

# Elisa C. Baek, Ph.D.

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## APPOINTMENTS

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**National Science Foundation SBE Postdoctoral Research Fellow** 2019 - Present  
Department of Psychology and Department of Mathematics, UCLA  
Sponsoring Scientists: Carolyn Parkinson, Mason Porter, Matthew Lieberman

## EDUCATION

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**Ph.D., Communication** August 2019  
**Annenberg School for Communication, University of Pennsylvania**  
Communication Neuroscience Lab  
Certificate in Social, Cognitive, and Affective Neuroscience (SCAN)  
Dissertation title: *The Role of Mentalizing in Information Propagation*  
Dissertation Committee: Emily Falk (advisor), Joseph N. Cappella, Robert Hornik

**M.A., Communication** May 2016  
**Annenberg School for Communication, University of Pennsylvania**

**B.A., Communication and Cognitive Neuroscience** May 2012  
**University of Pennsylvania**  
Honors Thesis: An Examination of African Americans in Time and Newsweek  
Advertisements  
Advisor: John Jackson

## RESEARCH AND TEACHING INTERESTS

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- Communication neuroscience, health communication, information propagation, persuasion, social influence, social network analysis, social connection/disconnection

## GRANTS & FELLOWSHIPS

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National Science Foundation SBE Postdoctoral Fellowship - \$165,000 2019-2022  
Wharton Risk Center Russell Ackoff Doctoral Student Fellowship - \$2,744 2018-2019

## PUBLICATIONS

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\* denotes equal author contributions

Chang, H.Y., Scholz, C., **Baek, E.C.**, O'Donnell, M.B., & Falk, E.C. (in press). Being the gatekeeper: How thinking about sharing affects neural encoding of information. *Cerebral Cortex*.

**Baek, E.C.**, Porter, M.A., & Parkinson, C. (2020). Social network analysis for social neuroscientists. *Social Cognitive and Affective Neuroscience*, nasaa069. <https://doi.org/10.1093/scan/nsaa069>

**Baek, E.C.**, Scholz, C., & Falk, E.B. (2020). The neuroscience of persuasion and information propagation: Key role of the mentalizing system. In K. Floyd & R. Weber (Eds.), *Handbook of Communication Science and Biology*. Routledge.

Doré, B.P., Scholz, C., **Baek, E.C.**, & Falk, E.B. (2020). Population sharing of health news information is reflected in a distributed neural index of value. *Social Cognitive and Affective Neuroscience*, 15(10), 1111-1119. <https://doi.org/10.1093/scan/nsaa129>

Scholz, C., Jovanova, M., **Baek, E.C.**, & Falk, E.B. (2020). Media-content sharing as a value-based decision. *Current Opinion in Psychology*, 31, 83-88. <https://doi.org/10.1016/j.copsyc.2019.08.004>

Scholz, C., **Baek, E.C.**, O'Donnell, M. B., & Falk, E. B. (2020). Decision-making about broad- and narrowcasting: a neuroscientific perspective, *Media Psychology*. 23(1), 131-155. <https://doi.org/10.1080/15213269.2019.1572522>

Doré, B.P., Scholz, C., **Baek, E.C.**, Garcia, J.O., O'Donnell, M.B., Bassett, D.S., Vettel, J.M., & Falk, E.B. (2018). Brain activity predicts population information sharing by capturing consensus judgments of value. *Cerebral Cortex*. <https://doi.org/10.1093/cercor/bhy176>

**Baek, E.C.** & Falk, E.B. (2018). Persuasion and Influence: What makes a successful persuader? *Current Opinion in Psychology*, 24, 53-57. <https://doi.org/10.1016/j.copsyc.2018.05.004>

\***Baek, E.C.**, \*Scholz, C., O'Donnell M.B., & Falk, E.B. (2017). Neural correlates of selecting and sharing information. *Psychological Science*, 28(7), 851-861. <https://doi.org/10.1177/0956797617695073>

\*Scholz, C., \***Baek, E.C.**, O'Donnell M.B., Kim, H.S., Cappella, J.N., & Falk, E.B. (2017). A neural model of valuation and information virality. *Proceedings of the National Academy of Sciences*, 114(11), 2881-2886. <http://doi.org/10.1073/pnas.1615259114>

