

**EMMA ARMSTRONG-CARTER**  
[emmaac@berkeley.edu](mailto:emmaac@berkeley.edu) | [Google Scholar](#)

## **ACADEMIC AND PROFESSIONAL APPOINTMENTS**

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**National Science Foundation Post-Doctoral Research Fellow**  
University of North Carolina at Chapel Hill (UNC)      October 2022 – September 2024  
with Dr. Eva Telzer

**Post-Doctoral Research Fellow**  
University of California, Berkeley      April 2022 – October 2022  
with Dr. Ronald E. Dahl

## **EDUCATION**

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**Ph.D., Stanford University**      2022  
Developmental and Psychological Sciences, Graduate School of Education  
Minor in Data Science  
Certificate in Research Practice Partnerships

**B.A., University of North Carolina at Chapel Hill (UNC)**      2016  
Psychology & Neuroscience; Geographic Information Science, cum laude

## **GRANTS**

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National Science Foundation SPRF Post-Doctoral Fellowship      2022-2024  
\$69,000 per year for two years

Institute of Education Science Fellowship      2018, 2019, 2020, 2021, 2022  
in Quantitative Education Policy Analysis  
\$45,000 per year for four years

Stanford Data Science Fellowship      2020, 2021, 2022  
50% Research Assistantship  
Stanford Tuition + \$4,000 Research Funds

Karr Grant      2021, 2022  
\$2,600 Research Funds for Interdisciplinary Research

## **HONORS & AWARDS**

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Honorable Mention, National Science Foundation Graduate Student Fellowship      2018, 2019  
Elected Member, Chapel Hill Parks and Recreation Commission      2017, 2018  
Buckley Public Service Scholar      2016  
Degree with Distinction, UNC      2016

**PUBLICATIONS**

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**Peer-Reviewed Publications (N = 38)**

**Armstrong-Carter, E.**, Panter, A., Hutson, B., Olson, A. (in press). A university-wide survey of caregiving students in the US: Individual differences and associations with emotional and academic adjustment. *Humanities and Social Sciences Communications*.

**Armstrong-Carter, E.**, Do, K., Duell, N., Kwon, S.J, Lindquist, K., Prinstein, M. J., Telzer, E.H., (in press). Adolescents' perceptions of social risk and prosocial tendencies: Developmental change and individual differences. *Social Development*.

Rathore, M.\*, **Armstrong-Carter, E.\***, Siyal, S., Yousafzai, A., Obradović, J., (in press). Investigating the association between the number of older siblings and preschooler's executive functions in rural Pakistan. *Journal of Family Psychology*. **\*contributed equally as first authors.**

**Armstrong-Carter, E.**, (in press). African American adolescents' support to the family: Links with education and individual differences by household income. *Social Development*.

**Armstrong-Carter, E.**, & Telzer., E.H., (in press). Biological sensitivity to environmental context fluctuates dynamically within individuals from day to day. *Nature Scientific Reports* 12, 11134. doi.org/10.1038/s41598-022-14481-7

Demange, P. A., Hottenga, J. J., Abdellaoui, A., Eilertsen, E. M., Malanchini, M., Domingue, B. W., ... **Armstrong-Carter E.**...Cheesman, R. (in press). Estimating effects of parents' cognitive and non-cognitive skills on offspring education using polygenic scores. *Nature Communications*. doi.org/10.1101/2020.09.15.296236

**Armstrong-Carter, E.**, Siskowski, C., Belkowitz, J., Johnson, C., Olson, E. Child and adolescent caregiving for family: Emotional, social, physical, and academic risk and individual differences. (2022). *Journal of Family Psychology*. doi.org/10.1037/fam0000969.

**Armstrong-Carter, E.**, & Telzer, E.H. Adolescents take more risks on days they experience high emotional distress or show high total cortisol output. (2022). *Comprehensive Psychoneuroendocrinology*. doi.org/10.1016/j.cpnec.2021.100106

**Armstrong-Carter, E.**, Bibby, E., Burrough, M, Flannery, J., Duell, N., Nelson, B., Prinstein, M. J., Telzer, E.H., Adolescents are more likely to help others on days they take risks and crave social connections. (2021) *Journal of Research on Adolescence*. doi.org/10.1111/jora.12705

**Armstrong-Carter, E.**, Do, K., Guassi-Moreira, J., Prinstein, M.J, Telzer, E.H. (2021) Examining a new prosocial risk-taking scale in a longitudinal sample of ethnically diverse adolescents. *Journal of Adolescence*. doi.org/10.1016/j.adolescence.2021.11.002

