## Stella Christie

Interests

CONTACT Swarthmore College Phone: +1 (267) 449-9109

INFORMATION Department of Psychology E-mail: christie@swarthmore.edu

500 College Avenue Website: kidlab.swarthmore.edu

Swarthmore, PA 19081, USA

BIOGRAPHICAL Date and place of birth: 11 January 1979, Medan, Indonesia

Residence status: Permanent Resident of the United States (Green Card holder)

Citizenship: Indonesian

LANGUAGES Indonesian (native); Mandarin Chinese, Polish, Spanish (fluent)

Research • Comparison processes in the acquisition of relational concepts

• Language as a cognitive toolkit in relational learning and abstraction

• Language typology and its effects on cognition

• Comparison processes in social and cultural learning

EMPLOYMENT Swarthmore College, Swarthmore, PA

Assistant Professor, 2012 - current

Stanford University, Stanford, CA

Visiting Scholar, 2015 - 2016

University of British Columbia, Vancouver, Canada

Postdoctoral Research and Teaching Fellow, 2010 - 2012

Supervisors: Geoffrey Hall, Janet Werker

EDUCATION Northwestern University, Evanston, Illinois, USA

Ph.D. in Cognitive Psychology, 2010

Psychology Department Teaching Certificate

Harvard University, Cambridge, Massachusetts, USA

B.A. in Psychology Magna Cum Laude with Highest Honors, 2004

Certificate in Mind Brain Behavior Citation in Modern Chinese

Publications, Student authors In **bold**  **Journal Articles** 

Christie, S., Gentner, D., Call, J., & Haun, D. (2016). Sensitivity to relational similarity and object similarity in apes and children. *Current Biology*, 26(4), 531-535.

Noyes, A. & Christie, S. (2016). Children prefer diverse samples for inductive reasoning in the social domain. *Child Development*, 87(4), 1090-1098

Christie, S. & Gentner, D. (2014). Language helps children succeed on a classic analogy task. *Cognitive Science*, 38(2), 383-397.

Hespos, S.J., **Dora, B.**, Rips, L.J. & Christie, S. (2012). Infants make quantity discriminations for substances. *Child Development*, 83(2), 554-567.

Christie, S. & Gentner, D. (2010). Where hypotheses come from: Learning new relations by structural alignment. *Journal of Cognition and Development*, 11(3), 356-373. 2010 Editor's Choice Award for Best Article.

Gentner, D. & Christie, S. (2010). Mutual bootstrapping between language and analogical processing. Language and Cognition, 2(2), 261-283.

Gentner, D. & Christie, S. (2008). Relational language supports relational cognition in humans and apes. *Brain and Behavioral Science*, 31, 2.

Christie, S. & Gentner, D. (2007). Relational similarity in identity relation: The role of language. In Vosniadou, S. & Kayser, D. (Eds.) *Proceedings of the Second European Cognitive Science Conference*.

Gentner, D. & Christie, S. (2006). Using numbers to structure space. In Sun, R. & Miyake, N. (Eds.) *Proceedings of the Twenty-Eight Annual meeting of the Cognitive Science Society*.

Jameson, J. Gentner, D., Day, S., Christie, S. Colhoun, J. & Bartels, D. (2005). Clarifying the role of alignability in similarity comparisons. In Bruno, B.G., Barsalou, L. & Buciarrelli, M. (Eds.) *Proceedings of the Twenty-Seventh Annual meeting of the Cognitive Science Society*, 1048-1053.

Mast, F.W., Ganis, G., Christie, S. & Kosslyn, S.M. (2003). Four types of mental imagery processing in upright and tilted observers. *Cognitive Brain Research*, 17, 209-213.

#### **Book Chapters**

Christie, S. (to appear). Analogical Reasoning. In: Bornstein, M., Arterberry, M., Fingerman, K., & Lansford, J. (Eds.) SAGE Encyclopedia of Lifespan Human Development, Sage Publication.

Christie, S. & Gentner, D. Development of language and thought. (2012). In: Spivey, M., McRae, K., & Joanisse, M. (Eds.) *Cambridge Handbook of Psycholinguistics*, Cambridge University Press.

## In Preparation

Christie, S., Analogy for Social Learning. Invited submission for Special Issue of Topics in Cognitive Science, to appear October, 2016.

Christie, S., Kumar, S., Talbot, R.,& Kim, J.D. Children's imitation of similar vs. diverse group.