## **PAPERS UNDER REVIEW, PREPRINTS, AND WORKING PAPERS**

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**Baek, E.C.**, Tamir, D.I., & Falk, E.B. (preprint). Considering others' mental states causally increases feelings of social bonding and information sharing. <https://psyarxiv.com/nw43x/>

**Baek, E.C.,** Scholz, C., O'Donnell, M.B., Garcia, J.O., Vettel, J.M., & Falk, E.B. (under review). Activity in the brain's valuation and mentalizing networks is associated with propagation of online recommendations.

**Baek, E.C.,** Hyon, R., López, K., Porter, M.A., & Parkinson, C. (in prep). Convergence across subjects in neural responses during spontaneous viewing predicts sharing of naturalistic stimuli.

**Baek, E.C.,** Hyon, R., López, K., Porter, M.A., & Parkinson, C. (in prep). Well-connected individuals exhibit group normative neural responses, whereas less well-connected individuals show idiosyncrasy.

**Baek, E.C.,** Hyon, R., López, K., Porter, M.A., & Parkinson, C. (in prep). Lonely individuals process the world in idiosyncratic ways.

**Baek, E.C.,** Kim, H., Chey, J., Youm, Y., & Parkinson, C. (in prep). Individuals who occupy central positions in a real-life social network show increased sensitivity to social exclusion.

Scholz, C., **Baek, E.C.,** & Falk, E.B. (in prep). Using neuroscience to causally increase the spread of information.

Scholz, C., Doré, B.P., **Baek, E.C.,** O'Donnell, M.B., & Falk, E.B. (in prep). A neural propagation system: Neurocognitive and preference synchrony in information sharers and their receivers.

Cascio, C.N., **Baek, E.C.,** O'Donnell, M.B., & Falk, E.B. (in prep). Social influence: A functional connectivity approach to conformity.

## CONFERENCE PRESENTATIONS AND INVITED TALKS

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\* denotes equal author contributions

**Baek, E.C.,** Hyon, R., López, K., Porter, M.A., & Parkinson, C. (2021, April). Lonely individuals process the world in idiosyncratic ways. To be presented at the annual meeting of the Social and Affective Neuroscience Society (virtual due to COVID-19).

**Baek, E.C.,** Hyon, R., López, K., Porter, M.A., & Parkinson, C. (2021, May). Convergence across subjects in neural responses during spontaneous viewing predicts sharing of naturalistic stimuli. To be presented at the annual meeting of the International Communication Association (virtual presentation due to COVID-19).

**Baek, E.C.,** Hyon, R., López, K., Porter, M.A., & Parkinson, C. (2021, May). Convergence across subjects in neural responses during spontaneous viewing predicts sharing of naturalistic stimuli. To be presented at the annual meeting of the International Communication Association (virtual presentation due to COVID-19).

Chan, H.Y., Scholz, C., **Baek, E.C.**, O'Donnell, M.B., & Falk, E.B. (2021, May). Share versus read: Delineating share-forward and click-through of news information on social media. To be presented at the annual meeting of the International Communication Association (virtual presentation due to COVID-19).

Chan, H.Y., Scholz, C., **Baek, E.C.**, O'Donnell, M.B., & Falk, E.B. (2021, May). Being the gatekeeper: How neural encoding of information is affected during sharing decisions. To be presented at the annual meeting of the International Communication Association (virtual presentation due to COVID-19).

Invited Talk (2021, April). Innovators in Cognitive Neuroscience.

Invited Talk (2021, April). Seminar on Cognitive Processing and Development hosted by Neuro-COGNiMATH at the Department of Psychology at the Benemérita Universidad Autónoma de Puebla, Mexico.

**Baek, E.C.**, Hyon, R., López, K., Porter, M.A., & Parkinson, C. (2021, April). Lonely individuals process the world in idiosyncratic ways. To be presented at the annual meeting of the Society for Affective Science (virtual due to COVID-19).

