolingual and bilingual toddlers’ visual attention during word learning? ........................................... 2954
Christina Schonberg, Catherine Sandhofer, and Scott P. Johnson

A word order pattern from silent gesture studies observed in a new natural language .......................................................... 2955
Marieke Schouwstra, Susan Goldin-Meadow, and Molly Flaherty

Language production: Shaped by phonological interference and motor interference .......................................................... 2956
Steven Schwering, Maryellen MacDonald, and Tom Wasow

Age-related change of hand raising behavior in elementary school children .......................................................... 2957
Kazuki Sekine and Takashi Ito

Same/different relation detection and word production in 4-year-olds .............. 2958
Ruxue Shao and Dedre Gentner

Do Infants Learn Words from Statistics? Evidence from English-Learning Infants Hearing Italian .................. 2959
Amber Shoaib, Tianlin Wang, and Jill Lany

Predicting Choices of Item Difficulty in Self-Adapted Testing Using Hidden Markov Models ................................. 2960
Meirav Arieli-Attali, Lu Ou, and Vanessa Simmering

The Geography of Sport: Evidence for the Domain-Specificity of Cultural Mindsets. .......................................................... 2961
Daniel Casasanto, Amritpal Singh, and Qi Wang

Lexical access in the face of degraded speech: The effects of cognitive adaptation .......................................................... 2962
Francis Smith and Bob McMurray

What does a dimension that predicts nothing do to human classification learning? .......................................................... 2963
Sean Snoddy and Kenneth Kurtz

Moral Dynamics: A Computational Model of Moral Judgment .................... 2964
Felix Sosa, Tomer Ullman, Samuel Gershman, Josh Tenenbaum, and Tobias Gerstenberg

Strategy Specificity as a Predictor of Mental Set on the Water Jar Task .................. 2965
Erin Sovansky Winter and Stellan Ohlsson

A text-based analysis of the effects of personality on the adoption of cultural and linguistic norms ............................. 2966
Samuel Spevack and Michael Spivey

Between-Language Competition in Early Learner Bilinguals ........................ 2967
Cynthia Spivey, Samuel Spevack, and Greg Wattonville

The 'Goldilocks Effect' in Preschoolers’ Attention to Spoken Language .................. 2968
Ruthe Foushee, Fei Xu, and Mahesh Srinivasan
Effect of Exploration-type on Spatial Knowledge while using Desktop 360-degree Indirect Visual Display

Priyanka Srivastava and Sushil Chandra

Reducing the effects of need for closure on team performance

Evan Stein, Jonathan Alba, and Art Markman

Equality in Dictator Games: Methodological Concerns in Interpreting Default-Mode Strategies and Norms for Equity

Caden Sumner, Samantha Verran, and Shane Mueller

Unlearning to See: Linking the Perceptual and Clinical Effects of Psychedelic Drugs

Link Swanson

Consistency of Creativity Assessment: Influence of Personality and Assessment Process

Hitoshi Terai, Kazuhisa Miwa, and Mina Nakamura

Patterns of anxiety in algebraic problem solving in Australian adolescents: A three-step latent variable analysis

Kelly Trezise and Robert A. Reeve

Interaction, cognitive diversity and abstraction

Kristian Tylén, Johanne Philipsen, Svend Østergaard, Joanna Rączaszek-Leonardi, Frederik Stjernfelt, and Riccardo Fusaroli

Contributions of Statistical Regularities to Semantic Development

Layla Unger and Vladimir Sloutsky

Elementary school students’ ability to activate related concepts in a domain predicts domain-based inferential reading comprehension

Catarina Vales and Anna Fisher

The relative amount of information contributed by learning and by pre-specification in a SRN trained to compute sameness

Juan Valle-Lisboa

Can adaptive prompting improve the collaboration of small face-to-face groups in math classrooms?

Kurt VanLehn

Going through the Motions: Investigating Strategies for Spatial Integration of a Small-Scale Array

Mia Velazquez, Corinne Holmes, and Nora Newcombe

Iambic Bias in Parsing Syllable Sequences by English Speakers

Ryan Budnick and Felix Wang

Skilled readers activate the meanings of phonetic cues in Chinese

Tianlin Wang, Matthew Cooper Borkenhagen, and Mark Seidenberg

The impact of transcutaneous vagal nerve stimulation on central noradrenergic activity as evidenced by salivary alpha amylase and the P3 event-related potential

Christopher Warren, Klodianna Daphne Tona, Lineke Ouwerkerk, Jos A. Bosch, and Sander Nieuwenhuis

Human generalization of an alternating category structure

Matt Wetzel and Kenneth Kurtz
Partial awareness of strategies used in a complex decision making task ........................................ 2985
Aaron Wong, Kevin Barnes, Gary Bradshaw, and Jarrod Moss

Navigating uncertainty through information search ................................................................. 2986
Charley M. Wu, Bjoern Meder, and Jonathan D. Nelson

Behavioral and electrophysiological evidence of incidental learning, generalization and retention of speech categories from continuous speech ......................................................... 2987
Yunan Wu, Lori Holt, Ran Liu, and Sung-Joo Lim

Holistic vs. Decompositional Processing in Chinese Foreign Language Learners ...................... 2988
Alice Xia

Commonality search between unrelated objects for retrieving original knowledge .................. 2989
Mayu Yamakawa and Sachiko Kiyokawa

HBU: Human Behavior Understanding by Choice Reaching .................................................. 2990
Takashi Yamauchi and Anton Leontyev

English speakers gesture laterally for time regardless of the input modality ............................. 2991
De Fu Yap and Daniel Casasanto

Source Retrieval Cues Facilitate Transfer in Fraction Learning ............................................. 2992
Shuyuan Yu and John Opfer

Can violation of conversational behavior maintain a sense of unity in informal situations? - A study on perception of conversational behavior using interactive robots/agents - ........................................ 2993
Masahide Yuasa

Automatic Extraction of Aggression Speech Patterns in the THREAT-corpus .......................... 2994
Vera Zabotkina, Boris M. Velichkovsky, ELENA POZDNYAKOVA, Dmitry Orlov, and Artemy Kotov

The Roles of Gesture and Statistical Cues on Infants’ Word Learning in Shared Storybook Reading .......... 2995
Yayun Zhang and Chen Yu

Author Index

List of Reviewers