

Pennsylvania State University
Equipping Librarians to Navigate Privacy Issues Involving Preteens and Technology

1. PROJECT JUSTIFICATION

Dr. Priya Kumar, assistant professor at Pennsylvania State University's College of Information Sciences and Technology, seeks a three-year, early career research development grant from the IMLS's Laura Bush 21st Century Librarian Program to study how a theory-based privacy literacy framework she created ([Kumar & Byrne, 2022](#)) can help public librarians navigate privacy issues related to preteen engagement with technology. This project aligns with LB21 Objective 2.3 by supporting an untenured LIS faculty in advancing their research agenda.

1.1 Statement of Need

Today's youth are growing up in a world that is "digital by default" ([Stoilova et al., 2020](#)), regularly using networked digital technologies to play, socialize, and learn. As these technologies have become a prominent part of youth life, scholars and practitioners have emphasized the need for youth services librarians to help youth develop media and digital literacy skills to equip them to become productive and engaged members of society ([Braun et al., 2013](#); [Rawson et al., 2023](#)). Given that the use of digital technologies generates data about what people do, where they go, and with whom they interact, such literacy efforts must also help youth navigate privacy issues related to digital technology use ([Kumar, 2023](#)). More fundamentally, pervasive data tracking can constrain children's abilities to exercise their civic and human rights ([Barassi, 2020](#); [Lupton & Williamson, 2017](#); [Mascheroni & Siibak, 2021](#)), underscoring the need to address privacy issues that arise from youth engagement with digital technology. Academic librarians have begun integrating privacy literacy into their programming for undergraduates ([Hartman-Caverly & Chisholm, 2023](#)), but little work has explored how library-based privacy literacy efforts can support youth. This project seeks to address this gap by translating Dr. Kumar's theory-based privacy literacy framework into a toolkit to support youth service librarians' practice.

Supporting Youth Services Librarianship

This project targets youth services librarians in the spirit of a "train the trainer" program ([YALSA, 2018](#)), where the research team will strengthen librarians' understanding of privacy literacy and equip them to support youth privacy learning in a way that fits with the specific context of their library. Since formal privacy lessons typically do not resonate with youth ([Davis & James, 2013](#); [Kumar et al., 2018](#); [Pangrazio & Cardozo Gaibisso, 2020](#)), privacy education may be more effective if adults look for learning moments, or opportunities to help youth reflect on privacy-related behaviors ([Kumar et al., 2020](#)). This project is designed to help youth services librarians do just that. Youth services librarians are well-positioned to spread the "learning moments" approach to privacy literacy beyond the youth they serve, since youth services librarians also report working closely with "parents and caregivers, library colleagues, schools, other public services institutions, and community organizations" ([Rawson et al., 2023, p. 388](#)).

Addressing Preteens' Privacy Needs

Children's privacy concerns and their ability to understand and navigate the digital environment vary based on their age and developmental stage ([ICO, 2020](#); [Livingstone et al., 2020](#)). Thus, youth-oriented privacy literacy efforts will be more effective if they are tailored to a specific range of youth. The transition from childhood to adolescence is a particularly challenging time for youth and the adults who support them, making preteens a uniquely valuable patron group for privacy literacy efforts. Since definitions of the age range of preteens vary—the nonprofit Common Sense Media identifies "tweens" as ages 8-12 ([Rideout et al., 2022](#)), while scholar and youth technology expert Dr. Katie Davis ([2023](#)) defines early adolescence as ages 10-14—this project adopts the inclusive age range of 8-14. Children in this stage are beginning to prioritize peer and social relationships over parental bonds, cultivating more intimate connections with friends through self-disclosure and social support ([Harter, 2015](#); [Steinberg & Morris, 2001](#)). However, since preteens' emotional development outpaces their self-regulation and decision-making capacities, coping with the vicissitudes of social life can be especially challenging ([Davis, 2023](#)). This is also the age where youth often get their own mobile devices and begin to use social media ([ICO 2020](#); [Rideout et al., 2022](#)), ushering preteens into a realm of constant connectivity at a time

when they are most sensitive to where they stand with their friends ([Davis, 2023](#)). Thus, preteens would especially benefit from the non-judgmental support that youth services librarians can provide.

1.2 Building on Existing Work

Libraries are well-positioned to support privacy literacy, given that privacy is a core value of librarianship. Indeed, the American Library Association's (ALA) Library Bill of Rights establishes libraries as sites to “advocate for, educate about, and protect people’s privacy” ([ALA, 2019](#)), and the ALA provides several resources to support library staff and patrons understand and address privacy issues ([ALA, 2021](#)). While many library policies are designed to support patron privacy ([Morehouse et al., 2019](#)), initial research suggests that librarians can find it challenging to carry out privacy-related policies in youth service practice ([McDonald et al., 2023](#)). This is due to the networked nature of the activities that preteens engage in online (e.g., gaming, social media posting), the variety of devices preteens use in libraries (e.g., library computers, school-issued devices, personal smartphones), the multiple authorities to whom preteens are accountable (e.g., parents, other caregivers, teachers, school administrators), and preteens’ developmental orientation toward boundary-testing ([Subramaniam et al., 2018](#)). This project will contribute scholarly findings in two primary areas: translating privacy theory into practice and advancing libraries commitment to privacy.

