Shuqi Yu

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EDUCATION

Ph.D. **Human Development and Family Science**   Expected:
Spring 2025

Virginia Tech, Blacksburg, VA
Advisor: Dr. Koeun Choi

M.S. **Human Development and Family Science**   May 2021
Virginia Tech, Blacksburg, VA
Advisor: Dr. Carolyn Shivers
Thesis: *Sibling warmth, coping, and distress among emerging-adult siblings of individuals with and without autism*

B.S. **Psychology**   May 2019
Beijing Normal University
Advisor: Dr. Zhuo Han
Thesis: *The role of parent physiological regulation in the links between parenting stress and child autistic core symptoms*

RESEARCH INTERESTS

My research interests focus on examining risk and resilience factors in diverse families, including children from underrepresented sociocultural backgrounds (e.g., racial minority families, lower-income families) and families of children with and without autism, spanning developmental stages from early childhood to young adulthood. Drawing on the family systems theory, I am dedicated to optimizing child outcomes and family functioning by targeting the psychological health outcomes of different parties within the family system (e.g., child, their caregivers, and their siblings), the dynamic processes among the parties (e.g., parent-child interactions), and the roles of contextual factors (e.g., racial minority status, community stressors).

In addition, grounded in the sociocultural perspective, I am also deeply interested in exploring how emerging technologies can be used to promote young children's learning and motivation, and in evaluating the effectiveness of educational programs in children's multidimensional development with a consideration of families' socioeconomic disparities. I use both quantitative and qualitative methodologies across longitudinal and cross-sectional research designs to achieve my research aims.

GRANTS

Graduate Research Grant from Organization for Autism Research (OAR)   07/2023-12/2024
Award Amount: $1,343
Title: How ethnicity and neurodiversity affect caregivers' ideal affect: an exploratory study comparing Asian and European American parents of children with and without autism.

AWARDS AND ACADEMIC HONORS

Virginia Tech Graduate School Conference Travel Fund   2024
Award Amount: $300
Title: Feeling guilty around child's screen use: the associations among parental awareness, agreeableness, and adherence related to media guidelines, child screen

use, and maternal media guilt.

Virginia Tech Graduate School Conference Travel Fund   2023
Award Amount: $500
Title: Robot musical theater for preschoolers' STEAM education: Effects on interest, self-efficacy, and curiosity in technology.

SRCD Graduate Student Travel Award   2023
Award Amount: $300
Title: Robot musical theater for preschoolers' STEAM education: Effects on interest, self-efficacy, and curiosity in technology.

Serving Spirit Graduate Fellowship   2024
Award Amount: $2,792.87
Selected by HDFS, Virginia Tech

Serving Spirit Graduate Fellowship   2022
Selected by HDFS, Virginia Tech

Serving Spirit Graduate Fellowship   2020
Selected by HDFS, Virginia Tech

PUBLICATIONS IN JOURNALS

1. Dong, J., **Yu, S.**, Choi, K., & Jeon, M. (in press). A child-robot theater afterschool program that facilitates children's conceptualization of robots' mental capacities and enhances children's learning experiences. *Frontiers in Robotics and AI.*
2. Shivers, C., **Yu, S.**, & Textoris, S. (2024). Physiological stress responses to mental illness narratives. *Psychology of Popular Media*, *13*(3), 534-538. https://doi.org/10.1037/ppm0000484
3. Dong, J., Choi, K., **Yu, S.**, Lee, Y., Kim, J., Vajir, D., Haines, C., Newbill, P., Wyatt, A., Upthegrove, T., & Jeon, M. (2023). A child-robot musical theater afterschool program for promoting STEAM education: a case study and guidelines. *International Journal of Human–Computer Interaction*, 1-17. https://doi.org/10.1080/10447318.2023.2189814
4. Chen, T., Becker, B., Camilleri, J., Wang, L., **Yu, S.**, Eickhoff, S. B., & Feng, C. (2018). A domain-general brain network underlying emotional and cognitive interference processing: evidence from coordinate-based and functional connectivity meta-analyses. *Brain Structure and Function*, *223*(8), 3813-3840. https://doi.org/10.1007/s00429-018-1727-9