**Armstrong-Carter, E.**, & Telzer, E. H. (2021). Advancing measurement and research on youths' prosocial behavior in the digital age. *Child Development Perspectives*, 15(1), 31–36. doi.org/10.1111/cdep.12396

**Armstrong-Carter, E.**, Wertz, J., & Domingue, B. W. (2021). Genetics and child development: Recent advances and their implications for developmental research. *Child Development Perspectives*, 15(1), 57–64. doi.org/10.1111/cdep.12400

**Armstrong-Carter, E.**, Miller, J. G., Hill, L., & Domingue, B.W. (2021). Young children's prosocial behavior protects against academic risk in neighborhoods with low socioeconomic status. *Child Development*. doi.org/10.1111/cdev.13549

Gray, K., MacCormack, J. K., Henry, T. Banks, E., Schein, C., Abrams, S. **Armstrong-Carter, E.**, & Muscatell, K. A. The affective harm account of moral judgment: Reconciling cognition and affect, dyadic morality and disgust, harm and purity (2021). *Journal of Personality and Social Psychology*. doi.org/10.1037/pspa0000310

Obradović, J., Sulik, M. J., & **Armstrong-Carter, E.** (2021) Taking a few deep breaths significantly reduces children's physiological arousal in everyday settings: Results of a preregistered video intervention. *Developmental Psychobiology*. doi.org/10.1002/dev.22214

**Armstrong-Carter, E.**, Nelson, B. W., & Telzer, E. H. (2021). Prior night sleep moderates the daily spillover between conflict with peers and family and diurnal cortisol. *Developmental Psychobiology*, 63(8), e22209. doi.org/10.1002/dev.22209

**Armstrong-Carter, E.**, Miller, J. Obradović, J. (2021) Parent–child physiological synchrony: Concurrent and lagged effects during dyadic laboratory interaction. *Developmental Psychobiology*, 63(7)1-25. doi.org/10.1002/dev.22196

**Armstrong-Carter, E.**, Telzer, E. H. (2021). Family assistance predicts adolescents' positive academic behaviors and prosocial behavior to peers the next day. *Journal of Research on Adolescence*. doi.org/10.1111/jora.12629

**Armstrong-Carter, E.**, & Telzer., E.H., (2021). Understanding prosocial development in the context of systemic inequalities in the US and worldwide. *Current Research in Behavioral Sciences*. doi.org/10.1016/j.crbeha.2021.100040

**Armstrong-Carter, E.**, Siskowski, C., Belkowitz, J., Johnson, C., Olson, E., (2021). The United States should recognize and support caregiving youth. 34(2) 1-25. *Society for Research in Child Development Social Policy Report*. doi: 10.1002/sop2.14.

**Armstrong-Carter, E.**, Sulik, M. J., Siyal, S., Yousafzai, A., & Obradović, J. (2021). Early and concurrent home stimulation: Unique and indirect links with fine motor skills among four-year-old children in rural Pakistan. *Developmental Psychology*. doi.org/10.1037/dev0001185

MacCormack, J., **Armstrong-Carter, E.**, Gaudier-Diaz, M., Meltzer-Brody, S., Lindquist, K., Muscatell, K., (2021) Beta-adrenergic contributions to emotion and physiology during an acute psychosocial stressor. *Psychosomatic Medicine*. doi: 10.1097/PSY.0000000000001009

Caruso, T., **Armstrong-Carter, E.**, Rama, A., Neiman, N., Taylor, K., Madill M., Lawrence K., Hemphill, S., Domingue, B. (2021). The Physiologic and Emotional Effects of 360-Degree Video Simulation on Head-Mounted Display vs In-Person Simulation: A Non-Inferiority, Randomized Controlled Trial. *Simulation in Healthcare*. doi: 10.1097/SIH.0000000000000587

MacCormack, J. K., **Armstrong-Carter, E.**, Humphreys, K. L., & Muscatell, K. A. (2021). Neurophysiological contributors to advantageous risk-taking: An experimental psychopharmacological investigation. *Social Cognitive and Affective Neuroscience*. doi: 10.1093/scan/nsab047

**Armstrong-Carter, E.**, & Telzer, E. H. (2021). Daily provision of instrumental and emotional support to friends is associated with diurnal cortisol during adolescence. *Developmental Psychobiology*, doi: 10.1002/dev.22101.