Translating Privacy Theory into Practice

The project director’s prior work demonstrates that while privacy rules for youth may seem straightforward (e.g., don’t share passwords, don’t talk to unknown people online), they may not reflect how youth experience the world (e.g., sharing passwords and connecting with people in online games can be important elements of friendship) ([Kumar et al., 2020](#); [Kumar, 2022](#)). Contemporary theory recognizes privacy as a socially situated practice that is negotiated collaboratively, rather than individually (e.g., [Dourish & Anderson, 2006](#); [Nissenbaum, 2010](#)). Yet most privacy-related policymaking and public discourse focuses narrowly on the concept of privacy as individual control over information, which does not yield effective responses to the privacy concerns of social media and other digital technologies ([Mulligan & King, 2012](#)). Furthermore, technology companies regularly undermine privacy through their own policies, discourses, and actions ([Kumar, 2016](#); [McDonald & Forte, 2021](#); [Waldman, 2021](#)). Addressing the privacy concerns of digital technologies requires translating contemporary privacy theory into practice. This project will advance privacy scholarship by demonstrating how this translation can be accomplished through design-based research methods.

Advancing Libraries’ Commitment to Privacy

Libraries, as civic institutions committed to the value of privacy (Wieczorek & Kumar, under review), are an ideal site for translating theory into practice. Prior IMLS funding has advanced librarians’ privacy knowledge and skills by supporting the creation of privacy-focused field guides ([Alameda County Library, 2019](#)) digital literacy trainings ([Brooklyn Public Library, 2015](#)), professional development programs ([University of Illinois University Library, 2019](#)), patron resources ([University of Maryland, 2016](#)) and librarian-activist networks ([New York University, 2022](#)). However, these efforts do not focus on the unique challenges of addressing youth privacy issues. Similarly, prior IMLS funding has advanced youth services librarianship in important 21st century skills, including connected learning ([University of Washington, 2015](#)) and data literacy ([Pratt Institute, 2016](#)), but children’s privacy literacy remains underexplored. This project addresses these gaps in prior work by equipping librarians to apply a theory-based privacy literacy framework toward serving a special patron population—preteens—who are actively developing their understandings of how to engage with technology in socially appropriate ways.

1.3. Target Group and Beneficiaries

The target group for this project is youth services librarians, as well as other library staff who regularly engage with preteen patrons. Career portal Zippia ([2021](#)) estimates nearly 7,700 youth services librarians work in the U.S., which represents 18 percent of the nearly 46,000 librarians and media specialists employed in public librarians ([BLS, 2023](#)). The ultimate beneficiaries of this project are preteens, defined in this project as people ages 8-14. According to IMLS ([2021](#)) public library data, programs for children (typically targeting those ages 0-12) attracted 81 million attendees in FY19, and programs for young adults (typically targeting those 12-18)

attracted another 8.9 million attendees. Though slightly out of date, the Pew Research Center ([Zickuhr, 2013](#)) found that 70 percent of parents with children under age 18 reported that their child had visited the library in the past year. Though these numbers encompass more than our target age range, their sheer size indicates that this project has the potential to benefit a core library patron group.

1.4 Advancing the Project Director’s Research Agenda

This project will advance two components of the project director’s research agenda: strengthening children’s privacy literacy and translating privacy theory into practice, directly supporting LB21 Objective 2.3. Since 2013, Dr. Kumar has been studying how digital technologies affect children’s privacy. She interviewed parents and children ([Kumar et al., 2017](#); [Kumar et al., 2020](#); [Subramaniam et al., 2019](#); [Vitak et al., 2018b](#)) educators ([Kumar et al., 2019a](#); [Kumar et al., 2019b](#)), and school librarians (Kumar et al., manuscript in progress) to understand how they conceptualize, learn about, and address privacy issues related to children’s technology use. She used the theory of contextual integrity ([Nissenbaum, 2010](#)), which is a well-established approach to studying privacy in the fields of LIS ([Wu et al., 2020](#)) and human-computer interaction (HCI) ([Wisniewski & Page, 2022](#)), to analyze portions of this data. Although the theory was originally intended to help technology developers and policymakers create and regulate technology in privacy-protective ways, Dr. Kumar’s empirical analysis provided evidence that the theory could also be useful to inform privacy education ([Kumar, 2018](#)). This is because the theory, which approaches privacy as the appropriate flow of information, includes a nine-step framework for identifying privacy-related concerns and considering how to address them ([Nissenbaum, 2010](#)). Building on these insights, Dr. Kumar translated the contextual integrity theory into an educational framework called the 5Ds of privacy literacy ([Kumar & Byrne, 2022](#)).

Dr. Kumar initially envisioned the 5Ds framework as a set of learning objectives that could be the basis of privacy-related educational efforts for youth. However, in a pilot study where she presented the 5Ds framework to youth-serving library professionals at professional development conferences, the library professionals used the 5Ds to make sense of their own experiences trying to navigate privacy issues surrounding youth engagement with technology in their libraries, rather than generate ideas for privacy-focused educational lessons for youth. (Wieczorek & Kumar, under review). This motivated Dr. Kumar’s research team to begin exploring how the 5Ds could be further translated into a tool to help youth-serving librarians better address youth-related privacy issues, in the process modeling privacy literacy for their youth patrons. While scholars and practitioners typically approach privacy literacy a form of knowledge or a process of critical thinking, Dr. Kumar has theorized privacy literacy as a practice of enacting information flows ([Kumar et al., 2020](#); [Kumar, 2022](#); [Kumar, 2023](#)). In other words, privacy is more than something people know or think about; it is also something people do ([Dourish & Anderson, 2006](#)). This project would enable Dr. Kumar to gather evidence and test whether her practice-based approach to privacy literacy is a viable foundation for privacy literacy efforts more broadly. Long-term, Dr. Kumar plans to build on the work of this project to identify what knowledge, skills, and competencies should ground youth-focused privacy-related programming in libraries, and eventually to co-design an educational program for youth in collaboration with youth-serving librarians and youth themselves.

