

Tyler Zarus Knowlton

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Research Interests

Broad: psycholinguistics, language acquisition, semantics, the language-thought relationship
Specific: quantification, lexical decomposition, syntactic bootstrapping, argument structure, numerical and event concepts, the language-vision interface

Education

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| Ph.D. (expected) Linguistics <i>Thesis:</i> The psycho-logic of universal quantifiers <i>Advisors:</i> Jeffrey Lidz and Paul Pietroski University of Maryland , College Park, MD | 2021 |
| B.A. Cognitive Science (with honors) Minors in Linguistics, Philosophy, and Psychology Johns Hopkins University , Baltimore, MD | 2015 |

Awards and Honors

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| NSF Doctoral Dissertation Improvement Grant , “Doctoral Dissertation Research: The mental representation and acquisition of the universal quantifiers” (NSF #BCS-2017525) (with Jeffrey Lidz) | 2020 |
| College of Arts and Humanities Graduate Student Service Award | 2020 |
| Howard Lasnik Award for Distinguished Teaching by a Graduate Student | 2020 |
| CUNY Jerrold J. Katz Young Scholar Award | 2019 |
| Jacob K. Goldhaber Travel Grant | 2018 |
| Fellow, NSF-NRT Training Program , “NRT-DESE: Flexibility in Language Processes and Technology: Human- and Global-Scale” (NRT #1449815) | 2017 |
| Maryland Language Science Fellowship | 2017 |
| Phi Beta Kappa | 2015 |
| Cognitive Science Departmental Honors | 2015 |
| Johns Hopkins General University Honors | 2015 |
| Johns Hopkins Provost’s Undergraduate Research Award | 2014 |

Publications

Knowlton, T., Hunter, T., Odic, D., Wellwood, A., Halberda, J., Pietroski, P., and Lidz, J. (accepted) *Linguistic meanings as cognitive instructions*. Annals of the New York Academy of Sciences.

Knowlton, T., Pietroski, P., Halberda, J., and Lidz, J. (accepted) *The mental representation of universal quantifiers*. Linguistics and Philosophy.

Knowlton, T. and Lidz, J. (forthcoming) *Genericity signals the difference between “each” and “every” in child-directed speech*. Proceedings of the 45th annual Boston University Conference on Language Development.

Knowlton, T., Pietroski, P., Williams, A., Halberda, J., and Lidz, J. (2020) *Determiners are “conservative” because their meanings are not relations: evidence from verification*. Proceedings of SALT 30.

Presentations

Conference Talks

Knowlton, T., Halberda, J., Pietroski, P., and Lidz, J. (2021) *Evaluating “each”- (but not “every”-) sentences encourages encoding individual properties*. 34th CUNY Conference on Human Sentence Processing, University of Pennsylvania.

Knowlton, T. and Lidz, J. (2021) *Bootstrapping universal quantifiers: the role of genericity*. Linguistic Society of America (LSA) Annual Meeting, San Francisco, CA.

Knowlton, T. and Lidz, J. (2020) *Genericity signals the difference between “each” and “every” in child-directed speech*. Boston University Conference on Language Development (BUCLD) 45, Boston University.

Knowlton, T., Pietroski, P., Williams, A., Halberda, J., and Lidz, J. (2020) *Memory for cardinality supports a non-relational account of conservativity*. Experiments in Linguistic Meaning (ELM) 1, University of Pennsylvania.

Cesana-Arlotti, N., **Knowlton, T.**, Lidz, J., and Halberda, J. (2020) *An investigation of the origins of logical quantification: infants’ (and adults’) representations of exhaustivity in collective or individual complex actions*. Symposium on Learning ‘hard words’, XXII International Congress of Infant Studies (ICIS) Biennial Congress, Glasgow, Scotland.

Knowlton, T., Pietroski, P., Williams, A., Halberda, J., and Lidz, J. (2020) *Conservative meanings with only one set: evidence from verification*. 33rd CUNY Conference on Human Sentence Processing, University of Massachusetts at Amherst.

Knowlton, T., Pietroski, P., Halberda, J., and Lidz, J. (2019) *The mental representation of universal quantifiers: evidence from verification*. 32nd CUNY Conference on Human Sentence Processing, CU Boulder.

Knowlton, T., Halberda, J., Pietroski, P., and Lidz, J. (2018) *Acquiring the universal quantifiers: every part together or each part on its own?* Boston University Conference on Language Development (BUCLD) 43, Boston University.

