

Listen to This!

Children's Podcasts, Family Engagement,
and Opportunities for Learning



October 2024

About EDC

Education Development Center (EDC) is a global nonprofit that advances lasting solutions to improve education, promote health, and expand economic opportunity. Since 1958, we have been a leader in designing, implementing, and evaluating powerful and innovative programs in more than 80 countries around the world.

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About The Ready to Learn Initiative

The Ready to Learn Initiative is a cooperative agreement funded and managed by the U.S. Department of Education's Office of Elementary and Secondary Education. It supports the development of innovative educational television and digital media targeted to preschool and early elementary school children and their families. Its general goal is to promote early learning and school readiness, with a particular interest in reaching children from low-income households. In addition to creating television and other media products, the program supports activities intended to promote national distribution of the programming, effective educational uses of the programming, community-based outreach, and research on educational effectiveness.

The contents of this research report were developed under a grant from the U.S. Department of Education. However, those contents do not necessarily represent the policy of the U.S. Department of Education, and you should not assume endorsement by the federal government. [PR/Award No. S295A200004, CFDA No. 84.295A]

Acknowledgments

We would like to thank the children and parents who participated in our study. Without their participation, this study would not have been possible.

We would like to extend our gratitude to our partners at PBS KIDS and CPB for their assistance and support of this work: Kea Anderson, Michael Fragale, Mona Leigh Guha, Pam Johnson, Silvia Lovato, David Lowenstein, and Anne Lund.

Design: EDC Digital Design Group

Suggested citation:

Cardarelli, A., Hunt, E., Silander, M., Sun, M., Vidiksis, R., Emsais, A., Nelson, L., Bueno, M., Kim, B., Hupert, N., Kook, J., & Pasnik, S. (2024). *Listen to This! Children's Podcasts, Family Engagement, & Opportunities for Learning*. New York, NY: Education Development Center, Inc.

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Introduction

The Corporation for Public Broadcasting (CPB) and the Public Broadcasting Service (PBS) are exploring the potential of innovative media formats for supporting young children's learning as part of the 2020–2025 Ready To Learn Initiative. Funded by the U.S. Department of Education, Ready To Learn focuses on the development and distribution of high-quality media resources to support school readiness and early school success for all children and especially for children living in low-income households. The Initiative also fosters community engagement and intergenerational experiences to enrich parents' and educators' ability to use the media to support young children's learning. In its exploration of new media formats, CPB and PBS, in partnership with PRX, supported new content creators and selected public media stations to develop children's podcasts through accelerator programs. PBS KIDS has also been developing podcasts to accompany popular children's series such as *Arthur*, *Molly of Denali*, and *Work It Out Wombats!*

Podcasts—digital audio programs available for on-demand streaming or download—have offered a popular source of news, knowledge, and entertainment for adults for many years. However, over the past 10 years, an increasing number of podcasts target children and families as well as educators. Correspondingly, many children listen to podcasts—by some estimates, nearly half (46%) of children ages 6–12 have listened to a podcast (Edison Research, n.d.).

To understand the potential benefits of podcasts, this study explored the contexts in which children listen to podcasts, families' and children's motivations for listening, and parent perceptions of the potential for podcasts to support intergenerational learning, including the features that drive and sustain children's and families' engagement and opportunities for learning.

Significance: Exploring the Potential Benefits of Podcasts for Children and Families

Research indicates that children, especially those over 3 years old, learn from educational videos, apps, and digital games, and that these formats can improve young children's academic knowledge and social-emotional skills (Barr & Kirkorian, 2023; Grindal et al., 2019; Kennedy et al., 2022; Kirkorian et al., 2008; Mares & Pan, 2013). Audio-only children's media may have these and other benefits. Research on audiobooks has found that listening without a corresponding visual has the potential to bolster children's imagination (Greenfield et al., 1986; Valkenburg & Beentjes, 1997), particularly when the audio includes features such as descriptive sound effects (Fryer et al., 2013; Rodero, 2010). A sizable body of evidence has found that audiobooks can help foster literacy skills and motivation for reading (Best et al., 2020; Larson, 2015; Whittingham et al., 2013). Although little research has examined podcasts as a resource for learning, it is likely that the benefits of podcasts for learning are similar to benefits of other types of children's visual and audio media.

In addition, researchers have studied how adult involvement in children's media use affects their experiences and outcomes. Caregivers engaging with their children while using media—or joint media engagement (Barr, 2019)—enhance children's opportunities to learn from visual media (Dore et al., 2018; Moorthy et al., 2014; Silander et al., 2018). Intergenerational learning, which can result from high-quality joint media engagement, is a reciprocal process where knowledge is shared between children and adults (Stephan, 2020). In this dynamic, children and parents act as “co-learners and co-facilitators” (PBS KIDS, 2021). Parents and other adults can facilitate intergenerational learning experiences that support children's active engagement with and comprehension of media by discussing content, asking questions, drawing attention to specific information, and making connections between media and everyday life.

Through these adult supports, children can comprehend and recall information from media more effectively than when watching alone, leading to enhanced learning (Dore et al., 2018; Strouse et al., 2013). Specific media features can further facilitate parent-child interactions; for example, embedded guidance or conversational cues prompt caregivers to engage in more meaningful conversations, which can result in greater learning for children (Rowe et al., 2021; Strouse et al., 2023; Troseth et al., 2020). Drawing on these findings, along with evidence regarding the impacts of shared book reading (Sim & Berthelsen, 2014) and broader parent involvement, it seems likely that shared experiences and discussions about podcast content could provide crucial support for children's learning from podcasts.