2. PROJECT WORK PLAN

2.1 Research Questions, Theoretical Framing, and Pilot Study Findings

Research Questions

The goal of this project is to translate Dr. Kumar’s theory-based privacy literacy framework into a toolkit that helps youth service librarians diagnose and address privacy-related problems that arise when preteens engage with digital technology in libraries, in the process modeling privacy literacy for youth. Three research questions guide this work:

- (1) What privacy issues arise when preteens engage with technology in public libraries?
 - a. How do public librarians navigate privacy issues relating to preteens and technology?
 - b. What challenges do public librarians face in addressing privacy issues relating to preteens and technology?
- (2) How can a theory-based privacy literacy framework help public librarians address privacy issues surrounding preteen engagement with technology?

- (3) How can a privacy-focused community of practice help public librarians navigate challenges that arise from preteen engagement with technology?

Theoretical Framing

The theory of contextual integrity ([Nissenbaum, 2010](#)), introduced in Section 1.4, serves as the foundation for this project. Developed by information scholar Helen Nissenbaum, this theory defines privacy as the appropriate flow of information and posits that privacy violations occur when information flows in a way that does not align with the norms of a given context. For instance, a medical device that transmits someone's heart rate data to their doctor would raise fewer privacy questions than one that transmits heart data to their supervisor, since the information flow aligns more with the norms of a health care context than an employment one. However, if the heart-rate data belongs to a professional athlete and the supervisor is their coach, the information flow may in fact be appropriate. This brief example illustrates how contextual details can shift perceptions of privacy, which is part of what makes privacy so difficult to design for ([Dourish & Anderson, 2006](#)). Contextual integrity can help people navigate this complexity by providing a structured approach to analyze information flows, pinpoint the privacy concerns, and consider how to address any concerns by evaluating the concerns against broader social and political values. While contextual integrity is a commonly used theoretical framework for research on digital privacy, most applications of contextual integrity employ quantitative methods and use the framework to describe their data, under-engaging with the components of the framework that invite analysts to consider how to respond to potentially problematic information flows (Kumar et al., in press). In the proposed project, the research team aims to demonstrate how to put the full contextual integrity framework into practice, ideally inspiring researchers who study privacy in library contexts and beyond to follow suit.

Pilot Study Findings

As noted in Section 1.4, Dr. Kumar translated contextual integrity into a five-step framework for use in education, called the 5Ds of privacy literacy ([Kumar & Byrne, 2022](#)). The 5Ds state that someone is privacy literate if they are able to:

1. **Define** an information flow;
2. **Describe** the social roles, context, and norms involved in an information flow;
3. **Discern** how an information flow could (positively and negatively) affect others in one's community and beyond;
4. **Determine** whether an information flow aligns with the appropriate norms of a context;
5. **Decide** whether an information flow should be enacted, modified, or disrupted.

To explore whether the 5Ds of privacy literacy framework resonated with youth-serving librarians, Dr. Kumar conducted a pilot study that involved five co-design workshops ([Bødker et al., 2022](#)) with 59 library professionals from across the U.S. Four workshops occurred at national and state library conferences, and one workshop occurred at a branch library. At the workshops, the research team introduced the 5Ds framework and had participants work in small groups to apply the 5Ds to an information flow involving youth and technology. A thematic analysis ([Gibbs, 2018](#)) of the data, which included the artifacts that participants generated through their small-group activities, audio-recordings of the workshop conversations, and observational notes the research team took during the workshop and post-workshop debrief sessions, yielded three findings. First, while participants reported understanding the 5Ds and appreciating that the 5Ds enabled them to develop a more nuanced understanding of youth privacy practices, they wanted more guidance on how they could apply the framework to address privacy issues that arose through their work with youth patrons. Second, librarians found it easier to engage with the 5Ds when they applied the framework to scenarios extrapolated from their own lived experience, rather than adapting generic scenarios to fit their institutional context. Third, while librarians recognized the importance of supporting youth privacy literacy, they worried about their ability to integrate privacy education into their already demanding jobs. The pilot study findings have been submitted in a full paper that is under review at the ACM Conference on Designing Interactive Systems (DIS) (Wieczorek & Kumar, under review).

This project builds directly on the pilot study findings, which suggested that a toolkit based on the 5Ds of privacy literacy could help librarians address privacy-related issues arising from youth engagement with technology. Toolkits are a well-established means for supporting librarian professional development (e.g., [Subramaniam et al., 2021](#)) as well as helping librarians implement privacy-related policies and disseminate privacy-related information to patrons (e.g., [ALA, 2014](#); [San Jose Public Library, n.d.](#)). A 5Ds toolkit would complement existing work by helping librarians identify privacy issues arising from youth engagement with technology and implement changes to address them. Furthermore, there appears to be great demand for information about how libraries can support youth privacy; after the workshops, Dr. Kumar was invited by the editors of the *Journal of Library Administration, Computers in Libraries* magazine, and the ALA's director for continuing education to write about and lead webinars on the 5Ds framework.