PUBLICATIONS IN PROCEEDINGS

1. Mitchell, J. J., Dong, J., **Yu, S.**, Harmon, M., Holstein, A., Shim, J. H., Choi, K., Zhu, Q., & Jeon, M. (2024). Bridging the gap: Early education on robot and AI ethics through the robot theater platform in an informal learning environment. In *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction (HRI2024)*, Boulder, CO, March 11-15. IEEE.
2. Dong, J., Mitchell, J. J., **Yu, S.**, Harmon, M., Holstein, A., Shim, J. H., Choi, K., Zhu, Q., & Jeon, M. (2024). Promoting STEAM education and AI/robot ethics in a child- robot theater afterschool program. In *Proceedings of the ACM/IEEE International Conference on Human-Robot Interaction (HRI2024)*, Boulder, CO, March 11-15. IEEE.
3. Lee, Y., Wyatt, A., Dong, J., Upthegrove, T., Hale, B., Lyles, C. H., Choi, K., Kim, J., **Yu, S.**, Vajir, D. & Newbill, P. (2022). Robot Musical Theater for Climate Change Education. In *Proceedings of the 2022 ACM/IEEE International Conference on Human-Robot Interaction* (pp. 870-874).

MANUSCRIPTS UNDER REVIEW/REVISION

1. **Yu, S.**, Choi, K., Kim, J., Dong, J., Lee, Y., Haines, C., Newbill, P., Wyatt, A., Upthegrove, T., & Jeon, M. (under review). Child-robot musical theater for early childhood STEAM education: a case study in classrooms.
2. Hornburg, C., Lee, J., Closser, A., Bye, J., Egorova, A., Reinhardt, M., **Yu, S.**, Zhang, P., Valdivia, I., & Ottmar, E. R. (under review) Examining the effects of congruent spacing and color perceptual cues on middle school students' mathematical fluency with order of operations.

MANUSCRIPTS IN PREPARATION

1. **Yu, S.**, & Shivers, C. (in preparation). Sibling relationship, coping, and distress among emerging-adult siblings of individuals with and without autism.
2. Shivers, C., & **Yu, S.** (in preparation). Behavioral outcomes of siblings of individuals with autism: a replicated study using Simon Simplex Collection (SSC) Dataset.
3. Beers, C., **Yu, S.**, Özcan, M. S., Choi., K. (in preparation). Understanding media guilt among mothers of young children: roles of parental self-assessment.
4. Wang, M., Fok, M., **Yu, S.**, Kim, J., Izaac, V., Hornburg, C., Scarpa, A., Jeon, M., & Kim, S. (in preparation) Exploring neurodiverse collaboration between autistic and non-autistic adults in an online setting: A pilot study.
5. Choi, K., Kim, J., **Yu, S.**, Shin, E., & Smith, C. (in preparation) The role of media interactivity in associations among maternal media beliefs, parenting stress, and toddlers' screen use.
6. Closser, A., Lee, J., Bye, J., Egorova, A., Zhang, P., Reinhardt, M., **Yu, S.**, Hornburg, C., & Ottmar, E. R. (in preparation). The unique and combined effects of perceptual cues on middle schoolers' mathematical performance, learning, and retention.
7. Ottmar, E. R., Closser, A., Hornburg, C., Lee, J., Bye, J., Egorova, A., Reinhardt, M., **Yu, S.**, Zhang, P., & Lee, J. (in preparation). Data from the "The unique and combined effects of perceptual cues on middle schoolers' mathematical performance, learning, and retention" Study.

CONFERENCE PRESENTATIONS

Paper/Spoken Presentations:

1. Hornburg, C. B., Zhang, P., Closser, A. H., Bye, J. K., Lee, J.-E., Egorova, A., Colbert, M. A., **Yu, S.**, & Ottmar, E. (2025, June). Understanding the effects of perceptual cues on middle schoolers' mathematical performance, learning, and retention. In A. H. Closser (Chair), *Leveraging cognitive principles in low-cost interventions to improve mathematics problem solving and learning*. Paper to be presented at the 8th Annual Meeting of the Mathematical Cognition and Learning Society (MCLS), Hong Kong, China.
2. **Yu, S.**, Choi, K., Kim, J., Dong, J., Lee, Y., Haines, C., Newbill, P., Upthegrove, T., Wyatt, A., & Jeon, M. (2023, March 23-25). *Robot musical theater for preschoolers' STEAM education: Effects on interest, self-efficacy, and curiosity in technology* [Paper presentation]. The biennial meeting of the Society for Research in Child Development, Salt Lake City, UT. United States.
3. Choi, K., **Yu, S.**, Kim, J., Dong, J., Lee, Y., Haines, C., Newbill, P., Upthegrove, T., Wyatt, A., & Jeon, M. (2023, April 13-16). *Interactive stories through robot musical theater for preschoolers' STEAM education* [Paper presentation]. The annual meeting of the American Educational Research Association, Chicago, IL. United States.