Podcasts may provide particular advantages for family engagement due to their audio-only format, which can allow families to integrate listening into their daily routines and foster shared experiences. However, research on audio media has focused on other formats and older children and adults and does not robustly include the experiences of children in low-income households. Research on podcast use among children ages 4—8 and their families remains limited. In the few studies that do exist, participants have been more affluent than the general population (Nelson et al., 2019), underscoring a need to focus on the appeal and benefits for families in low-income households. Few if any studies assess the benefits for children's outcomes. As children's podcasts become widely available, the need grows to understand their engagement and learning potential.

We conducted a mixed-methods study about young children's and their families' experiences with podcasts to answer some of these questions.

About This Study

With a focus on children and families in low-income households, this study explored the following research questions:

- 1 How do families use and experience audio-based media, particularly podcasts, and for what purpose do families use audio-based media before and during the study?
- 2 What features of the study podcasts do families identify as important for engaging children initially and sustaining interest over time?
- 3 How do the study podcasts support intergenerational learning experiences during and after listening, what are barriers to listening and challenges to engagement, and what do families report they gain from using the podcasts?
- 4 What features of the study podcasts do families identify as important for supporting learning?

Ultimately, the study aims to provide information to inform how to leverage these media to strengthen families' efforts to support learning.

Summary of Findings

This exploratory study investigated how 110 families from low-income households used children's podcasts, examining features that drove engagement, types of intergenerational experiences sparked by listening, and the potential benefits of podcasts. The insights presented here are based on a range of data collection methods, including biweekly parent surveys and interviews, end-of-study interviews with parents and children, and focus groups. A more detailed examination of these findings can be found in the Detailed Study Findings section of the report.

- » **Families from low-income households were highly engaged with podcasts.** Nearly all children and families in the study found the study podcasts engaging, which emphasizes the significant potential of this media format for young listeners. While limited prior studies have focused on podcast listeners from relatively affluent backgrounds, this study demonstrated high engagement among families in low-income households, showing podcasts' potential for low-income listening groups.
- » **Certain benefits, like ease of co-engagement or the ability to engage families across routines and contexts, may be more specific to an audio-only format.** Many families indicated that the accessibility and flexibility of podcasts enabled them to easily incorporate podcast listening into their everyday routines, such as while commuting in the car, at home while cooking dinner, or before bedtime. Additionally, ease of co-engagement during these activities enhanced the benefits of listening, as parents and

children could share experiences, discuss content, and deepen children's understanding through their interactions.

- » **Families were drawn to a range of podcast features.** Parents described and attended to a variety of podcast features that supported both engagement and learning-related experiences for their families. Features such as topics and stories, characters, length and format of episodes, and audio elements came together to engage families. However, parent responses about features that drove interest and sustained engagement differed and, in some cases, contradicted. For example, both novel and familiar characters and contexts engaged families, and interactive prompts supported some while others felt they distracted from the listening experience. Families' reflections on specific podcast features suggest that the study podcasts aligned with the variation in personal preferences and offered something for everyone.
- » **Podcasts encourage family engagement and can support intergenerational learning.** Podcasts appeared to share similar benefits with other forms of children's media in supporting children's and families' engagement and learning. In this study, parents reported that each study podcast engaged different families and sparked conversations and playful learning activities, including both independent free play and parent-guided play around a broad variety of topics and skills. Thus, podcasts provided opportunities for families to extend learning beyond the podcast listening experience.
- » **Specific podcast design features resonated with families.** Although parents attended to a variety of podcast features, parent reflections converged on a few specific features that helped foster engagement. For example, parents reported that interactive content and prompts encouraged children to pay closer attention, and narratives or characters that reflected children's daily experiences helped sustain engagement. Additionally, the ideal length of a podcast episode appeared to depend on the listener's age. Parents of younger children indicated shorter episodes were more suitable for their children. The design of future podcasts for children and families should consider incorporating these specific features.

Sample

Recruitment

Researchers recruited 110 families from across the United States in collaboration with Drive Research, a market research recruitment agency, by contacting parents¹ through existing email lists and social media. To enroll in the study, participants were required to meet the following criteria:

- » They were a parent or legal guardian of a child between the ages of 4 and 8 years as of April 2024.
- » Both parent and child were comfortable speaking English, because the study podcasts were in English.
- » Families lived in a low-income household² at the time of the study.
- » Parents had Wi-Fi access or cellular service, or the ability to go to a library or other location to access resources throughout the study.

Researchers also aimed to recruit a sample that reflected diversity in parent education, child race and ethnicity, child ability (e.g., inclusive of children with an IEP or 504 plan), geography, and urbanicity. In addition, researchers recruited a mix of families who were already podcast users and families new to podcasts.

Participating families received up to \$200 in incentives (\$50 per completed survey). The subsample of families who participated in an interview or focus group received an additional \$100.

Parent and Child Characteristics

All families reported speaking English at home, and most participating parents were female (92%). Participants represented a range of educational backgrounds and family structures.

Child participants were 4 to 8 years old (mean age 6.47 years old, SD = 1.29), and they were relatively evenly split by gender (53% female).³ Thirteen parents (12%) reported that their children received special education services or supports such as an IEP (Tables A-1 and A-2, in the Appendix, provide a detailed description of the sample).