Nevertheless, more research is needed to understand what specific privacy-related challenges the 5Ds are well-suited to address (which motivates RQ1) and examine how the 5Ds can be translated into a scalable yet flexible toolkit that librarians can adapt to fit the nuances of their specific institutional context (which motivates RQ2). The research team recognizes that toolkits can oversimplify issues by abstracting them from the cultural and political contexts in which they emerge and by presenting issues as problems to be solved rather than processes to be worked through ([Mattern, 2021](#); [Wong et al., 2023](#)). In response, the team adopts cultural philosopher Iris van der Tuin's ([2021](#)) approach of "toolkitting as method," in which the creation of a toolkit is a process of bringing people together to establish common ground through their participation in collectively defining and creating a plan for action. In this approach, the process of bringing people together is as important as the substance of the plan they create, and design becomes a way of forging a community of practice as well as creating materials ([Brandt et al., 2013](#)) (which motivates RQ3). This reflexive orientation toward the toolkit development process will enable the research team to make scholarly contributions to both theory and methodology surrounding youth privacy issues.

2.2. Methodology and Three-phase Work Plan

Methodology

The project adopts the methodology of design-based implementation research (DBIR), in which researchers and practitioners work collaboratively to create and test interventions in real-world settings ([Fishman & Penuel, 2018](#)). DBIR projects involve multiple stakeholders in iterative design processes and are committed to theory development and knowledge creation with a focus on capacity-building and systemic change ([Fishman & Penuel, 2018](#)). Though primarily taken up in the field of learning sciences, DBIR has been employed in LIS to develop a connected learning toolkit for youth service librarians ([Subramaniam et al., 2021](#)). Design-based research methods show great promise for LIS research, given their integration of research, design, and practice and their emphasis on developing theory and material that "work" *in situ* ([Bowler & Large, 2008](#); [Rawson & Hughes-Hassel, 2015](#)). This project will add to the growing body of work on DBIR ([Fishman & Penuel, 2018](#)) and further extend its influence in the fields of LIS and HCI.

Project work will unfold in three phases. In Phase 1 (Months 1-12), the project team will iteratively design the privacy literacy toolkit in collaboration with librarians across the state of Maryland. In Phase 2 (Months 13-29), the research team will test the toolkit in four libraries across the state of Wisconsin and evaluate how effectively it helps librarians address privacy issues related to youth and technology engagement. In Phase 3 (Months 30-36), the research team will finalize the toolkit and disseminate it and the project's findings through scholarly publications, webinars, conference presentations, and practitioner-oriented articles.

Phase 1: Designing the Privacy Literacy Toolkit (Months 1-12: Aug. 2024–July 2025)

In this phase, the research team will conduct eight co-design workshops with library staff to iteratively design a prototype toolkit. The project director has IRB approval for the pilot test that informed this project, and she will file an amendment during the pre-proposal period to extend this approval to cover Phase 1.

The Maryland State Library Agency (MSLA) has agreed to partner with the research team and help recruit a diverse sample of eight libraries across the state to participate in Phase 1. (See Supporting document 2 for their

letter of commitment). The research team expects recruitment and scheduling to occur from August–September 2024 and the workshops to occur in September–December 2024. Each workshop will take place at a different library and include 4–5 library staff who have experience or insight into privacy-related issues emerging from preteen engagement with technology in the library. For example, the research team conducted a pilot workshop in Summer 2023 that included a youth services librarian, a branch manager, a library marketing and communications coordinator, and the library system director. The research team expects the workshops to include a total of 40 participants. Each workshop will last about three hours and each participant will receive a \$60 Amazon gift card in exchange for their time. Workshops will include the following kinds of activities ([Sanders & Stappers, 2012](#)) (with a coffee break in the middle):

- Icebreaker: Participants introduce themselves and describe their job roles.
- Story writing: Participants fill out a story worksheet and describe a scenario involving a privacy issue related to preteen engagement with technology drawn from their own experience in the library.
- 5Ds walkthrough: Participants use one of the stories to walk through the 5Ds framework.
- Values mapping: Participants identify what values influence the decisions outlined in the 5Ds walkthrough and how they affect the outcome.
- Stakeholder analysis: Participants examine what role different stakeholders play in the decisions outlined in the 5Ds walkthrough.
- Visioning exercise: Participants brainstorm avenues for action to address the tensions surfaced through the 5Ds walkthrough.
- Debrief: Participants share observations and feedback about the workshop experience and project goals.

The workshops will generate multiple sources of data: the research team will audio record the workshops, capture photographs, and take observational notes, as well as gather all the artifacts produced through the design activities. This variety of data is essential for capturing different kinds of insights. Analyzing what people say, via the audio recordings, will yield information about participants' explicit knowledge; analyzing what people do, via the research team's observational notes, will yield information about participants' behavioral practice; and analyzing what people make, via the design artifacts, will yield information about participants' tacit knowledge ([Sanders, 1999](#)). Data analysis will occur iteratively from November 2024–February 2025 using the abductive process of design synthesis ([Kolko, 2010](#)). Abduction is the process of using what one knows, either from inference or intuition, to develop probable explanations for patterns across disparate sources of data ([Kolko, 2010](#)). This method is appropriate since the project is building upon findings from the pilot study but using them to make sense of a range of privacy issues arising in different institutional contexts. The team expects to use Kolko's ([2010](#)) method of concept mapping, or creating a model that represents an idea, to analyze the Phase 1 data and devise the findings related to the three RQs.