**Baek, E.C.**, Hyon, R., López, K., Porter, M.A., & Parkinson, C. (2021, February). Popular people in a social network exhibit synchronized neural responses to naturalistic stimuli, and unpopular people exhibit idiosyncratic neural responses. Presented at the Social Cognition Preconference (data blitz) at the annual meeting of the Society for Personality and Social Psychology (virtual due to COVID-19).

**Baek, E.C.**, Hyon, R., López, K., Porter, M.A., & Parkinson, C. (2021, February). Convergence in neural responses during spontaneous viewing predicts sharing. Presented at the annual meeting of the Society for Personality and Social Psychology (virtual due to COVID-19).

**Baek, E.C.**, Hyon, R., López, K., Porter, M.A., & Parkinson, C. (2021, February). Popular people in a social network exhibit synchronized neural responses to naturalistic stimuli, and unpopular people exhibit idiosyncratic neural responses. Presented at the annual meeting of the Society for Social Neuroscience (virtual due to COVID-19).

**Baek, E.C.**, Kim, H., Chey, J., Youm, Y., & Parkinson, C. (2020). Individuals who occupy central positions in a real-life social network show increased sensitivity to social exclusion. Accepted at the annual meeting of the Social and Affective Neuroscience Society (postponed due to COVID-19).

**Baek, E.C.**, Scholz, C., O'Donnell, M.B., Parkinson, C., & Falk, E.B. (2020). Density of real-life social networks is associated with brain activity during social decisions. Accepted at the annual meeting of the Social and Affective Neuroscience Society (postponed due to COVID-19).

Hyon, R., Lopéz, K., **Baek, E.C.**, Porter, M.A., Parkinson, C. (2020). Inter-subject similarity in multi-voxel response pattern trajectories reflects similarities in preferences and personality. Accepted at the annual meeting of the Social and Affective Neuroscience Society (postponed due to COVID-19).

Scholz, C., **Baek, E.C.**, & Falk, E.B. (2020, May). Using neuroscience to causally manipulate information sharing. Presented at the annual meeting of the International Communication Association (virtual presentation due to COVID-19).

Doré, B.P., Scholz, C., **Baek, E.C.**, & Falk, E.B. (2020, October). Population news sharing is reflected in distributed reward-related brain activity. Presented at the annual meeting of the Association for Consumer Research (virtual presentation due to COVID-19).

Invited Talk (2019, November). UCLA Networks Meeting.

Invited Talk (2019, October). UCLA Social Psychology Colloquium.

Invited Talk (2019, April). Princeton University Neuroscience and Social Decision Making talk series.

**Baek, E.C.**, Scholz, C., & Falk, E.B. (2019, April). Narcissists show different psychological and neural motivations for interpersonal sharing. Presented at the annual meeting of the Social and Affective Neuroscience Society, Miami, FL.

Doré, B.P., Cooper, N., Tompson, S., Scholz, C.S., **Baek, E.C.** & Falk, E.B. (2019, May). Population-level stimulus effects are reflected in distributed neural representations of affect and value. Presented at the annual meeting of the Social and Affective Neuroscience Society, Miami, FL. **\*\*Top Poster Award\*\***

Garcia, J.O., Bansal, K., Rungratsameetaweemana, N., **Baek, E.C.**, Wasylyshyn, N., Roy, H., Lauharatanahirun, N., Johnson, T., Fernandez, R., O'Donnell, M.B., Falk, E.B., Metcalfe, J., & Vettel, J.M. (2019, March). Brain network communities between driver-passenger dyads capture successful communication while driving. Presented at the International IEEE EMBS Conference on Neural Engineering, San Francisco, CA.

Dore, B.P., Scholz, C., **Baek, E.C.**, & Falk, E.B. (2019, May). Information virality is reflected in a distributed neural representation of value. Presented at the annual meeting of the International Communication Association, Washington D.C. **\*\*Top Paper Award in Communication Science & Biology\*\***

Invited Talk (2018, November). Wharton Neuroscience Initiative Student Society (WINSS) Undergraduate Meeting.

\*Cascio, C.N., **\*Baek, E.C.**, O'Donnell, M.B., & Falk, E.B. (2018, May). Social influence: A functional connectivity approach to conformity. Presented at the annual meeting of the International Communication Association, Prague, Czech Republic.