Invited Talks

- Knowlton, T.** (2021) *The psycho-logic of universal quantifiers*. Linguistics Colloquium, University of Southern California.
- Knowlton, T.** (2019) *The psychological treatment of (universal) quantification*. Integrated Language Sciences and Technology Seminar, University of Pennsylvania.
- Knowlton, T.** (2018) *Are natural language quantifiers first- or second-order?* McDonnell Network Focused Workshop on “The Development of Set and Quantifier Representations”, Johns Hopkins.

Conference Posters

- Cesana-Arlotti, N., **Knowlton, T.**, Lidz, J., and Halberda, J. (2021) *An investigation of the origins of logical quantification: infants’ (and adults’) representations of exhaustivity in collective or individual complex actions*. Society for Philosophy and Psychology (SPP) 47th Annual Meeting, Princeton.
- Cesana-Arlotti, N., **Knowlton, T.**, Lidz, J., and Halberda, J. (2021) *Representing the exhaustivity of collective and individual actions: an investigation of universal quantification in adults and infants*. 12th Dubrovnik Conference on Cognitive Science, Virtual.
- Knowlton, T.**, Pietroski, P., Williams, A., Halberda, J., and Lidz, J. (2020) *Determiners are ‘conservative’ because their meanings are not relations: evidence from verification*. Semantics and Linguistic Theory (SALT) 30, Cornell.
- Cesana-Arlotti, N., **Knowlton, T.**, Lidz, J., and Halberda, J. (2020) *An investigation of the origin of logical quantification: infants’ and adults’ representations of collective and distributive actions in complex visual scenes*. 42nd Annual Meeting of the Cognitive Science Society, Virtual.
- Cesana-Arlotti, N., **Knowlton, T.**, Lidz, J., and Halberda, J. (2020) *Who’s chasing whom? Adults’ and infants’ engagement of quantificational concepts (“each” and “all”) when representing visual chasing events*. Vision Sciences Society (VSS) 20th Annual Meeting, Virtual.
- Cesana-Arlotti, N., **Knowlton, T.**, Lidz, J., Pietroski, P., and Halberda, J. (2019) *Concepts of universal quantification (“each” and “all”) may support infant and adult understanding of collective and distributive actions*. Cognitive Development Society (CDS) 2019 Biennial Meeting, Louisville, KY.
- Knowlton, T.**, Halberda, J., Pietroski, P., and Lidz, J. (2019) *A novel memory task reveals early understanding of quantifier meanings*. Society for Research in Child Development (SRCD) 2019 Biennial Meeting, Baltimore, MD.
- Knowlton, T.**, Pietroski, P., Halberda, J., and Lidz, J. (2019) *Representational format and universal quantifiers*. Linguistic Society of America (LSA) Annual Meeting, New York, NY.
- Perkins, L., **Knowlton, T.**, Williams, A., and Lidz, J. (2018) *Matching number vs. linking roles: using 3-participant scene percepts to understand infants’ bootstrapping*. Boston University Conference on Language Development (BUCLD) 43, Boston, MA.
- Knowlton, T.**, Perkins, L., Williams, A., and Lidz, J. (2018) *Getting a grip on infants’ event representations: participant number in TAKE and PICK-UP*. XXI International Congress of Infant Studies (ICIS) Biennial Congress, Philadelphia, PA.
- Knowlton, T.**, Wong, A., Halberda, J., Pietroski, P., and Lidz, J. (2018) *Different determiners, different algorithms: two majority quantifiers in Cantonese bias distinct verification strategies*. 31st CUNY Conference on Human Sentence Processing, UC Davis.

- Knowlton, T.**, Halberda, J., Pietroski, P., and Lidz, J. (2017) *Sentences, centers, and sets: set selection and the meanings of more and most*. Cognitive Development Society (CDS) Biennial Meeting, Portland, OR.
- Knowlton, T.**, Halberda, J., Pietroski, P., and Lidz, J. (2017) *Distinguishing first- from second-order specifications of each, every, and all*. Mid-Atlantic Colloquium of Studies in Meaning (MACSIM) 7, Georgetown.
- Knowlton, T.**, Halberda, J., Pietroski, P., and Lidz, J. (2017) *Set selection and storage reflect differences in quantifier meanings*. McDonnell Network Plenary Workshop on “The Ontogenetic Origins of Combinatorial Thought”, UCSD.
- Perkins, L., **Knowlton, T.**, Hirzel, M., Dudley, R., Williams, A., and Lidz, J. (2017) *Linguistic and conceptual structure in verb learning*. McDonnell Network Plenary Workshop on “The Ontogenetic Origins of Combinatorial Thought”, UCSD.