The team will then use the findings to design a prototype toolkit. From January–March 2025, the research team plans to use Kolko's ([2010](#)) method of insight combination, or identifying design patterns and translating them into design ideas, to design the prototype. The team expects to have the prototype toolkit ready by March 2025. The team will then spend the next three months (April–June 2025) presenting the toolkit to the workshop participants and gathering feedback. This will occur through virtual focus groups or interviews lasting 60–90 minutes. Participants will receive \$20 Amazon gift card in exchange for their time. The team will audio and video record these sessions and use affinity diagramming ([Lucero, 2015](#)) to analyze the data, with the goal of extracting recommendations for changes or improvements to the toolkit design. The project director will also present the toolkit prototype at the annual conference of the Maryland Library Association (MLA) and gather feedback. The team will make revisions based on the feedback and finalize the toolkit prototype from June–August 2025. In July 2025, the team will submit a scholarly article on the Phase 1 findings for RQ2 to the *ACM Proceedings on Computer-Supported Cooperative Work and Social Computing (CSCW)*, a top-tier archival HCI venue (with presentation at the conference in November 2026). In Fall 2025, the team will present the Phase 1 findings at the annual Symposium on Applications of Contextual Integrity (PrivaCI) and submit a scholarly article on the Phase 1 findings for RQ1 and RQ3 to the *Journal of the Association for Information Science and Technology (JASIST)*. The team will also use the Phase 1 data to write a scholarly article on toolkits as methods

to support usable privacy, which will be submitted to the USENIX Symposium on Usable Privacy and Security (SOUPS) in February 2026 (with presentation at the conference in August 2026).

Phase 2: Testing the Privacy Literacy Toolkit (Months 13-29: Aug. 2025–Dec. 2026)

In this phase, the research team will test the toolkit in four libraries and evaluate how effectively it helps librarians address privacy issues related to youth and technology engagement. The Wisconsin Library Services Team (LST) within the state’s Department of Public Instruction has agreed to partner with the research team and help test the toolkit in a diverse sample of libraries (See Supporting document 2 for their letter of commitment).

The team will finalize the testing study design and obtain IRB approval from August–September 2025. That fall (October–December 2025), the team will work with the Wisconsin Library Services Team to recruit a diverse sample of four libraries and help them prepare for the testing study by providing an overview of the project and the toolkit. The research team will ask each participating library to identify one staffer to serve as a “privacy literacy leader” who will head the library’s toolkit implementation. The testing study will last from January–July 2026 and will involve each privacy literacy leader using the toolkit to identify a privacy issue related to preteen engagement with technology, develop a plan to address it, and take steps to implement the plan and assess its effectiveness. The toolkit will contain materials to scaffold each step of this process. Toolkit materials will be available through a cloud-based platform (e.g., Google Docs) so that participating librarians can easily share the artifacts created during the study with the research team. The research team will host a virtual 60-minute orientation and monthly 60-minute virtual group check-ins so the leaders across the four libraries can regularly share their experiences with each other and exchange ideas. At the end of the study, the team will hold a 90-minute virtual focus group to debrief with privacy literacy leaders and gather their feedback. These sessions will be audio recorded. Privacy literacy leaders will receive a \$1000 stipend for participation.

The data for this phase includes the artifacts that privacy literacy leaders create, as well as the audio recordings of the orientation, monthly check-ins, and focus group. Following Phase 1, the research team will iteratively analyze this data from February–September 2026 using the abductive process of design synthesis ([Kolko, 2010](#)). The team will focus on how effectively the toolkit helped participants address their selected privacy issue, addressing RQ1 and RQ2. The analysis of the regularly monthly check-ins and final focus group debrief will be analyzed to address RQ3, focusing on how the toolkit helped foster a privacy-related community of practice. In September 2026, the team will submit a scholarly article on the Phase 2 findings for RQ2 to the *ACM Proceedings of the Conference on Human Factors in Computing Systems (CHI)*, the top archival HCI venue (with presentation at the conference in May 2027). From October–December 2026, the team will use the findings from the data analysis to improve the toolkit. The team will present the toolkit at the YALSA Symposium and submit a scholarly paper on the DBIR methodology to the annual meeting of the International Society of the Learning Sciences (ISLS). The team will finalize the toolkit in December 2026.

Phase 3: Disseminating the Privacy Literacy Toolkit and Findings (Months 30-36: Jan.–July 2027)

In this phase, the research team will publish the final toolkit on the [project website](#) and publicize it through a series of webinars, conference presentations, and publications. The American Library Association (ALA) has agreed to serve as a dissemination partner for Phase 3. (See Supporting document 2 for their letter of commitment). They will market and host three free webinars to introduce the toolkit to youth services librarians and others who are interested in addressing youth-related privacy issues in their libraries. In addition, the research team will coordinate with the state partners from Phase 1 and 2 to offer webinars to introduce the toolkit to youth-services librarians across Maryland and Wisconsin. These webinars will occur from February–July 2027. In May 2027, the project director will present the toolkit at the annual conference of the MLA, and in June 2027, she will present it at the annual conference of the ALA.

To determine whether the toolkit contributed to lasting change at the testing libraries, the research team will conduct follow-up interviews with the four “privacy literacy leaders” from the Phase 2 testing study in January 2027. The team will analyze this data using the same methods from Phase 2 and integrate them with the Phase 2 findings. In April 2027, the team will submit a scholarly article on the Phase 2 findings for RQ1 and RQ3 to the

Journal of Librarianship and Information Science. Finally, from March–July 2027, the team will write about the toolkit for practitioner-oriented venues. In a submission to YALSA’s *Young Adult Library Services* publication, the research team will introduce the toolkit and its impact on youth services. In a submission to ALA’s *Library Leadership and Management* journal, the research team will highlight how the toolkit can help library administrators with privacy-related decision-making as it pertains to youth services. If the project yields additional insights that would serve library practitioners and/or if the project work aligns with publication themes, the research team will consider writing a third practitioner-focused article for a publication like *Public Libraries* magazine.