Poster Presentations:

1. **Yu, S.,** Choi, K., & Shivers, C. (2025, April 30-May 3). *Parenting stress, social support, and affiliate stigma among asian and white parents of children with autism in the United States* [Poster presentation]. The International Society for Autism Research, Seattle, WA. United States.
2. **Yu, S.**, & Shivers, C. (2024, August 5-8). *Sibling intimacy and warmth among siblings of*

individuals with autism, mental illness, and other comorbidities [Poster presentation]. The International Association for the Scientific Study of Intellectual and Developmental Disabilities, Chicago, IL. United States.

3. **Yu, S.**, Beers, C., & Choi, K. (2024, March 21-23). *Feeling guilty around child's screen use: the associations among parental awareness, agreeableness, and adherence related to media guidelines, child screen use, and maternal media guilt* [Poster presentation]. The biennial meeting of the Cognitive Development Society, Pasadena, CA. United States.

4. **Yu, S.**, Shivers, C. (2023, April 10-13). *Sibling relationships and distress in emerging adult siblings of individuals with and without autism: an exploration of coping* [Poster presentation]. The 55th Gatlinburg Conference on Research and Theory in Developmental Disabilities, Kansas City, MO. United States.

5. Gurdal, M., Choi, K., Shin, E., Kim, J., **Yu, S.**, & Smith, C. (2023, March 23-25). *Associations of maternal emotion regulation and mothers' and toddlers' screen use* [Poster presentation]. The biennial meeting of the Society for Research in Child Development, Salt Lake City, UT. United States.

6. **Yu, S.**, Dong, J., Kim, J., Lee, Y., Vajir, D., Lyles, C. H., Newbill, P., Upthegrove, T., Wyatt, A., Jeon, M., & Choi, K. (2022, April 22-23). *Sing, act, and dance with robots: A child-robot musical theater afterschool program for STEAM education* [Poster presentation]. The biennial meeting of the Cognitive Development Society, Madison, WI. United States.

7. **Yu, S.**, & Shivers, C. (2021, April). *Behavioral outcomes of siblings of individuals with autism: A replicated study using Simon Simplex Collection (SSC) Dataset* [Poster presentation]. The 54th Gatlinburg Conference on Research and Theory in Developmental Disabilities.

RESEARCH EXPERIENCE

Autism Projects:

1. **Parenting and Autism**, Virginia Tech, Blacksburg, VA, 2023-present
   Supervisor: Dr. Koeun Choi, Human Development and Family Science
   - Designed and conducted the dissertation project to study parenting stress, social support networks, and cultural contexts among Asian and White parents of children with autism in the United States.
   - Wrote a research proposal and awarded the Graduate Research Grant from the Organization for Autism Research (OAR) to support the dissertation project.

2. **Supporting Autistic Adults for Employment**, Virginia Tech, Blacksburg, VA, 2022, 2024-present
   Extramural Grant: National Institutes of Health (NIH)
   Supervisor: Dr. Caroline Hornburg, Human Development and Family Science
   - Assisted with the design of the pilot study to test an AI-powered teamwork for employment using adaptive methods system to support collaboration among neurodiverse young adults at work.
   - Assisted with manuscript writing.

3. **College Sibling Project**, Virginia Tech, Blacksburg, VA, 2020-2022
   Supervisor: Dr. Carolyn Shivers, Human Development and Family Science
   - Designed an online survey to examine the association between college students' psychological distress and sibling relationship quality, with a particular consideration of the dyads' disability status.
   - Collected data and received completion from over 350 participants.
   - Led data analysis using quantitative analytical skills, including mediation and moderation analyses.
   - Wrote master's thesis and a manuscript using the data pool as the first author.

4. **Sibling Biofeedback Project,** Virginia Tech, Blacksburg, VA, 2020-2021
   Supervisor: Dr. Carolyn Shivers, Human Development and Family Science
   - Helped design a study to test siblings' physiological responses to mental illness narratives.

- Helped the recruitment of siblings of individuals with mental illnesses.
- Conducted the study and collected survey and physiological data such as skin conductance response (SCR) and heart rate (HR).
- Led data analysis using quantitative analytical skills.
- Published findings of the project as the second author.