Parelman, J.M., Dore, B.P., **Baek, E.C.**, Scholz, C., O'Donnell, M.B., & Falk, E.B. (2018, May). MVPA reveals decisions to consume or share news involve distributed processing in medial prefrontal cortex. Presented at the annual meeting of the Social and Affective Neuroscience Society, Brooklyn, NY.

\*Cascio, C.N., \***Baek, E.C.**, O'Donnell, M.B., & Falk, E.B. (2018, May). Social influence: A functional connectivity approach to conformity. Presented at the annual meeting of the Social and Affective Neuroscience Society, Brooklyn, NY.

Invited Talk (2018, February), 4<sup>th</sup> Annual SCAN Retreat, Center for Neuroscience and Society, University of Pennsylvania.

Invited Talk (2017, November), Guest Lunch Series, Center for Neuroscience and Society, University of Pennsylvania.

**Baek, E.C.**, Scholz, C., O'Donnell, M.B., & Falk, E.B. (2017, May). Negativity spreads socially: Negativity bias in opinion change is associated with activity in the brain's mentalizing system. Presented at the annual meeting of the International Communication Association, San Diego, CA.

Scholz, C., **Baek, E.C.**, O'Donnell, M.B., & Falk, E.B. (2017, May). A neural propagation system: Neurocognitive and preference synchrony in information sharers and their receivers. Presented at the annual meeting of the International Communication Association, San Diego, CA.

Dore, B.P., Scholz, C., **Baek, E.C.**, O'Donnell, M.B., & Falk, E.B. (2017, May). Neural prediction of population sharing behavior relates to domain familiarity. Presented at the annual meeting of the International Communication Association, San Diego, CA.

**Baek, E.C.**, Scholz, C., O'Donnell, M.B., & Falk, E.B. (2017, March). Negativity spreads socially: Negativity bias in opinion change is associated with activity in the brain's mentalizing system. Presented at the annual meeting of the Social and Affective Neuroscience Society, Los Angeles, CA.

Scholz, C., **Baek, E.C.**, O'Donnell, M.B., & Falk, E.B. (2017, March). A neural propagation system: Neurocognitive and preference synchrony in information sharers and their receivers. Presented at the annual meeting of the Social and Affective Neuroscience Society, Los Angeles, CA. **\*\*Top Poster Award\*\***

Dore, B.P., Scholz, C., **Baek, E.C.**, O'Donnell, M.B., & Falk, E.B. (2017, March). Neural prediction of population sharing behavior relates to domain familiarity. Presented at the annual meeting of the Social and Affective Neuroscience Society, Los Angeles, CA.

**\*Baek, E.C., \*Scholz, C., O'Donnell M.B., & Falk, E.B. (2016, June). Neural correlates of selecting and sharing information. Presented at the annual meeting of the International Communication Association, Fukuoka, Japan. \*\*Best Papers in Information Systems Award\*\***

**\*Scholz, C., \*Baek, E.C., O'Donnell, M.B., & Falk, E.B. (2016, June). The value of sharing: A neural model of self-related and social processing in value-based virality. Presented at the annual meeting of the International Communication Association, Fukuoka, Japan. \*\*Top Paper in Mass Communication Award\*\***

Scholz, C., **Baek, E.C.**, O'Donnell, M.B., & Falk, E.B. (2016, June). Sharing for the (social) self and others: An fMRI study of the neural mechanisms driving broad- and narrowcasting. Presented at the annual meeting of the International Communication Association, Fukuoka, Japan.