Christie, S., & Hall, D.G. Children prefer to learn from teachers who provide more informative comparisons.

Christie, S., Lastarria, W., & Fialkow, D. Three-year-olds use informative comparison to teach others.

Christie, S. & Gentner, D. Language systematicity supports relational abstraction.

Christie, S., Gentner, D., & Braun, K. Typology of similarity.

Hall, D.G., & Christie, S. Category and brands understanding.

Refereed Presentations Christie, S., **Talbot**, R., Kim, J, & Kumar, S. (2015). *Imitating Group for Cultural Transmission*. Poster presented at the Cognitive Development Society Conference, Columbus, Ohio.

Noyes, A., & Christie, S. (2015). Children Prefer Diverse Samples for Inductive Reasoning in the Social Domain. Paper presented at the Budapest CEU Conference on Cognitive Development, Budapest, Hungary.

Christie, S., **Fialkow, D., Lastarria, W.** (2015). Selective Pedagogy: Children Choose The Best Comparison to Teach Others. Paper presented at the Biennial Meeting of Society for Research in Child Development, Philadelphia, PA.

Noyes, A., & Christie, S. (2015). *Inductive Reasoning in the Social Domain*. Poster presented for the Biennial Meeting of Society for Research in Child Development, Philadelphia, PA.

Christie, S., Murphy, Z., Obee, A. F., (2014). Who Do You Copy? Imitation Learning from Diverse vs. Similar Groups. Paper presented at the Annual Meeting of Cognitive Science Society, Quebec City, Canada.

Symposium chair. The Role of Authenticity in Children's Thinking about Individual Objects. 2013 Paper Symposium, the Biennial Meeting of Society for Research in Child Development, Seattle, Washington, USA.

Christie, S. & Hall, D.G. (2013). Young Children Prefer to Learn from Teachers Who Provide More Informative Comparisons. Poster presented at the Biennial Meeting of Society for Research in Child Development, Seattle, Washington, USA.

Hall, D.G., & Christie, S. (2013). Avoiding the Counterfeit: Children's Learning of Brand Concepts. Paper presented at the Biennial Meeting of Society for Research in Child Development, Seattle, Washington, USA.

Hall, D.G., Christie, S., Wu, F., Lee, A., Marchak, K., \*Cousineau, V. (2013). *Nike Shoes and Running Shoes: Children's Representation of Brand Concepts and Kind Concepts.* Poster presented at the Biennial Meeting of Society for Research in Child Development, Seattle, Washington, USA.

Christie, S. & Gentner, D. (2012). *Domain Specific vs Abstract Language in Spatial Learning*. Paper presented at the Meeting of Cognitive Science Society, Sapporo, Japan.

Christie, S. & Gentner, D. (2011). *Mechanisms of Language in Relational Abstraction*. Paper presented at the VII Biennial Meeting of Cognitive Development Society, Philadelphia, PA, USA.

Symposium organizer. Comparing Comparisons: Does Comparison Learning Vary Across Domains? 2011 VII Biennial Meeting of Cognitive Development Society, Philadelphia, PA, USA.

Christie, S. & Gentner, D. (2009). Relational Learning From Multiple Exemplars: The Role of Alignment. Paper presented at the VI Biennial Meeting of Cognitive Development Society, San Antonio, Texas, USA.

Symposium organizer. Mechanisms of learning from multiple exemplars: Alignment and explanation. 2009 VI Biennial Meeting of Cognitive Development Society, San Antonio, Texas, USA

Gentner, D. & Christie, S. (2009). Comparison Supports Children's Learning of New Spatial Relational Categories. Paper presented at the Biennial Meeting of Society for Research in Child Development, Denver, Colorado, USA.

Christie, S. & Gentner, D. (2009). Language and Progressive Alignment in Development of Relational Ability. Poster presented at the Biennial Meeting of Society for Research in Child Development, Denver, Colorado, USA.

Dora, B., Hespos, S.J., Rips, L. & Christie, S. (2009). *Infants Make Quantity Discriminations for Substances*. Poster presented at the Biennial Meeting of Society for Research in Child Development, Denver, Colorado, USA.

Christie, S. & Gentner, D. (2008). Language Systematicity Supports Spatial Mapping. Poster presented at the International Conference of Spatial Cognition, Freiburg, Germany.

Christie, S. & Gentner, D. (2008). Early Relational Similarity. Paper presented at the International Conference of Cognitive Science, Moscow, Russia.