Teaching and Mentorship

Teaching Experience

University of Maryland

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|---|-------------|
| Instructor, Language and Thought (LING449T) | Spring 2020 |
| Designed and taught 11-student seminar | |
| TA, Grammar and Meaning (LING410; Instructor: Valentine Hacquard) | Fall 2019 |
| Duties: grading, office hours, reviewing p-sets in class, once teaching ~25 student lecture | |
| TA, Child Language Acquisition (LING444; Instructor: Jeffrey Lidz) | Spring 2019 |
| Duties: grading, office hours, helping write exams, once teaching ~20 student lecture | |
| TA, Language and Mind (LING240; Instructor: Tonia Bleam) | Fall 2018 |
| Duties: grading, office hours, review sessions, twice teaching ~50 student lecture | |
| TA, Introductory Linguistics (LING200; Instructor: Tonia Bleam) | Spring 2018 |
| Duties: weekly discussion section of ~30 students, grading, office hours | |

Mentorship

University of Maryland

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| High school summer intern mentor, Project on Children's Language Learning | 2019 |
| Responsible for mentoring high school research assistant S. Chervenak and supervising his final paper & science fair poster presentation | |
| Undergraduate mentor, Project on Children's Language Learning | 2018-2021 |
| Responsible for mentoring undergraduate research assistants M. Lauchman, M. Aiyad, D. Lahori, T. Hudson, M. Griffith, S. Deshpande, & A. Boyer and supervising their end-of-term poster presentations | |

Johns Hopkins University

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| Undergraduate mentor, Vision and Cognition Lab | 2015-16 |
| Responsible for mentoring undergraduate research assistants A. Wong, S. Akmal, A. Vadaparty, I. Perone, & L. Grau and supervising their term papers | |

Research Experience

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| Research Assistant, Project on Children's Language Learning , College Park, MD | 2016-21 |
| PURA Fellow, Language Processing and Development Lab , Baltimore, MD | 2014-16 |
| Lab Manager, Vision and Cognition Lab , Baltimore, MD | 2014-16 |
| Research Assistant, Vision and Cognition Lab , Baltimore, MD | 2012-13 |
| Research Intern, Coriell Institute for Medical Research, Camden, NJ | 2012 |

Academic Activities

Service

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| Mayfest 2020: Hindsight Organizing Committee | 2019- |
| Linguistics Colloquium Committee | 2019- |
| Developmental Science Workshop Co-Organizer (with Z. Ovens & M. Hirzel), <i>Endless Possibilities: The Development of Possibility and Necessity in Cognition, Language, and Society</i> | 2018-19 |
| Chair, Language Science Outreach Committee | 2018-19 |
| Winter Storm 10 Planning Committee | 2017-18 |
| Co-chair (with S. Thivierge), Linguistics Graduate Student Association | 2017-18 |
| Career fair coordinator, Language Science Outreach Committee | 2016-18 |
| Winter Storm 9 Planning Committee | 2016-17 |
| SALT27 Organizing Committee | 2016-17 |

Ad Hoc Reviewing

Manuscripts

Language Learning and Development
Journal of Memory and Language

Conference Papers

Annual Meeting of the Cognitive Science Society (2020, 2021)

Professional Memberships

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| Cognitive Science Society | 2020- |
| Society for Research in Child Development | 2019- |
| International Congress of Infant Studies | 2017- |
| Cognitive Development Society | 2017- |
| Linguistic Society of America | 2015- |

Skills & Methods

- Technical: R, PsychoPy (python), L^AT_EX, Linger, PsyToolkit, Habit, HTML/CSS, JavaScript, Psychtoolbox (MATLAB), Adobe Premiere, Git, PsyScope X, PsyCode
- Experimental: Visual Psychophysics, Habituation-switch, Corpus analysis, Self-paced reading (including with eye-tracking)

References

- Jeffrey Lidz
Professor of Linguistics & Distinguished Scholar-Teacher
University of Maryland
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- Paul Pietroski
Distinguished Professor of Philosophy & Cognitive Science
Rutgers University
paul.pietroski@rutgers.edu
- Justin Halberda
Professor of Psychological and Brain Sciences
Johns Hopkins University
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- Alexander Williams
Associate Professor of Linguistics & Philosophy
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[updated 5/20/2021]