¹ Throughout this report, researchers use the term *parents* broadly to refer to the legal guardians, parents, or caregivers of the young children who participated in this study.

² Defined as less than 250% of the federal poverty guidelines (\$80,000 for a family of four people), or eligibility for state or federal means-tested programs such as SNAP, TANF, free or reduced-price lunch, CHIP, and public or Section 8 housing.

³ No parents selected the other options for labeling their child's gender, which included "nonbinary," "choose to self-describe," or "prefer not to answer."

Figure 1

Age, in Years, of Children in the Study Sample (N = 110)

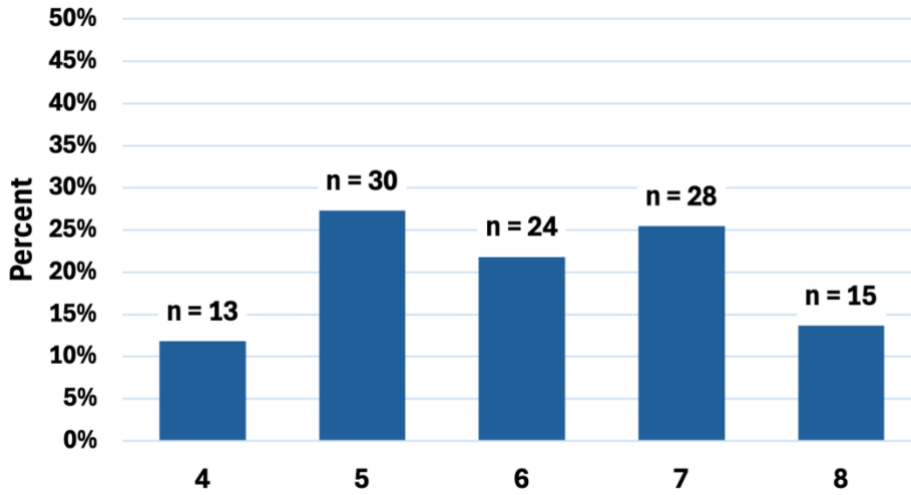
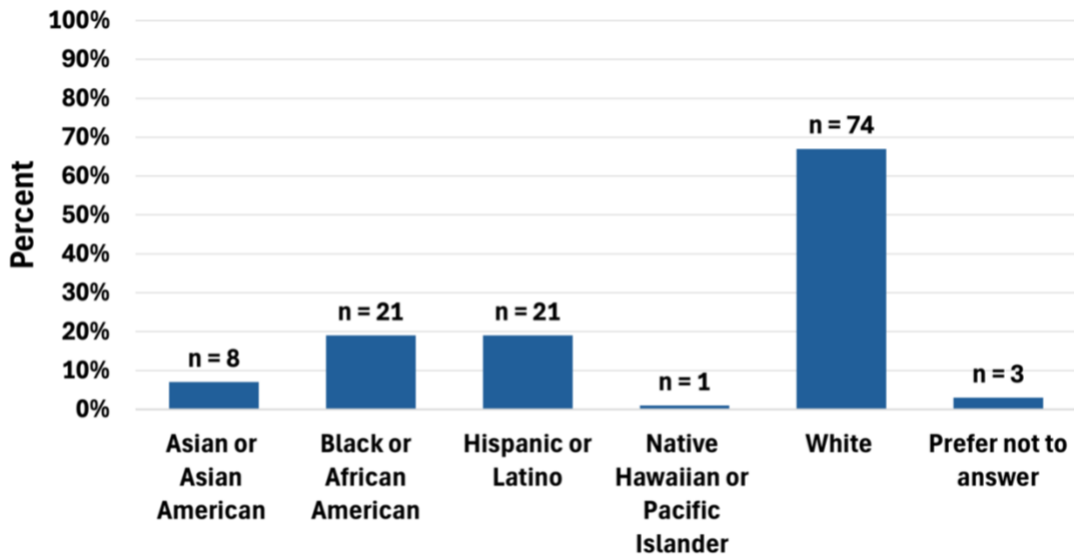


Figure 2

Race and Ethnicity of Children in the Study Sample (N = 110)⁴



⁴ Throughout this report, some percentages do not add up to 100%. In these cases, questions allowed participants to “select all that apply” and therefore give more than one answer.

Geographic Location of Study Participants

The sample included families from 34 states across the United States, including families from urban (58%), suburban/micropolitan (25%), and rural (17%) areas.

Figure 3

Geographic Distribution of Study Participants (N = 110 families)






Note: Large circles represent areas with four or more participants

Study Design and Materials

Researchers conducted a descriptive, mixed-methods study that focused on how young children and their families living in low-income households engage with podcasts. To ensure engagement with a common set of podcasts across families, researchers provided families with eight public media podcasts to choose from (described in Table 1).