**Armstrong-Carter, E.**, & Telzer, E. H. (2021). Bidirectional spillover across days between family assistance and physical health experiences during adolescence. *Journal of Family Psychology*. doi.org/10.1037/fam0000836

MacCormack, J. K., Gaudier-Diaz, M. M., **Armstrong-Carter, E.**, Arevalo, J. M. G., Meltzer-Brody, S., Sloan, E. K., Cole, S. W., & Muscatell, K. A. (2021). Beta-adrenergic blockade blunts inflammatory and antiviral/antibody gene expression responses to acute psychosocial stress. *Neuropsychopharmacology*, 46(4), 756–762. doi.org/10.1038/s41386-020-00897-0

**Armstrong-Carter, E.**, Sulik, M. J., & Obradović, J. (2020). Self-regulated behavior and parent-child co-regulation are associated with young children’s physiological response to receiving critical adult feedback. *Social Development* (00) 1–18, doi.org/10.1111/sode.12498

**Armstrong-Carter, E.**, & Telzer, E. H. (2020). Family meals buffer the daily emotional risk associated with family conflict. *Developmental Psychology*, 56(11), 2110–2120. doi.org/10.1037/dev0001111

**Armstrong-Carter, E.**, Guassi Moreira, J. F., Ivory, S. L., & Telzer, E. H. (2020). Daily links between helping behaviors and emotional well-being during late adolescence. *Journal of Research on Adolescence*. doi.org/10.1111/jora.12572

Obradović, J., & **Armstrong-Carter, E.** (2020). Addressing educational inequalities and promoting learning through studies of stress physiology in elementary school students. *Development and Psychopathology*, 32, 1899–1913. doi.org/10.1017/S0954579420001443

Domingue, B., Trejo, S., **Armstrong-Carter, E.**, & Tucker-Drob, E. (2020). Interactions between polygenic scores and environments: Methodological and conceptual challenges. *Sociological Science*, 7, 365–386. doi.org/10.15195/v7.a19

Caruso, T. J., Qian, J., Lawrence, K., **Armstrong-Carter, E.**, & Domingue, B. W. (2020). From Socrates to virtual reality: A historical review of learning theories and their influence on the training of anesthesiologists. *The Journal of Education in Perioperative Medicine*, 22(2), E638. doi.org/10.46374/volxxii-issue2-Caruso

**Armstrong-Carter, E.**, Finch, J. E., Siyal, S., Yousafzai, A. K., & Obradović, J. (2020). Biological sensitivity to context in Pakistani preschoolers: Hair cortisol and family wealth are interactively associated with girls' cognitive skills. *Developmental Psychobiology*. doi.org/10.1002/dev.21981

**Armstrong-Carter, E.**, Trejo, S., Hill, L. J. B., Crossley, K. L., Mason, D., & Domingue, B. W. (2020). The earliest origins of genetic nurture: The prenatal environment mediates the association between maternal genetics and child development. *Psychological Science*, 31(7), 781–791. doi.org/10.1177/0956797620917209

**Armstrong-Carter, E.**, Ivory, S., Lin, L. C., Muscatell, K. A., & Telzer, E. H. (2020). Role fulfillment mediates the association between daily family assistance and cortisol awakening response in adolescents. *Child Development*, 91(3). doi.org/10.1111/cdev.13213

**Armstrong-Carter, E.**, Olson, E., & Telzer, E. (2019). A unifying approach for investigating and understanding youth's help and care for the family. *Child Development Perspectives*, 13(3), 186–192. doi.org/10.1111/cdep.12336

Cohen, M., Buzinski, S. G., **Armstrong-Carter, E.**, Clark, J., Buck, B., & Reuman, L. (2019). Think, pair, freeze: The association between social anxiety and student discomfort in the active learning environment. *Scholarship of Teaching and Learning in Psychology*, 5(4), 265–277. doi.org/10.1037/stl0000147

#### **In Revision (N = 5)**

**Armstrong-Carter, E.**, Osborn, S., Smith, O., Siskowski, C., Olson, E.A. Middle and high school students who take care of siblings, parents and grandparents: Associations with school engagement, belonging, and wellbeing. *AERA Open*.

**Armstrong-Carter, E.**, Garrett, S., Nick, E., Prinstein, M.J., Telzer, E.H., Momentary links between adolescents' social media use and social experiences and motivations: Individual differences by peer susceptibility. *Developmental Psychology*.

**Armstrong-Carter, E.**, Fuligni, A., Wu, X., Gonzales, N., & Telzer, E.H., A 28-day, two-year study reveals that adolescents are more fatigued and distressed on days with greater NO<sub>2</sub> and CO air pollution. *Nature Scientific Reports*.

**Armstrong-Carter, E.**, Bush, N., Boyce, T.W, Obradović, J., Cortisol reactivity marks biological sensitivity to kindergartners' social hierarchies for emerging school engagement. *Developmental Psychobiology*.