**\*Baek, E.C., \*Scholz, C., O'Donnell, M.B., & Falk, E.B. (2016, April). Neural correlates of selecting and sharing information. Presented at the annual meeting of the Social Affective Neuroscience Society, New York, NY.**

**\*Scholz, C., \*Baek, E.C., O'Donnell, M.B., Kim, H.S., Cappella, J.N., & Falk, E.B. (2016, April). Value-based virality: A neurocognitive model of news retransmission. Presented at the annual meeting of the Social Affective Neuroscience Society, New York, NY. \*\*Top Poster Award\*\***

**Baek, E.C., Cascio, C.N., O'Donnell, M.B., Bayer, J., Tinney Jr., F.J., & Falk, E.B. (2016, January). Personal distress & neural mechanisms of social influence. Presented at the Society for Personality and Social Psychology, San Diego, CA.**

## **TEACHING & MENTORSHIP EXPERIENCE**

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<b>Mentoring Research Assistants and Graduate Students</b>	2019 - Present
<b>Supervision of Research Assistants, Communication Neuroscience Lab</b>	2017-2019
<b>Teaching Fellow, The Communication Experience (COMM 310)</b>	Fall 2017
<b>Guest Lecturer, Introduction to Communication Behavior (COMM 125)</b>	Summer 2017
<b>Training for Teaching Assistants, Penn Center for Teaching &amp; Learning</b>	Summer 2017

## **SAMPLE MEDIA COVERAGE**

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Canadian Broadcasting Company – 12 interviews across radio stations in Canada (February 28, 2017). “Why do some news stories go viral and others don’t?”

Popular Science: <http://www.popsci.com/viral-article-brain-imaging?dom=rss-default&src=syn>

Psychological Science:

<http://www.psychologicalscience.org/publications/observer/obsonline/brain-activity-can-predict-which-articles-go-viral.html>

Vice: [https://tonic.vice.com/en\\_us/article/mris-say-were-all-needy-attention-seekers-on-facebook](https://tonic.vice.com/en_us/article/mris-say-were-all-needy-attention-seekers-on-facebook)

Mashable: <http://mashable.com/2017/02/27/why-stories-go-viral/#uyu4kTwSMOqW>

Philly Voice: <http://www.phillyvoice.com/will-story-go-viral-penn-researchers-use-mri-prove-you-subconsciously-know-answer/>

## **ACADEMIC SERVICE**

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Ad Hoc Reviewer, Social Cognitive and Affective Neuroscience

Ad Hoc Reviewer, NeuroImage

Ad Hoc Reviewer, International Communication Association

Communication Science and Biology Division

Information Systems Division

Health Communication Division

Committee Member, Professional Development and Wellness Committee 2015-2016

## **PROFESSIONAL AFFILIATIONS**

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International Communication Association (ICA)

Social and Affective Neuroscience Society (SANS)

Society for Personality and Social Psychology (SPSP)

Society for Social Neuroscience (S4SN)

Society for Affective Science (SAS)

## **ADDITIONAL TRAINING**

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Data Sciences in the Social and Behavioral Sciences Workshop (Virtual) 2020

NeuroHackademy (Virtual) 2020

Summer School in Social Neuroscience and Neuroeconomics, Duke University 2019

Kavli Summer Institute in Cognitive Neuroscience, UC Santa Barbara 2019

## **OUTREACH**

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Volunteer Research Consultant, Asian Mental Health Collective 2020-Present



Guest Speaker for AP Psychology Class, Schroeder High School 2020  
LA County Science & Engineering Fair, Special Awards Judge (virtual due to COVID-19) 2020  
Presenter, Brain Awareness Week, UCLA Project Synapse (cancelled due to COVID-19) 2020

## PROFESSIONAL EXPERIENCE

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**Account Manager, Digital Media Solutions**, Conshohocken, PA 2013-2014

- Cultivated relationships with influential individuals on social media to increase engagement in advertising campaigns by 100% in two months, resulting in an overall revenue increase of 150%
- Quantitatively analyzed social media engagement trends to assess success of ad campaigns

**Analyst (Client Consulting), The Nielsen Company**, Bensalem, PA 2012-2013

- Analyzed competitive landscape of drug products worth \$7.8 billion in global sales through statistical forecasting; led team meetings to facilitate discussion with project directors

**Marketing Intern, Promoting Group**, Los Angeles, CA 2011

- Generated targeted content to increase market presence; maintained interaction with clients

**Social Media Fellow, Institute of Cultural Inquiry**, Los Angeles, CA 2010, 2011

- Implemented optimal tools to coordinate 2-month global arts interactive project

## SKILLS

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**Programs:** R, Python, fMRIPrep, Matlab

**Language Skills:** Korean (fluent)