Table 1
Study Podcasts

Podcast	Description	Formats and Features	Specifications
<p><i>Jamming on the Job</i>^{*%}</p> 	A music-inspired podcast that explores the World of Work through interviews with various professionals.	Episodic interviews, sociocultural topics, recurring segments, recurring host(s), adult guest stories, musical segments	<ul style="list-style-type: none"> • 2 seasons; 12 episodes • Runtime: 17–24 minutes • Ages 4–8 • English with Spanish phrases
<p><i>Keyshawn Solves It</i>^{*%}</p> 	A mystery podcast that highlights teamwork and perseverance as friends work to solve a mystery while also learning about life skills and Black history.	Serial narrative, sociocultural topics, [!] mystery, complex storyline	<ul style="list-style-type: none"> • 1 season; 8 episodes • Runtime: 10–17 minutes • Ages 5–8 • English
<p><i>Molly of Denali</i>[#]</p> 	An adventure podcast that centers on life in Alaska and Alaska Native culture as Molly and friends try to solve mysteries.	Serial narrative, sociocultural topics, mystery, connected to a show, complex storyline	<ul style="list-style-type: none"> • 3 seasons; 24 episodes • Runtime: 6–15 minutes • Ages 4–8 • English with Gwich'in phrases
<p><i>Odd Squadcast</i>[#]</p> 	A news broadcast-style podcast where The Big O addresses agents all over the world while trying to solve a mystery at headquarters.	Serial narrative broadcasts, recurring segments, recurring host(s), mystery, connected to a show, complex storyline	<ul style="list-style-type: none"> • 1 season; 7 episodes • Runtime: 7–10 minutes • Ages 5–8 • English
<p><i>Pinkalicious & Peterrific</i></p> 	A creativity-focused podcast where two siblings share fun stories while encouraging listeners to dance, sing, draw, and make believe with them.	Episodic narratives, recurring host(s), listener prompts, questions or stories from kids, musical segments, connected to a show	<ul style="list-style-type: none"> • 2 seasons; 18 episodes • Runtime: 13–16 minutes • Ages 3–8 • English

Podcast	Description	Formats and Features	Specifications
<p><i>The Arthur Podcast</i></p> 	A story that highlights the adventures of Arthur and friends around their city with commentary from Arthur and submissions from listeners.	Episodic narratives, recurring host(s), listener prompts, questions or stories from kids, connected to a show	<ul style="list-style-type: none"> • 3 seasons; 20 episodes • Runtime: 15–18 minutes • Ages 4–8 • English
<p><i>The Plate Show</i>^{*%}</p> 	A comedy podcast where Spoonie, a talking spoon, and her BFF, Tongs, interview guests and learn about food and cultures from around the world.	Episodic interviews, recurring segments, recurring host(s), sociocultural topics, adult guest stories, questions or stories from kids	<ul style="list-style-type: none"> • 1 season; 8 episodes • Runtime: 22–28 minutes • Ages 6–9 • English
<p><i>Work It Out Wombats!</i>[*]</p> 	An interactive podcast where listeners play along with the Wombats as they make believe, dance, sing, and solve problems together.	Episodic narratives, recurring host(s), listener prompts, musical segments, connected to a show	<ul style="list-style-type: none"> • 1 season; 8 episodes • Runtime: 9–12 minutes • Ages 3–6 • English

Note: The episode counts listed in this chart reflect the number of episodes available to participants at the time of the study, which ran from May to June 2024. Some podcasts have since released additional episodes.

*Podcast was developed with funding at least in part by the U.S. Department of Education through the Ready To Learn Initiative.

%Podcast was developed as part of a CPB-PBS Ready To Learn Initiative podcast accelerator program with PRX.

#Podcast was connected to a series developed with funding in part by the U.S. Department of Education through the Ready To Learn program.

! “Sociocultural topics” refers to any content related to cultural traditions and/or heritage.

Throughout this report, researchers refer to “features” of podcasts. The features described in Table 1 are the characteristics researchers used to initially categorize study podcasts to ensure that a wide variety of podcasts were presented to families. Researchers hypothesized that those features would be most likely to contribute to listener engagement. However, families pointed to additional podcast features and other aspects that stemmed from the listener experience (e.g., sparking creativity or children’s being able to relate easily to the podcast) that drove engagement during the study. This distinction highlights how the interests and traits of an individual listener drive engagement as much as the design features of a podcast.

Researchers grouped families into one of two sets, Set A or Set B, and offered families in each set the same eight podcasts presented in a slightly different order (see Methods and Table A-3, in the Appendix).

Figure 4
Study Design



Instruments

Researchers used online parent surveys (programmed in Qualtrics) and interviews (conducted via Zoom) to collect insights into families' prior audio habits and feedback about their experiences with podcasts throughout the study, including a pre-survey and three surveys after each two-week listening period. A subset of parents also participated in in-depth interviews or a co-design focus group with their child. (See Methods, in the Appendix.)

Analyses

To analyze the pre-survey and biweekly survey data, researchers created descriptive summaries of parent responses to questions. Researchers conducted thematic analyses of open-ended questions by reviewing the responses to identify possible themes of interest, then refining and summarizing themes (see Methods, in the Appendix). Because these are qualitative, open-ended data and not necessarily representative of the full sample's experience, our analyses of these qualitative data focus on the salience of themes rather than counts. To characterize the prevalence, we use rough guidelines across themes: "most" indicates that the theme was the majority, but not all parent responses; "many" indicates a prevalent number, or around half or just over half of parent responses; "several" or "some" indicates more than a few, but less than a majority; and "a few" indicates a handful of responses.

Detailed Study Findings

This study investigated how families used and experienced audio-based digital media at home, both prior to and during the study. We organized the findings into five sections:

- » Section 1 provides a picture of how families reported engaging with podcasts before the study, including devices, context for use, and media use more broadly.
- » Section 2 explores how families used and experienced the study podcasts, perceptions of the podcasts, and barriers and challenges to engagement.

