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# The New Jersey Families Study

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*How do families build skills in their young, pre-school children and help them get ready to learn?*

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## Overview

Families are small schools, and parents are children's first teachers. Every child in America is being home schooled in the sense that children's expectations, aspirations, and early abilities are shaped at home. Their behaviors, learned skills, and knowledge are forged in the crucible of parent-child interactions. Yet we know little about the nature, frequency, or quality of these interactions.

In the New Jersey Families Study, we ask: *How do families support their children's early learning?* Our study features a highly innovative "video ethnography." We use direct observations of parent-child interactions to deepen our understanding of the contextualized strategies that families from a wide variety of backgrounds and in different social and economic circumstances use to build skills in their young children. Video cameras placed strategically in participants' homes and activated continuously throughout the day and evening for two weeks constitute the primary means of data collection.

Interactions that hold particular interest are those that are believed to be linked to cognitive and social-emotional development—the amount of reading and talking parents do with children, children's sleep routines, their diets and nutrition, their exposure to electronic screen time, structure and routines at home, and the way that stress outside the home affects parenting practices. Taking a holistic approach to parent-child interactions and filming families in their natural habitats over an extended period will not only help more children to become school-ready. This unique study will also lead to a better appreciation of the daily struggles facing many families and thereby help schools become more "children-ready."

## Where We Are Today

Supported by continuation funding from the Data Driven Social Science Initiative and by private sources, work is continuing to prepare the NJFS data for analysis. All of the video clips have been transferred into Citadel – the University's Secure Research Infrastructure – where they can be viewed but not downloaded. In a pilot project, researchers are accessing NJFS data remotely via Citadel. We are creating metadata that permit users to query a searchable database and identify clips that match particular criteria around household characteristics, room views, day and time periods, participants in the videos, and activities and behaviors. In an exciting interdisciplinary development, we are sharing NJFS video data with two computer vision courses in Princeton's Computer Science department.

## New Members of the NJFS Team



*Servers locked in a cage as part of the Secure Research Infrastructure at Princeton University.*

*Photo: Michael Monaghan, Office of Information Technology, Princeton University*

**Citadel** ([citadel.princeton.edu](https://citadel.princeton.edu)) is Princeton's new secure and compliant research data infrastructure environment introduced this year by Princeton Research Computing, a consortium spearheaded by the Princeton Institute for Computational Science and Engineering and OIT Research Computing. Citadel enables researchers from anywhere in the world to handle sensitive data while taking strict measures to prevent unauthorized access. Currently, six projects at Princeton are using the Citadel environment, including the NJFS.

In the past, researchers tasked with hosting restricted data would often implement a one-off solution. For example, members of the NJFS team wishing to use the footage would have to physically visit the Data Manager's office to view it on a standalone computer.

Migrating to Citadel solved that problem by allowing secure remote access. Connections to Citadel, whose servers are locked in a cage at Princeton's High-Performance Computing Research Center, are tightly controlled. Authorized researchers can access their datasets via their desktop or laptop computers, but the files are not downloaded to these devices. Instead, they are accessed and manipulated inside virtual machines that are kept isolated.

Source: <https://researchcomputing.princeton.edu/news/2021/princetons-new-research-data-environment-offers-security-collaboration>

**Matthew Berger** is an assistant professor of Computer Science at Vanderbilt University. His research is focused in the design of visualization interfaces for interpreting and explaining machine learning models. He is also interested in the development of surrogate learning-based models for interactively exploring massive scientific datasets. As part of the NJFS, Matthew is working with Joanne Golann at Vanderbilt on creating machine learning and visualization tools for automatically annotating video data, in order to enable semantic search and exploration for end users.



**Jhansi Bhavsar** served as a research assistant on the New Jersey Families Study in the summer of 2021 and worked on the availability and use of toys, books, and other educational materials for toddlers in the home. She was particularly interested in how her findings varied based on the race, ethnicity, and social class of families. For her final project, Jhansi prepared a review of the available literature. She plans to use this research to further her interests on the negative effects of socio-economic and racial inequality. Jhansi is a junior at the Dalton School in New York City. She is also an internationally ranked squash player, currently ranked on the U.S. junior circuit as #2 in the country.

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## Contact Information

For more information about the project or to make a contribution, please contact:

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