2.3 Project Staff, Partners, and Advisory Board

Project Staff

The project includes three staff members: project director, graduate research assistant, and design consultant. The project director is Dr. Priya Kumar. Dr. Kumar has a proven ability to lead high-quality research on children’s privacy literacy ([Kumar, 2022](#); [Kumar & Byrne, 2022](#); Kumar et al., [2017](#); [2018](#); [2019](#); [2020](#); [2023](#)). In 2022, Dr. Kumar received a prestigious Ralph E. Powe Junior Faculty Enhancement Award from the Oak Ridge Associated Universities to fund a pilot study exploring how librarians incorporate privacy literacy into their work with youth. She has presented on privacy literacy at ALA’s LibLearnX conference and at the annual conferences of the Pennsylvania School Librarians Association and the Maryland Library Association.

The graduate research assistant is Hongyi Dong. Mr. Dong is a PhD student at Penn State’s College of Information Sciences and Technology, under the advisement of Dr. Kumar. He has a background in human-computer interaction and spent two years conducting user experience research in an academic library. Since Fall 2023, he has worked with Dr. Kumar to analyze data from interviews with school librarians about privacy literacy. The design consultant is Catherine Wieczorek. Ms. Wieczorek is a designer and PhD student at Georgia Tech’s School of Interactive Computing. She has a background in graphic design and design thinking. Since January 2023, she has worked with Dr. Kumar on the pilot study for this project, translating the 5Ds of privacy literacy into a tool for librarians. More information about each staff member’s responsibilities is in the “List of Key Project Staff” document, and each staff member’s two-page resume is in the “Resumes” document.

Project Partners

Three organizations have agreed to serve as partners for this project.

- Phase 1 Project Partner: **The Maryland State Library Agency (MSLA)** has agreed to serve as a partner for the project’s co-design phase. The main point of contact is Carrie Sanders, Youth Services Coordinator at the MSLA. Supporting document 2 contains a letter of commitment from the MSLA.
- Phase 2 Project Partner: **The Wisconsin Library Services Team (LST)** within the Wisconsin Department of Public Instruction’s Division for Libraries and Technology has agreed to serve as a partner for the project’s testing phase. The main point of contact is Jeni Schomber, Public Library Consultant at the LST. Supporting document 2 contains a letter of commitment from the LST.
- Phase 3 Project Partner: **The American Library Association (ALA)** has agreed to serve as the project’s dissemination partner. The main point of contact is Dan Freeman, Director for Continuing Education at the ALA. Supporting document 2 contains a letter of commitment from the ALA.

Advisory Board

To support this research, an advisory board consisting of four scholars and practitioners with expertise in youth, technology, and privacy, will provide guidance. The advisory board members are:

- **Dr. Rebekah Willet**, professor at the University of Wisconsin’s Information School, is an expert in children’s digital media cultures and has received multiple IMLS grants to study how libraries can support children’s learning. One of her recent projects explores how datafication, and its accompanying privacy concerns, is reshaping the meaning of childhood.

- **Dr. June Abbas**, professor at the University of Oklahoma’s School of Library and Information Studies, is an expert in youth information practice and the role of libraries in supporting youth. She has received several IMLS grants to study how libraries can develop more inclusive services for youth and families.
- **Dr. Katie Davis**, associate professor at the University of Washington’s Information School, is an expert in understanding how digital technology engagement affects youth learning, growth, and well-being. She has received IMLS funding to develop a connected learning toolkit for youth services librarians, and she has published research on preteen understandings of digital privacy concerns.
- **Ms. Bonnie Tijerina**, founder and president of Electronic Resources and Libraries, is a librarian, researcher, educator, and leader on issues related to privacy and libraries. She has received multiple IMLS grants to develop privacy resources for libraries and co-edited “Protecting Patron Privacy: A LITA Guide”.

Supporting document 3 contains brief biographies and a collective statement of support from advisory board members. The project director expects to have four virtual meetings with the advisory board, and each member will receive a stipend of \$500 per year (\$1,500 total over grant period) in exchange for their time and advice.

- **August 2024, Project kick off:** At this meeting, the advisory board will meet one another. The project director will present the project and invite feedback, especially related to Phase 1 co-design workshop activities and plans for the prototype toolkit.
- **June 2025, Prototype feedback:** At this meeting, the project director will present the Phase 1 findings, the prototype toolkit, and the Phase 2 plans, and invite feedback, especially related to the testing study.
- **August 2026, Testing feedback:** At this meeting, the project director will present the Phase 2 findings, toolkit improvements based on the findings and the Phase 3 plans, and invite feedback, especially related to the public dissemination plan.
- **June 2027: Project wrap-up:** At this meeting, the project director will present on the dissemination activities and the reaction to the toolkit and ask for advice on how to build on the project’s findings and outcomes.

DIVERSITY PLAN

Privacy is a fundamental human and social value, but the harms of privacy violations often disproportionately affect youth from marginalized communities ([Eubanks, 2017](#); [Marwick, 2023](#)). Libraries are a key source of privacy information for people from such communities ([Vitak et al., 2018a](#)), which means that library-based privacy literacy efforts must take care to address issues of diversity, equity, and inclusion (DEI). To ensure that project findings and materials equip librarians to address youth-related technology challenges in a way that advances DEI efforts, the research team will work with the MLSA and LST project partners to recruit a diverse sample of library systems to participate in Phase 1 and Phase 2, prioritizing those that serve a range of communities, including low-income, resource-constrained, and ethnically diverse communities across urban, suburban, and rural areas of Maryland and Wisconsin.