5. **Parent-Child Interactions among Families of Children with Autism,** Beijing Normal University, Beijing, China, 2016-2019
   Supervisor: Zhuo Han, Department of Psychology
   - Collected and organized the behavioral and physiological data from more than 30 families of children with ASD.
   - Participated as lead member in cortisol collection with saliva samples, as well as physiological and neurophysiological data acquisition using BioPac MP150, AcqKnowledge and TechEn CW6.
   - Conducted physiological data preprocessing (e.g. edited ECG artifacts and calculated HR/RSA values with Mindware HRV software, as well as calculated EDA/RSP values with AcqKnowledge).

Learning and Technology Projects:

1. **Supporting Playful Parent-Child Joint Reading Experiences through AI Digital Technology**, Virginia Tech, Blacksburg, VA, 2024-present
   Extramural Grant: Caplan Foundation for Early Childhood
   Supervisors: Dr. Koeun Choi and Dr. Caroline Hornburg, Human Development and Family Science
   - Tested the online program of e-book reading with voice agents.
   - Assisted with the design of the experiment protocol.
   - Trained six undergraduates to be reliable experimenters.
2. **Examining the Effects of Perceptual Cues on Middle School Students' Online Mathematical Reasoning and Learning**, Virginia Tech, Blacksburg, VA, 2024-present
   Extramural Grant: National Science Foundation (NSF) EHR Core
   Supervisor: Dr. Caroline Hornburg, Human Development and Family Science
   - Conducted data cleaning and data analyses using R.
   - Assisted with manuscript writing.
3. **Child Robot Musical Theater Program**, Virginia Tech, Blacksburg, VA, 2021-2023
   Supervisor: Dr. Koeun Choi, Human Development and Family Science
   - Designed educational programs in pedagogical settings to connect child-friendly robots (humanoid and animal robots) and familiar arts formats (acting, dancing, music and sound, drawing) to engage young learners.
   - Collaborated with an interdisciplinary research team involving faculty members and students from engineering, education, and performing arts.
   - Tailored the child-robot musical theater program for children in elementary school and child care centers to make it developmentally appropriate.
   - Performed and led five iterations of the program, with each took one semester.
   - Collected and analyzed quantitative and qualitative research data, including child and teacher interviews, parent surveys, child activity audios and videos, child curiosity tests.
   - Supervised undergraduate researchers throughout data collection, data management and analyses, and presentations.
   - Led research team to analyze longitudinal data using hierarchical linear modeling, regression, ANOVA, and thematic analysis.
   - Presented findings from the second iteration of the program as a symposium at the SRCD conference in 2023.
   - Led and participated in manuscript writings as the first author.
4. **Maternal Guilt and Child Media Use**, Virginia Tech, Blacksburg, VA, 2023-2024

Supervisor: Dr. Koeun Choi, Human Development and Family Science
- Helped data collection through a research recruitment platform, Prolific.
- Conducted data cleaning and data analyses using SPSS and R.
- Led and participated in manuscript writings.

5. **Adult Mobile Learning Project**, Virginia Tech, Blacksburg, VA, 2022-2023
Supervisor: Dr. Koeun Choi, Human Development and Family Science
- Conducted experiments involving adult cognitive tests and eye-tracking experiments.
- Trained undergraduate research assistants to run the study independently.

TEACHING EXPERIENCE

Instructor of Record

HD 1134 - Introduction to Disabilities Studies Class Registration: 46	Winter 2023
HD 1004 - Childhood and Adolescence Class Registration: 65	Fall 2023
HD 1004 – Childhood and Adolescence Class Registration: 20	Spring 2023
HD 4964: Field Study (online) Class Registration: 16	Summer 2021

Graduate Teaching Assistant

HD 1004 – Childhood and Adolescence Class Registration: 80	Fall 2022
HD 3214: Infancy and Early Childhood Class Registration: 50	Fall 2020
HD 3214: Infancy and Early Childhood Class Registration: 45	Fall 2019

Guest Speaker

EDEC 445 - Administration of Programs for Young Children Radford University (Instructor: Dr. Boyoung Park) Topic: Act, dance, sing, and learn with social robots: child-robot musical theater for informal STEAM education.	10/28/2022

UNDERGRADUATE STUDENT MENTORSHIP

Presentation (undergraduate student mentee):