- » Section 3 dives into features of the study podcasts that families identified as important for engaging children in listening.
- » Section 4 turns to the potential of podcasts to encourage family engagement that could support learning from the podcasts, starting with families' reports of their intergenerational learning experiences during the study, such as the extent to which podcasts sparked playful activities and conversations for children and parents.
- » Section 5 conveys parents' perceptions of aspects of the podcasts that supported their children's learning.

Researchers purposefully recruited a sample of families with different prior experiences listening to podcasts. Because recruitment materials described the study as focused on podcasts, study families were likely to be more motivated than the larger population to listen to podcasts. Nonetheless, feedback from this sample provides insight into the diversity of experiences that families have when engaging with podcasts together.

Section 1: General Family Use of Audio Media

As a first step toward understanding the potential of podcasts for supporting learning, including intergenerational learning, the study explored families' use of podcasts and contexts for use prior to the study through the pre-survey.

Family Engagement with Media and Podcasts Before the Study

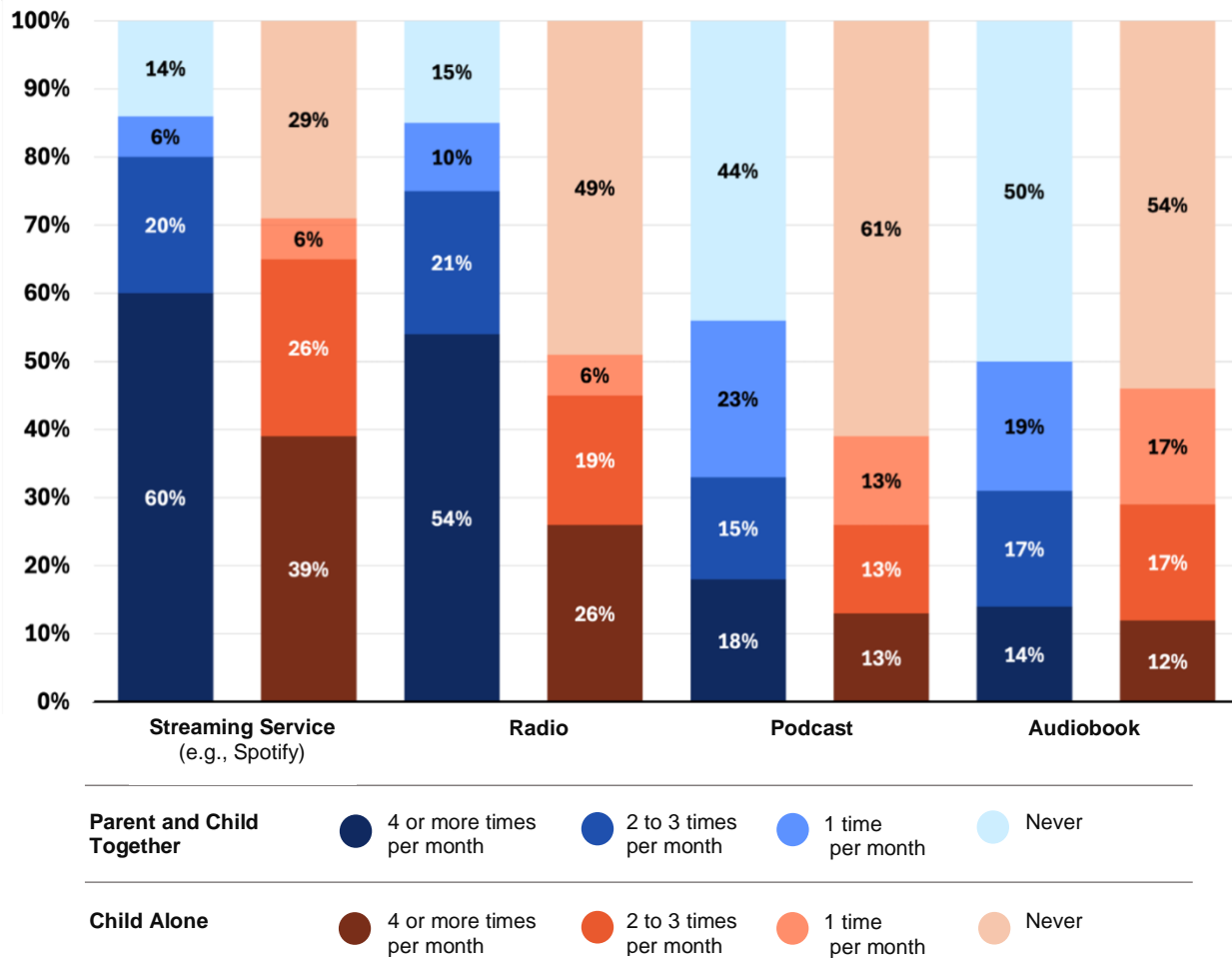
On pre-surveys, parent reports suggested children used media for more than three hours each day, on average. On average, parents reported that in the week prior to the study, their child had spent 3.3 hours using digital media—digital games, videos, and apps—outside of school on a typical weekday, and 4.5 hours on a typical weekend day (see Table A-4, in the Appendix). Parents reported that their children spent about half of that digital media time on educational media.

All participants reported that their child used at least one technology device in a typical week, most often a TV (80%), followed by a tablet (68%) or smartphone (60%) (see Table A-5, in the Appendix). Nearly all parents (93%) reported having rules for their child's media use at home (see Table A-6, in the Appendix).