In Phase 1, the research team will ensure that each co-design workshop includes participants representing diverse stakeholder perspectives (e.g., youth services librarians who interact with patrons day-to-day, branch managers and/or library administrators who understand how organizational decisions are made). The Phase 1 and Phase 2 research activities will be designed to surface a variety of privacy issues regarding preteen engagement with technology, recognizing how these issues intersect with concerns like bullying and harassment, stigmatization, and infringement of intellectual freedom that also disproportionately affect marginalized populations of preteens. During data analysis, the team will examine how specific axes of preteen identity (e.g., gender, race, SES, sexual orientation, neurodiversity, physical ability, immigration status, language ability) affect the privacy issues that arise, and based on the findings, the team will ensure that the toolkit includes resources to help library staff address privacy issues in a way that supports specific populations of preteen patrons. In Phase 3, the research team aims to reach a variety of audiences by presenting the work at local (e.g., MLA annual conference) and national (e.g., YALSA Symposium, ALA annual conference) venues, as well as via free webinars to make the information publicly available for those who cannot access such

conferences. The research team will work with the ALA to target advertising for the webinars to diverse audiences via listservs, websites, social media, etc. The project's public writing plan also targets different library audiences (e.g., youth services librarians and library administrators). The project's scholarly publication plan, which involves submitting publications throughout the entire three-year grant period, intentionally disseminates research findings across the LIS, HCI, privacy, and learning science communities with the goal of advancing interdisciplinarity in research on youth privacy issues. Furthermore, the toolkit itself and all related materials will be publicly available on the project website and open licensed (via Creative Commons) so that other libraries, educational institutions, and researchers can not only access the materials but also build upon them in their own work. Digital products generated by the project will be created following [SIGCHI's accessibility guide](#) to ensure readability, especially for people with visual impairments. (See the Digital Products Plan for additional detail.) Finally, the research team itself (project director, graduate research assistant, design consultant) brings diverse life experiences and disciplinary perspectives to this work as a woman of color, international student, and first-generation college student, respectively, whose work spans library and information studies, media and communication studies, human-computer interaction, and design. This internal diversity makes the research team well-positioned to carry out this project.

PROJECT RESULTS

Project results include the toolkit, scholarly presentations and publications, and practitioner-oriented presentations and publications.

Toolkit

The project will generate a toolkit that youth services librarians can use to support preteens at a critical point: when they are developing expectations and absorbing norms surrounding tech and privacy. The toolkit will help librarians diagnose privacy issues, identify who can contribute to addressing them, and develop and implement plans to address the issues. Though the final design will depend on the findings, the toolkit will likely include materials for activities such as: understanding and applying a privacy literacy framework to youth-related technology issues, mapping stakeholders, linking institutional values and practices, and analyzing the youth privacy impacts of library policies. The final toolkit will be publicly available on the [project website](#), which is hosted on Penn State's [CampusPress platform](#). As noted in the diversity plan, the toolkit materials will be open licensed (via Creative Commons) so that other libraries, educational institutions, and researchers can build upon them in their own work.

Scholarly Presentations and Publications

The research team plans to submit project findings in seven scholarly articles across the grant period. One submission will be an extended abstract, while six will be archival publications. The team is prioritizing interdisciplinarity, targeting top-tier venues across the fields of LIS (*JASIST* and *JOLIS*), HCI (*CSCW* and *CHI*), privacy (*PrivaCI*, *SOUPS*) and learning science (*ISLS*) communities. To maximize the availability of findings, all articles will be published open access. The proceedings of *PrivaCI*, *SOUPS*, and *ISLS* are open access by default. Penn State has an agreement to fund open access for publications with SAGE, which publishes *JOLIS*. The research team has incorporated open access fees for *JASIST*, *CSCW*, and *CHI* into the project budget.

Practitioner-Oriented Presentations and Publications

The team plans to present the toolkit and project findings in four conference presentations and two practitioner-oriented publications. Conferences include the MLA annual conference (in Year 1 and 3), YALSA Symposium, ALA annual conference. Practitioner-oriented publications will target a variety of library audiences, including *Young Adult Library Services* magazine and *Library Leadership and Management* journal. Recognizing that these materials will be primarily available only to those who pay for access to the conferences/publications, the research team will also work with all three project partners, especially the ALA, to host at least three publicly available webinars on the toolkit and project findings. To maximize sustainable access and preservation of all project results, the research team will also deposit all toolkit materials, publications, and conference materials (e.g., slides, handouts, etc.) in Penn State University's institutional repository, [Scholarsphere](#). For more detail about how project results will be disseminated, please see the Phase 3 information in section 2.2.

Digital Products Plan

The project will generate digital products through its website, toolkit, conference presentations, scholarly and practitioner-oriented publications, and webinars. The research team will ensure that all digital products are widely available in accessible formats, openly licensed, and sustainably maintained to the extent possible while respecting related requirements of project partners and publishers. This document discusses plans related to public-facing digital products generated by the project. Details about plans for research data and materials are presented in the Data Management Plan.

Type

This project will generate the following types of digital materials:

- Project website: Wordpress based platform
- Toolkit: PDF files of guides, printouts, and Google Doc versions of interactive materials
- Conference presentations: PDF files of slides and handouts
- Scholarly and practitioner-oriented publications: PDF files of articles
- Webinars: MP4 video files, CC.VTT closed captioning files, VTT audio transcription files

Availability

Digital products created through the project will be publicly available on the project website (<https://sites.psu.edu/privacyliteracy/>) which is hosted on Penn State's [CampusPress platform](#). The website is indexed on all major web search engines and available through any web-connected device. Once the project begins, the research team will review the website design and ensure that it complies with best practices for accessibility and inclusion, following the W3C's Web Content Accessibility Guidelines.