Miller, J. **Armstrong-Carter, E.**, Balter, L., Lorah, J. A Meta-Analysis of Mother-Child Synchrony in Respiratory Sinus Arrhythmia. *Developmental Psychobiology*.

#### **Under review**

Garrett, S.\*, **Armstrong-Carter, E.**, Prinstein., M.J., Telzer., E.H., (under review) Momentary Links Between Adolescents' Digital Media Use and Social Connectedness: Differences by Gender and In-Person Social Interactions. *\*author is a graduate mentee and Emma mentored him on this paper.*

### **Pre-Registered Reports**

Obradović, J., Sulik, M. J., & **Armstrong-Carter, E.** (2020). Field testing brief video-based learning interventions in children. [doi.org/10.17605/OSF.IO/YWQ96](https://doi.org/10.17605/OSF.IO/YWQ96).

### **MEDIA COVERAGE**

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CNBC (2022, February 11). Why manners matter: Top tips for raising kind kids. [Link](#).

Forbes (2021, February 6). If you teach children to be kind you get better results in class. [Link](#).

7th Space (2021, February 6). Helping behavior may mitigate academic risk for children from low-income neighborhoods. [Link](#).

Scienmag (2021, February 6). Helping behavior may mitigate academic risk for children from low-income neighborhoods. [Link](#).

Science News Net (2021, February 6). Helping behavior may mitigate academic risk for children from low-income neighborhoods. [Link](#).

Newstral (2021, February 6). If You Teach Children to Be Kind You Get Better Results in Class. [Link](#).

EurekAlert (2021, February 6). Helping behavior may mitigate academic risk for children from low-income neighborhoods. [Link](#).

Phys.org (2021, February 6). Helping behavior may mitigate academic risk for children from low-income neighborhoods. [Link](#).

Science Codex (2021, February 6). Helping behavior may mitigate academic risk for children from low-income neighborhoods. [Link](#).

Stanford Graduate School of Education News (2021, November 29). How to calm a stressed kid? A one-minute video can help, according to Stanford researchers. [Link](#)

### **TEACHING EXPERIENCE**

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Instructor of Record  
University of California, Berkeley  
Early Applied Child Development

Summer, 2022

Instructor of Record  
Stanford University  
Developmental and Psychological Sciences Seminar

Fall, Spring, Winter, 2020-2021

Invited Guest Lecturer 2017  
UNC Chapel Hill  
Attribution Theory. Introduction to Social Psychology Course  
Group Processes. Introduction to Social Psychology Course.

## MENTORSHIP

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### Primary Mentor/Supervisor

**Masters Students, Stanford University** 2019-2022  
Mansoor Rathore, Risa Ninomiya, Jingyue Zhang.

**Undergraduate Students, Stanford University** 2018-2021  
Madison Ambroise, Leah Balter, Shelby Whinery, Nicole Johnson, Alexa Thompson, Michelle Zheng, Isabel Wang, Isabelle Lee, Cynthia Samano, Riley Jackson, Lisa Wang, Elie Kupperman

**High School Students working with Stanford University** 2018-2021  
Rachel Kim, Saaili Budhiraja, Madhu Ayyer, Fei Yang, Joyce Lin, Jacqueline Woo.

**Undergraduate Students, UNC** 2016-2018  
Emmie Banks, Krista Cannady, Arnav Singla, Alex Haag, Graham Booth, Lillian Dillard, Hasan Mustafic, William Ohley, Allen Tirado, Allie Day, Samantha Brosso, Manuela Sinisterra, Taylor Fricano

## CONFERENCE TALKS

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Rathore, M.\*, Armstrong-Carter, E., Siyal, S., Yousafzai, A., Obradović, J., Investigating the Association between the Number of Older Siblings and Preschooler's Executive Functions in Rural Pakistan. (April 2021). Society for Research on Child Development Conference, Virtual. \*Masters student mentee

Armstrong-Carter, E., Miller, J., Hill, L., D., Domingue, B., Does the Process of Changing Neighborhoods Predict Young Children's Academic Performance, Over and Above Neighborhood Quality? (April 2021). Society for Research on Child Development Conference, Virtual.

Armstrong-Carter, E., Miller, J., Hill, L., D., Domingue, B., Young Children's Prosocial Behavior Protects Against Academic Risk in Neighborhoods with Low Socio-Economic Status. (April 2021). Society for Research on Child Development Conference, Virtual.