Most parents listened to podcasts themselves prior to the study. Many listened with their children, and relatively few reported that their children listened to podcasts alone. Most parents (83%) reported that they listened to a podcast alone at least once in a typical month, which was less often than they listened alone to other audio media (see Figure A-1, in the Appendix). More than half of the parents (56%) reported that they listened to a podcast with their child one or more times in a typical month, and more than a third of parents (39%) reported that their child listened to a podcast alone one or more times in a typical month.

Figure 5

How Often Parents Reported Their Child Listened to Audio Alone and Together (N = 110)

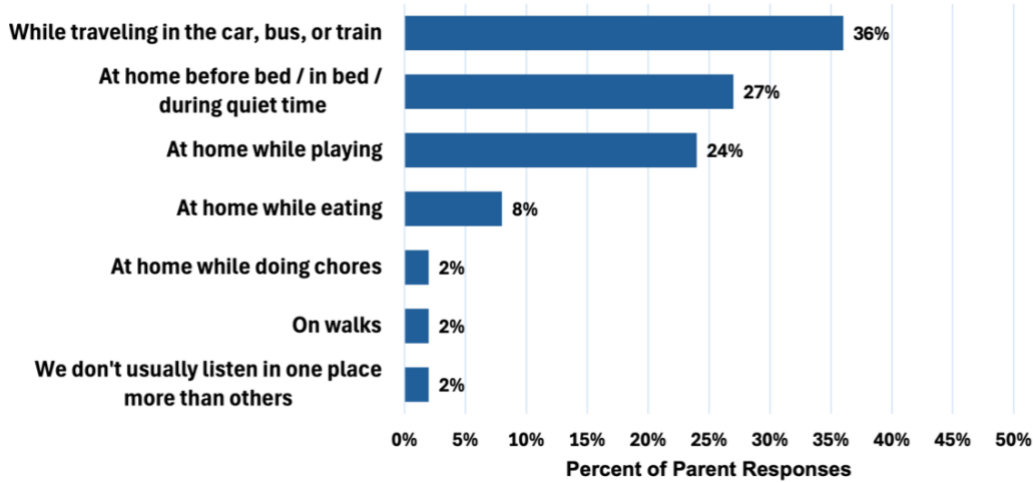


Families typically listened to podcasts while traveling and, slightly less often, before bedtime, during quiet time, or while playing. Of the 43 parents who reported that their child listens to podcasts alone in a typical month, about a third (37%) indicated this was most often at home either before bed, in bed, or during quiet time, followed by traveling in a car, bus, or train (30%), and at home while playing (21%) (see Figure A-2, in the Appendix).

Of the parents who reported that they listened to podcasts together with their child, about a third (36%) said they listened together most often while traveling in the car, bus, or train, followed by before bed, in bed, during quiet time (27%), or while playing (24%). Listening together during commuting was particularly common for other forms of audio media, especially radio (77%) and streaming services (44%). Families more commonly listened to audiobooks together at home before or in bed, or during quiet time (38%).

Figure 6

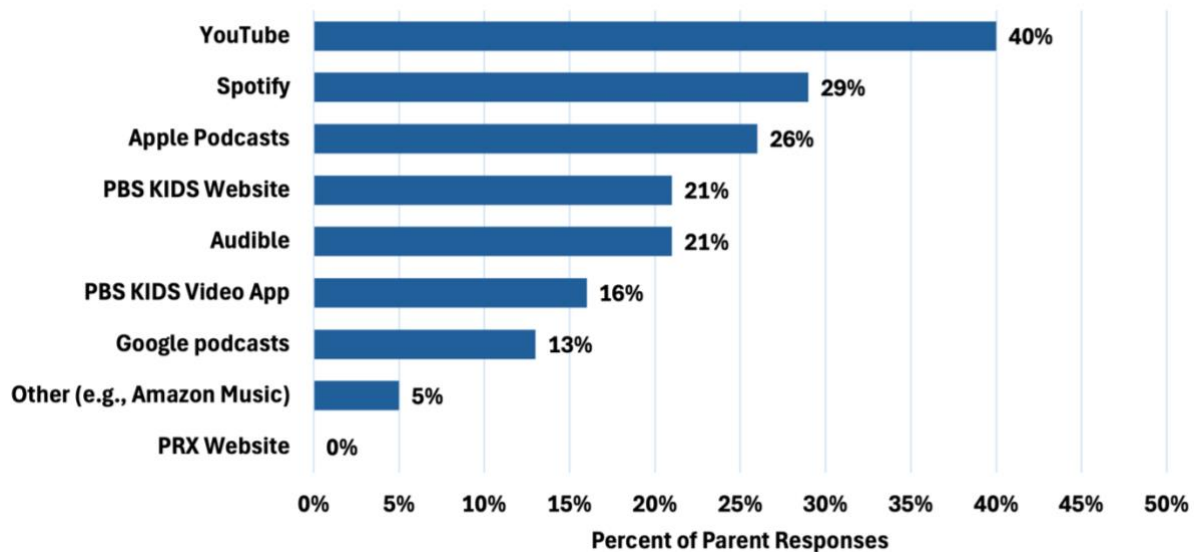
Parent Responses to Where and When They Listen to Podcasts Together (N = 62)