1. [U]Kwak, Y., [U]Ballesteros, S., [U]Teel, J., [U]Appiadu-Manu, A., [U]Meier, L., [U]Liu, Y., [U]Bhamidipati, R., [U]Beckles, U., [U]De Vera, B., [U]Janoschka, L., [U]Morris, A., [U]Zhang, L., **Yu, S.,** Kim, J., Dong, J., Lee, Y., Haine, C., Newbill, P., Wyatt, A., Upthegrove, T., Jeon, M., & Choi, K. (2023 April). *Young children's interest, self-efficacy, and curiosity in robots throughout a child-robot musical theater program*. Poster presented at the 2023 Dennis Dean Undergraduate Research and Creative Scholarship Conference, Blacksburg, VA. [The poster presentation won the Service Learning and Research Award of 2023.]

2. [U]Kwak, Y., [U]Place J., [U]Zhang L., [U]Morris A., [U]De Vera, B., [U]Teel, J., [U]Beckles, U., [U]Janoschka, L., **Yu, S.,** Kim, J., Dong, J., Lee, Y., Vajir, D., Lyles, C., Newbill, P., Upthegrove, T., Wyatt, A., Jeon, M., & Choi, K. (2022, April). *Sing, act, and dance with robots: a child-robot musical theater afterschool program for STEAM education*. Poster

presented at the 2022 Dennis Dean Undergraduate Research and Creative Scholarship Conference, Blacksburg, VA.

Lab Tasks:

- Mentored 28 undergraduate students in the Cognitive Developmental Science Lab at Virginia Tech between Fall 2021 and Fall 2024 and six undergraduate students in the Learning & Development Lab at Virginia Tech in Fall 2024, providing guidance in experiment training, data analysis, and program usage (4-6 students per semester).

SERVICE

Virginia Tech Science Festival Presenter   Nov 2024
Introduced and presented the functionality of eye trackers to children and parents.
Project title: AI and Robots for Young Children's Cognitive Development.

Week of the Young Child Presenter   Apr 2024
Introduced and presented various social robots to young children in Child Development Center for Learning and Research (CDCLR) and order adult at Engagement Center for Creative Aging (ECCA) at Virginia Tech.
Project title: Social Robots for Storytelling.

Hokie for a Day Presenter   Apr 2024
Introduced and presented the functionality of eye trackers to elementary school children.
Project title: Research on Storytelling with Conversational AI and Social Robots.

HDFS Brown Bag Presenter   March 2024
Performed a 15-minute presentation about a research study related to maternal guilt and child screen time.
Presentation title: Feeling Guilty About Child's Screen Time? Parental Awareness, Agreeableness, and Alignment to Media Use Guidelines

Student Reviewer for the 2023 SRCD Biennial Meeting   Fall 2023
(Mentor: Dr. Carolyn Shivers)
Reviewed 10 posters for the Society for Research in Child Development (SRCD) 2023 Biennial Meeting under the supervision of Dr. Carolyn Shivers.

Virginia Tech Science Festival Organizer   Nov 2023
Organized and led an exhibit with the help of 10 co-presenters.
Project title: Conversational AI and Social Robots for Storytelling

Virginia Tech Humanities Week Presenter   Oct 2023
Introduced and presented the functionality of eye trackers in research studies.
Project title: Conversational AI for Children's Learning

Student Reviewer for the 2022 SRA Biennial Meeting   Fall 2022
(Mentor: Dr. Koeun Choi)
Reviewed 2 papers for the Society for Research on Adolescence (SRA) 2022 Biennial Meeting under the supervision of Dr. Koeun Choi.

Neighbors Growing Together: Intergenerational Program Graduate Assistant   2019-2021
Adult Day Service (ADS) and Child Development Center for Learning and Research (CDCLR), Virginia Tech.
Facilitated the activities between older adults and young children.

Commonwealth Autism (CA) Human Services Volunteer   2021-2023
Provided research support and wrote blogs about the ongoing autism research studies.

Tian Yun Hearing Impaired Social Welfare Home Volunteer   2016-2017
Designed and implemented activities for children with hearing impairment.

PROFESSIONAL MEMBERSHIPS

Member of the International Society for Autism Research (INSAR)   2025-present

Member of the International Association for the Scientific Study of Intellectual   2024-present
and Developmental Disabilities (IASSIDD)

Member of the Cognitive Development Society (CDS)   2023-2024

Member of the Gatlinburg Conference on Research and Theory in Developmental   2021-2023
Disabilities

Member of the Society for Research on Child Development (SRCD)   2022-2023