Armstrong-Carter, E., Sulik, M., Siyal, S., Yousafzai, A., Obradović, J., Early and Concurrent Home Stimulation: Unique and Indirect Links with Preschooler's Motor Skills in Rural Pakistan. (April 2021). American for Educational Research Association, Virtual.

Armstrong-Carter, E., Miller, J., Hill, L., D., Domingue, B., Young Children's Prosocial Behavior Protects Against Academic Risk in Neighborhoods with Low Socio-Economic Status. (April 2021). American for Educational Research Association, Virtual.

Armstrong-Carter, E., Olson, E., Siskowski, C., Belkowitz, J., Johnson, C., Caregiving Youth: Findings of Prevalence and Demographics from a Florida State-Wide School-Based Survey. (2020). American Association for Caregiving Youth. Boca Raton, FL.

Armstrong-Carter, E., Sulik, M., Obradović, J., Parent-child Co-regulation and Young Children's Physiological Response to Frustration. (2020). American for Educational Research Association, San Francisco, CA. (Conference canceled).

Armstrong-Carter, E., Sulik, M., Obradović, J., Parent-child Co-regulation and Young Children's Physiological Response. (2019). Society for Psychophysiological Research, Washington DC.

Armstrong-Carter, E., Trejo, S., Hill, L., Crossley, K., Mason, D., Domingue, B. Maternal Genetics, Prenatal Environment, and Early Child Development. (2019). Integrating Genetics and the Social Sciences Conference, Boulder, CO.

Armstrong-Carter, E., Finch, J., Siyal, S., Yousafzai, A., Obradović, J., Biological Sensitivity to Context in Pakistani Preschoolers: Interactive Effects of Hair Cortisol and Family Wealth on Cognition. (2019). Society for Research on Child Development Conference, Baltimore, MD.

Armstrong-Carter, E., Olson, E., Buzinski, S. "Juggling Multiple Responsibilities: First Generation College Students Providing Family Care". (2018). National Association of School Administrators. Closing the Achievement Gap: Student Success in Higher Education Conference, Columbus, OH.

Armstrong-Carter, E., MacCormack, J., Humphreys K., Meltzer-Brody, S., Lindquist, K., & Muscatell K. "Beta-Adrenergic Blockade Impairs Performance on Emotional Learning Task". (2018, March). American Psychosomatic Society Conference. Louisville, KY.

Armstrong-Carter, E., Olson, E. "Care, Embodiment and Materiality: Geographical Possibilities for Research on Youth Caregiving in the US." (2015). Feminist Geography Conference, Omaha, NB.

## **OTHER INVITED TALKS (SELECTED)**

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Armstrong-Carter, E., "Caregiving youth in the US: Transdisciplinary research to support this "hidden" population" (2022, March). Duke University.

Armstrong-Carter, E., "Caregiving youth in the US: Transdisciplinary research to support this "hidden" population" (2022, February). University of California at Berkeley, Institute for Human Development.

Armstrong-Carter, E., "Supporting caregiving youth's wellbeing and positive development in the US" (2022, January). Wake Forest University, Department of Psychology.



Armstrong-Carter, E., “The United States should recognize and support caregiving youth”. (2022, January). Duke University.

Armstrong-Carter, E., Miller, J., Hill, L., D., Domingue, B., “Young Children’s Prosocial Behavior Protects Against Academic Risk in Neighborhoods with Low Socio-Economic Status”. (2021). University of Leeds, Department of Psychology, United Kingdom.

Armstrong-Carter, E., Trejo, S., Domingue, B., “Maternal Genetics, Prenatal Environment, and Early Child Development.” (2019). Duke University, Moffitt & Caspi Research Lab.

Armstrong-Carter, E., “Why I Study Children’s Stress Physiology.” (2019). Sunnyvale Public Schools.

Armstrong-Carter, E., K.A. Muscatell, L. Lin, S. Ivory and Telzer, E.H. “Adolescents' Family Assistance and Diurnal Cortisol.” (2017). Duke University.

## **SERVICE**

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### **Student Body Representative**

Developmental and Psychological Sciences Ph.D. Program, Stanford 2020-2021

### **Reviewer**

2018-2021

*Child Development, Psychological Science, Development and Psychopathology, Journal of Immigrant and Minority Health*

### **President**

Stanford Episcopal Lutheran Campus Ministry 2019-2021

### **Certified Tutor**

Huntington Learning Center 2016-2018

Chapel Hill-Carrboro Public Schools, UNC College of Arts and Sciences 2015-2016

**Teacher**, Bungamati Public School System, Nepal 2011

**Medical Assistant**, Devidoss Hospital, Madurai, India 2011