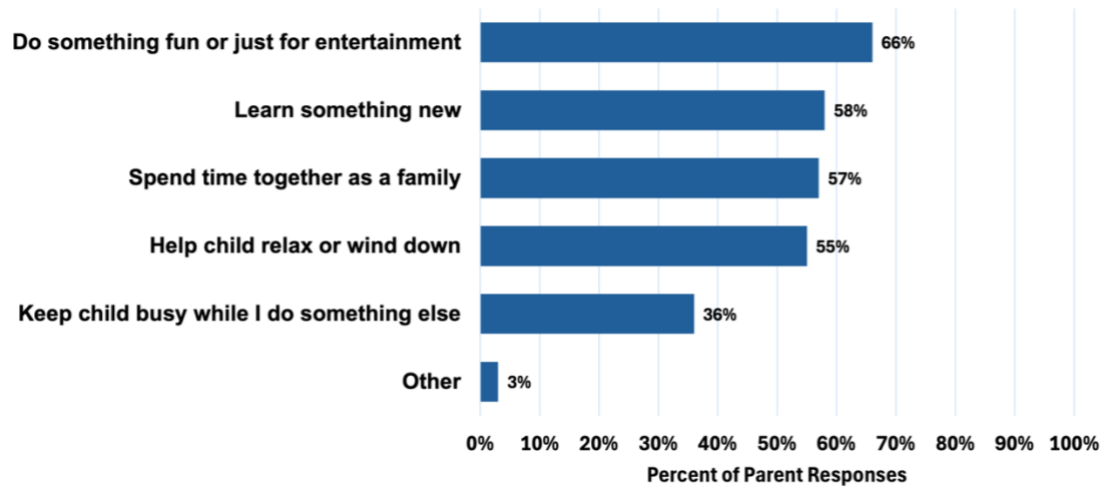
To listen to podcasts, parents were most likely to report using YouTube, Spotify, and Apple Podcasts. A smaller number of parents used the PBS KIDS website (21%), Audible (21%), and the PBS KIDS video app (16%).

Figure 7

Apps and Websites Used to Listen to Podcasts Prior to the Study (N = 62)



Parents reported a range of motivations for listening to podcasts with their children. On average, parents selected three reasons for listening to podcasts with their child. Parents most often (66%) reported that they listened to podcasts for entertainment, and more than half of parents reported that they listened with their child to learn something new (58%), spend time together as a family (57%), and to help their child relax (55%). About a third (36%) of parents reported that they listened to podcasts to keep their child busy while they did something else.

Figure 8**Parent Motivations for Listening to Podcasts with Their Child (N = 62)**

Both parents and children were often involved in choosing new podcasts. Parents who reported that they listened to podcasts upon recommendation were most likely to cite recommendations from friends (62%) or family (39%) (see Figure A-3, in the Appendix).

Section 2: Family Engagement with Study Podcasts

This study explored the contexts and characteristics of families' listening experiences with study podcasts using biweekly surveys, as well as interviews with a subsample of participants.

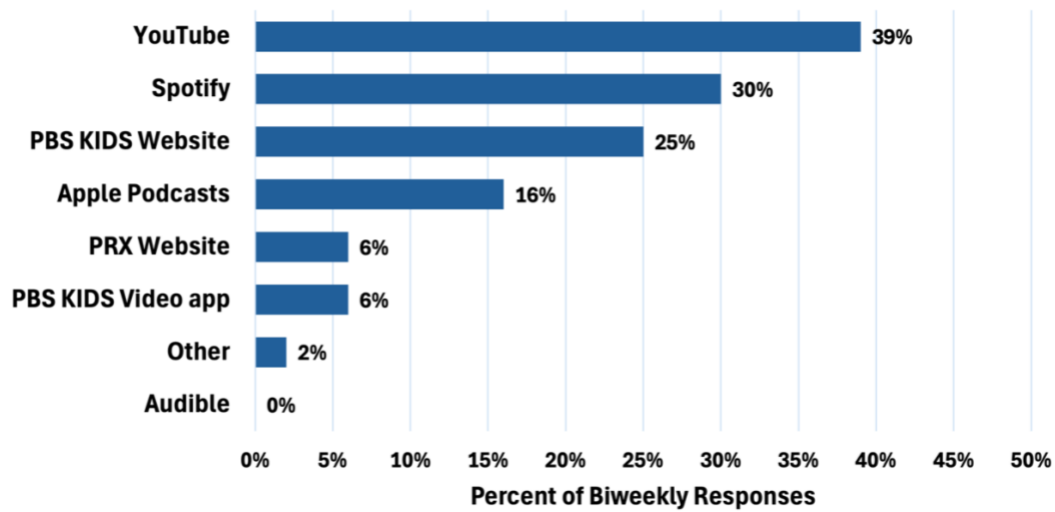
How, When, and Where Children and Families Listened

Children were most likely to listen to podcasts on their parents' smartphones, and somewhat less often on tablets or car radios. Children rarely used headphones. Across the study, in most biweekly survey responses (69%) parents reported that their children listened via a parent's smartphone. Less often, children listened on tablets (24% of biweekly responses), or on a car radio (23% of biweekly responses) (see Table A-7, in the Appendix). Devices used for podcasts differed from the devices that families reported their children using more generally, of which TV was most common, followed by a tablet and smartphone (see Table A-5, in the Appendix). In only 5% of biweekly responses did parents report that their children used headphones. Most (73%) of those who reported use of headphones indicated that their child had used headphones "all" or "most of the time" while listening.

Families mainly used YouTube, Spotify, and/or the PBS KIDS website to listen to the study podcasts, and most families used the same services across podcasts. Parents' biweekly responses most frequently identified YouTube (39%), Spotify (30%), and the PBS KIDS website (25%).