All toolkit materials will be publicly available on the [project website](#).

Conference presentation materials such as slides and handouts will be turned into PDFs, deposited in Penn State University's institutional repository, [Scholarsphere](#), and linked on the [project website](#). Documents will be created following [SIGCHI's accessibility guide](#) to ensure readability, especially for people with visual impairments.

The team will link to scholarly and practitioner-oriented publications on the [project website](#). Scholarly publications will be published open access to maximize the availability of project results. Practitioner-oriented publications will also be available open-access, though one venue (*Young Adult Library Services*) makes issues publicly available after eight months.

As permitted by the project partners, the team will deposit webinar recordings in Penn State University's institutional repository, [Scholarsphere](#) and link to them the [project website](#). Recordings of certain portions of webinars, such as Q/A, may not be made available to facilitate more meaningful dialogue among webinar attendees. PDFs of any slides or handouts presented during the webinars will also be deposited the institutional repository and linked on the [project website](#).

Access

Digital products related to the [project website](#), toolkit, and conference materials will be open licensed via Creative Commons. Since the scholarly publications will be published open access, the research team expects to make them open licensed via Creative Commons, but this will need to be confirmed against the journal/conference's terms at the time of publication. Similarly, the research team aims to make the webinar materials and recordings open licensed via Creative Commons, but this will need to be confirmed with the webinar sponsors at the time of publication.

Sustainability

To maximize sustainable access and preservation of digital products generated by the project, the research team will deposit the toolkit, conference materials, and webinar materials in Penn State University's institutional repository, [Scholarsphere](#). Scholarly and practitioner-oriented publications will be available on the publisher's website, but for maximum preservation, the team will also deposit PDFs of articles in [Scholarsphere](#). In addition, the project website is hosted on Penn State's [CampusPress platform](#), which ensures institutional maintenance and preservation.

Data Management Plan

The project will generate various forms of research data and material. As explained below, the research team will not share any research data beyond anonymized quotes and photographs that will be included as appropriate in scholarly and practitioner-oriented publications. However, the research team will ensure that research materials are widely available in accessible formats, openly licensed, and sustainably maintained.

Types

This project will generate the following types of research data:

- Audio and video recordings of workshops, interviews, and focus groups (MP4 or M4A formats)
- Transcripts of audio recordings (PDF, DOCX, or TXT formats)
- Photographs of workshops (JPG or PNG formats)
- Physical or digital artifacts created by research participants (electronic artifacts in Google Docs format)
- Observational notes generated by the research team (Handwritten or DOCX format)

Research data will be collected at the following points:

- Phase 1 (September–December 2024): Eight co-design workshops with approximately 40 participants
- Phase 1 (April–June 2025): Interview or focus group discussions with approximately 40 participants
- Phase 2 (January–July 2026): Testing study with approximately four participants
- Phase 2 (January 2027): Follow-up interview with testing study participants

To prepare for research activities and to analyze research data, the research team will generate the following types of research materials:

- Workshop facilitation guides
- Interview and focus group protocols
- Codebooks for analyzing data

Research materials will be generated at the following points:

- Workshop facilitation guides, interview and focus group protocols: May–July 2024 (preparing for Phase 1 study during pre-proposal period) and August–September 2025 (preparing for Phase 2 study)
- Codebooks for analyzing data: November 2024–February 2025 (Phase 1 study) and February–September 2026 (Phase 2 study)

The research data will likely include personally identifiable information (PII), including people's names and email addresses. The research team will take efforts to minimize PII in photographic data (e.g., by avoiding photographing people's faces).

Data Management

The research team will follow data management procedures established by the Penn State University Institutional Review Board (IRB). Only members of the research team (project director, graduate research assistant, design consultant) will have access to research data and materials. Physical materials (e.g., artifacts and hand-written notes) will be securely stored in the project director's office. Digital materials (e.g., recordings, transcripts, photographs, notes) will be stored in institutionally licensed cloud-based storage systems (e.g., Google Drive, Microsoft OneDrive) behind password-protected accounts, with backups on the project director's university-owned, password-protected computer.

Data Sharing

In line with IRB requirements and norms pertaining to qualitative research projects, research data will not be shared beyond the research team or published in any institutional repositories. This is because the data contains richly detailed information from participants that, if published, could jeopardize the promise of confidentiality that constitutes an integral element of human subjects research. That said, anonymized quotes and photographs from the research data will be included as appropriate in scholarly and practitioner-oriented publications, conference presentations, and webinars. This is common for qualitative research projects. The Proposal Narrative and the Digital Products Plan contain detailed information about how these publications will be disseminated and stored.

Dissemination of Research Materials

To advance IMLS's commitment to advancing knowledge translation, the research team will make the research materials (i.e., workshop facilitation guides, interview and focus groups protocols, and codebooks for data analysis) publicly available by depositing them in Penn State University's institutional repository, [Scholarsphere](#), and linking to them on the [project website](#). The research materials will be open licensed via Creative Commons so that other researchers and library practitioners can build upon them in their own work. Materials will be turned into PDFs following [SIGCHI's accessibility guide](#) to ensure readability, especially for people with visual impairments. Information in the institutional repository [Scholarsphere](#) is available in perpetuity.

Data Management Plan Review Timeline

The research team will review the data management plan at the end of each year of the grant period (July 2025-2027), for a review cycle of once per year. If any questions or challenges arise regarding the data management plan, the research team will consult with Penn State's IRB as well as with the project's advisory board members for guidance.