Christie, S. & Gentner, D., & Sloutsky, V. (2008). Process of Comparison: Words vs NonWords. Poster presented at the Annual Meeting of the Cognitive Science Society.

Christie, S., & Gentner, D. Anggoro, F., Namy, L. (2007). *Comparison in Relational Learning*. Paper presented at the 5th Conference of the Cognitive Development Society, Santa Fe, New Mexico, USA.

Gentner, D. & Christie, S. (2007). What's Special About Humans. Invited paper for workshop The Role of Analogy in Thought and Learning, Iowa Center for Developmental and Learning Sciences, University of Iowa, Iowa City, USA.

Gentner, D. & Christie, S. (2007). Learning Novel Relations via Comparison. Paper presented at the Conference of European Cognitive Science, Delphi, Greece.

Christie, S., & Gentner, D. (2007) Relational Similarity in Identity Relation: The Role of Language. Paper presented at the Conference of European Cognitive Science, Delphi, Greece.

Colhoun, J., Christie, S., Gentner, D. (2007). Comparison in Learning. Paper presented at the AERA Conference, Chicago, Illinois, USA.

Christie, S. Markson, L. Crisp, J. & Romberg, A. (2006). *Learning about artifacts and their functions in infancy*. Poster presented at the International Conference of Infant Studies, Kyoto, Japan.

Gentner, D. & Christie, S. (2006). *Using numbers to structure space*. Paper presented at the Twenty-Eighth Annual Meeting of the Cognitive Science Society, Vancouver, Canada.

Christie, S. & Gentner, D. (2005). Language highlights relational structure. Poster presented at the Cognitive Development Society Conference, San Diego, California, USA.

Christie, S., Markson, L. & Spelke, E.S. (2005). 18-month-olds' understanding of structure-function correlation. Poster presented at the Biennial Meeting of Society for Research in Child Development, Atlanta, Georgia, USA.

Markson, L., Christie, S. & Spelke, E.S. (2004). Rapid learning about objects in infancy. Poster presented at the International Conference of Infant Studies, Chicago, Illinois, USA.

INVITED TALKS

Comparison for Learning Social Structures. Invited speaker for the Rumelhart Symposium, the Annual Meeting of Cognitive Science Society, Philadelphia, PA, August, 2016.

Learning Relations by Comparison, Peking University, Beijing, China, August, 2016. Learning by Comparison, UC Berkeley, February, 2016.

Comparison for Social Learning, University of Cologne, Germany, November, 2015. Mutual Bootstrapping between Language and Comparison, University of Radboud, The Netherlands, November, 2015.

How to Compare and What You Learn From It, Stanford University, May, 2015.

Learning by Comparison in Cognitive and Social Development, Princeton University, November, 2014.

Who is Smarter: Analogical Reasoning in Great Apes vs. Human Children, Bryn Mawr, Haverford, and Swarthmore Colleges Mind Meeting, 2014.

Learning Relations: Mutual Bootstrapping between Language and Comparison, Temple University, 2012.

Language and Relational Reasoning, Harvard University, 2011.

What Makes Us Smart? Mutual Bootstrapping between Language and Analogy, California State University Los Angeles, 2011.

Sameness Is Not Simple: Learning to Perceive Relational Similarity, University of British Columbia, 2011.

# GRANTS, FELLOWSHIPS AND AWARDS

#### Grants

pending James S. McDonnell Foundation Understanding Human Cognition Award, "Understanding Comparison for Social Learning" \$600,000, 2016-2020

Research Grant, Swarthmore College, \$100,000, 2012-2017

Student-Faculty Joint Research Projects, Swarthmore College, \$42,000, 2013-2016

Faculty Research Grants, Swarthmore College, \$7,200, 2012-2015

Science Equipment Fund, Swarthmore College, \$20,000, 2013

Hungerford Faculty Support Fund, Swarthmore College, \$1758, 2013

Psychology Research Grant, University of British Columbia \$10,000, 2012-2013

## **Fellowships**

Lang Sabbatical Fellowship, Swarthmore College, 2015-2016

Postdoctoral Research and Teaching Fellowship, University of British Columbia, 2010-2012

Cognitive Science Graduate Fellowship, Northwestern University, 2006-2007

Harvard-Yenching Fellowship for study abroad in East Asia, 2002-2003

Harvard College Undergraduate Research Fellowship, 2001-2002

United World College Scholarship, 1997-1999

ASEAN Scholarship, Singapore Ministry of Education, 1995-1997

## Awards

James S. McDonnell Foundation, nominated (among 20 nominees) for **Understanding Human Cognition Award**, 2016

