

# Tyler Zarus Knowlton

## Current Address

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## Contact Information

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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

## Employment

Postdoctoral Research Fellow 2021-  
[MindCORE](#) (Center for Outreach, Research, and Education)  
**University of Pennsylvania**, Philadelphia, PA

## Education and Training

Ph.D. in Linguistics 2016-21  
*Thesis:* [The psycho-logic of universal quantifiers](#)  
*Advisors:* [Jeffrey Lidz](#) and [Paul Pietroski](#)  
**University of Maryland**, College Park, MD

Lab Manager, Vision and Cognition Lab 2015-16  
PI: [Justin Halberda](#)  
**Johns Hopkins University**, Baltimore, MD

B.A. in Cognitive Science (with honors) 2011-15  
Minors in Linguistics, Philosophy, and Psychology  
**Johns Hopkins University**, Baltimore, MD

## Grants, Fellowships, and Awards

[NSF Doctoral Dissertation Improvement Grant](#), “Doctoral Dissertation Research:  
The mental representation and acquisition of the universal quantifiers” 2020  
(NSF #BCS-2017525) (with [Jeffrey Lidz](#))

[Graduate Student Service Award](#) 2020  
University of Maryland, College of Arts and Humanities

[Howard Lasnik Award for Distinguished Teaching by a Graduate Student](#) 2020  
University of Maryland, Linguistics Department

[CUNY Jerrold J. Katz Young Scholar Award](#) 2019

[Jacob K. Goldhaber Travel Grant](#) 2018  
University of Maryland

Fellow, <a href="#">NSF-NRT Training Program</a> , “NRT-DESE: Flexibility in Language Processes and Technology: Human- and Global-Scale” (NRT #1449815)	2017
Phi Beta Kappa Johns Hopkins University	2015
<a href="#">Provost’s Undergraduate Research Award</a> Johns Hopkins University	2014

## Publications

### Under Review

**Knowlton, T.**, Halberda, J., Pietroski, P., and Lidz, J. (under review) *Objects versus ensembles and “each” versus “every”: Linguistic framing affects performance in a change detection task*. Journal of Memory and Language.

### Journal Articles

**Knowlton, T.**, Pietroski, P., Halberda, J., and Lidz, J. (2021) *The mental representation of universal quantifiers*. Linguistics and Philosophy.

**Knowlton, T.**, Hunter, T., Odic, D., Wellwood, A., Halberda, J., Pietroski, P., and Lidz, J. (2021) *Linguistic meanings as cognitive instructions*. Annals of the New York Academy of Sciences.

### Conference Proceedings

**Knowlton, T.** and Lidz, J. (2021) *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. (2021) *Determiners are “conservative” because their meanings are not relations: evidence from verification*. Proceedings of the 30th Semantics and Linguistic Theory Conference.

## Presentations

### Conference Talks

**Knowlton, T.** and Gomes, V. (2022) *Linguistic and non-linguistic cues to acquiring the strong distributivity of “each”*. Linguistic Society of America (LSA) Annual Meeting, Washington, DC.

**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) *Psychosemantics and psychopragmatics: the case study of universal quantification*. LingLangLunch, Brown University.
- 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 University.

#### 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 dis-*

- tributive 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*

- |   |             |
|---|-------------|
| 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 Experience

### *University of Pennsylvania*

MindCORE [Step-Ahead Mentorship Program](#) 2021-

### *University of Maryland*

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

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

### *Johns Hopkins University*

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

## Academic Activities

### Service

#### *University of Pennsylvania*

MindCORE [Outreach Committee](#) 2021-

#### *University of Maryland*

Linguistics Colloquium Committee 2019-21

[Mayfest 2020: Hindsight](#) Organizing Committee (postponed due to COVID-19) 2019-20

Developmental Science Workshop Co-Organizer (with Z. Ovens & M. Hirzel), 2018-19  
*Endless Possibilities: The Development of Possibility and Necessity in Cognition, Language, and Society*

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

**Ad Hoc Reviewing***Manuscripts*

Journal of Memory and Language (x2)  
 Language Learning and Development

*Conference Papers*

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

**Professional Memberships**

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-

**References**

Jeffrey Lidz  
 Professor of Linguistics & Distinguished Scholar-Teacher  
 University of Maryland  
 jlidz@umd.edu

Paul Pietroski  
 Distinguished Professor of Philosophy & Cognitive Science  
 Rutgers University  
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Justin Halberda  
 Professor of Psychological and Brain Sciences  
 Johns Hopkins University  
 halberda@jhu.edu

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