Journal of Cognition and Development's Editor's Choice Award, 2010

Travel Grant - International Conference of Cognitive Science, Moscow, Russia, 2008

Early Career Researcher Travel Grant - International Society of Infant Studies, 2006

Conference Travel Award - Cognitive Science Society, 2005

Graduate Travel Award - Northwestern University, 2005

Psychology Thesis Prize - Harvard University, 2004

Jerome Kagan Undergraduate Research Award for Outstanding Thesis - Harvard University, 2004

Harvard College Undergraduate Research Fellowship, 2001-2002 John Harvard Scholarship - Harvard University, 1999, 2001, 2004

## TEACHING EXPERIENCE

#### Swarthmore College, Swarthmore, PA, USA

#### Instructor:

- Developmental Psychology
- Introductory Psychology Seminar: Comparative Cognition
- Developmental Honors Seminar
- Developmental Research Practicum
- First Year Seminar in Early Social Cognition
- Research Design and Analysis

## Undergraduate Mentorship:

• Honors Theses:

Christopher Capron, Alexander Noyes (2015 Solomon Asch Award for Most Distinguished Thesis in Psychology), So-Yeon Shin

2014-2015
Rachel Fresques

2013-2014
(2014 Solomon Asch Award for Most Distinguished Thesis in Psychology)

• Cognition and Development Lab Research Assistants:

Christopher Capron, Brianna Cox, Fatema Jivanjee, Jasmyne Kim, Lauren Mirzakhalili, Alexander Noyes, Jordan Sciascia, So-Yeon Shin, Cynhia Siego, Grant Torre, Catherine Xiang

2014-2015

2011-2012

Christopher Capron, Kelsey Ann Huntzberry, Fatema Jivanjee, Zachary Murphy, Alexander Noyes, Averil Obee, So-Yeon Shin

2013-2014
Christopher Capron, David Fialkow, Cameron French, Wynter Lastarria, Averil Obee, So-Yeon Shin

2012-2013

• Summer Research Fellowships (\$4200)

summer 2016
$\operatorname{summer}\ 2015$
$\operatorname{summer}\ 2014$
$\operatorname{summer}\ 2013$

#### University of British Columbia, Vancouver, British Columbia, Canada

#### Instructor:

Spring 2011
Spring 2011
Fall 2010
2010-2012
2010-2012

• Research Volunteers Rachelle Kay Lim, Rebecca Ferguson

## Northwestern University, Evanston, Illinois, USA

#### $Co ext{-}Instructor:$

Independent Study
 Advanced Supervised Research
 Spring 2010, Fall, Spring & Winter 2009
 Fall 2008

#### Guest Lecturer:

Introduction to Cognitive Science
 Introduction to Language and Cognition
 Cognitive Development
 Spring 2009
 Winter 2008

• Introductory Psychology
Introduction to Developmental Psychology

Fall 2005

• Language and Thought

Language and Cognition from A Comparative Perspective

Perspective Spring 2004

## Teaching Assistant:

Introduction to Cognitive Science
 Introductory Psychology
 Language and Thought
 Personality Psychology
 Spring 2009, Spring & Winter 2008
 Fall 2005
 Spring 2009, Spring & Winter 2005
 Winter 2005

#### Section Instructor:

• Language and The Brain

Spring 2006

## Undergraduate Mentorship:

• Psychology Benton J. Underwood Fellowship (\$3000) Sally Martinez, Reina Uchino

2008, 2009

- Project on Children's Thinking Internship
  Hannah Guion, Azmina Lakhani, Sally Martinez, Rachel Ryskin, Reina Uchino
  2006-2010
- National Science Foundation Research Experience for Undergraduates
   Graduate student mentor and coordinator

## Professional Service

#### Ad-Hoc Reviewer

British Journal of Developmental Psychology

Child Development

Cognitive Development

Cognitive Science

Developmental Science

Developmental Psychology

Journal of Comparative Psychology

Journal of Cognition and Development

Journal of Memory and Language

Language, Learning, and Development

PLOS one

Psychological Science

## **Grant Reviewer**

National Science Foundation, Developmental Science Learning Program, 2014; 2016

# Conference Reviewer

Cognitive Science Conference Society of Research for Child Development