Figure 9

Streaming Service Child Used to Listen to the Podcast (N = 319)

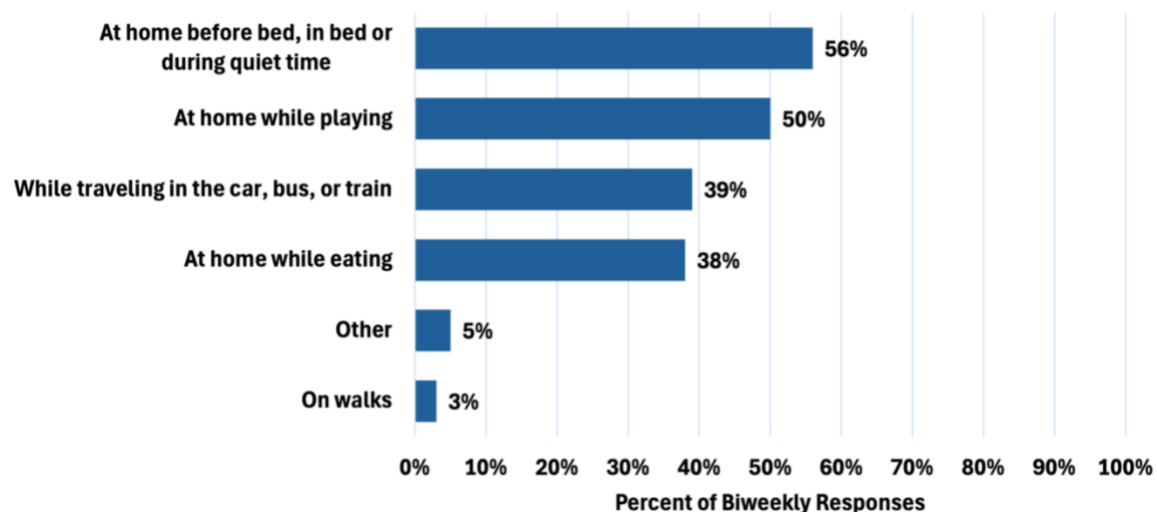


In end-of-study interviews, about half of the parents reported using the same device and listening platform across podcasts, while the other half reported switching services depending on where they listened and the device (e.g., switching from Apple Podcasts in the car to the PBS KIDS video app on the TV at home).

Most families reported listening to the study podcasts at home around bedtime or quiet time, or while playing or in the car—mirroring parents’ reports of podcast use before the study. Of those who indicated that they listened while traveling, all but one reported that they were in the car, and one while on the bus. Some incorporated listening into their daily routines at certain times of day, and others just when they had free time.

Figure 10

Where and When Children Listened to Podcasts (N = 319)



Children often played while listening to podcasts; in some cases, this play was connected to podcast content. Many parents reported that their children engaged in independent free play during podcast listening; for example, children played with dolls, playdough, cars, or blocks. Some reported that their child drew, colored, or painted while listening. In response to some podcasts, some children also danced or sang along with the characters or responded to prompts for the listener.

A few parents reported that their children tried to draw what was occurring in the podcast, and a parent of a 7-year-old mentioned that while listening to *Work It Out Wombats!*, her child created playdough figurines of the characters (see Figure 11).

Figure 11
Playdough Figurines of Work It Out Wombats! Characters



“The dance out loud one, whenever there was painting and being creative or something there, she sat down and she actually acted it out, out loud and danced noisily or [during] one gesture was like, ‘Mommy, can you pull out my paint? I wanna paint.’ And she painted a scene from that.”⁵ –Parent of a 7-year-old [Pinkalicious & Peterrific]

Many parents reported that their children had done other types of activities while listening, such as travel, eat meals or snacks, relax, sit or lie down with parents or siblings, cuddle, get ready for bed, or get ready for school. Some parents reported that their children were able to listen best when they were not doing anything else but listening with no distractions.

Parents also reported listening to podcasts replaced other media-based activities. Of the subsample of 30 parents who participated in biweekly interviews, most reported that listening to podcasts replaced other kinds of activities in their children’s routines. Many of these parents mentioned that podcasts replaced visual media such as television, YouTube videos, shorts, or other kinds of shows. A few parents also mentioned that podcasts replaced listening to other kinds of media such as audiobooks, music, or YouTube. A few parents explained that podcast listening did not replace any activities, but instead added to their child’s routine.

Podcasts Selected

Families listened to a variety of study podcasts across the study; most listened to one podcast every two weeks. Study participants received links to three podcasts in the first week of the study, two podcasts in the third week, and three podcasts in the fifth week. A few families reported listening to podcasts before they were presented in their set, and some continued to

⁵ Quotes throughout this report have been edited for length and clarity, including removing repeated or filler words (e.g., *like, um*) and adding words to provide context.

listen to episodes from a previous week's set. Each biweekly survey asked respondents to indicate all of the podcasts they had listened to with their child in the prior two weeks, and which podcast they listened to the most (see Table 2).

To focus parents' responses, biweekly surveys asked parents to report on just the podcast that their child listened to the most in the two weeks prior. As shown in Table 2, below, families' selections were relatively evenly distributed among all the podcasts, suggesting each held broad initial appeal.

Table 2

Parent Biweekly Reports of Podcasts Listened to Across the Study (N = 319)

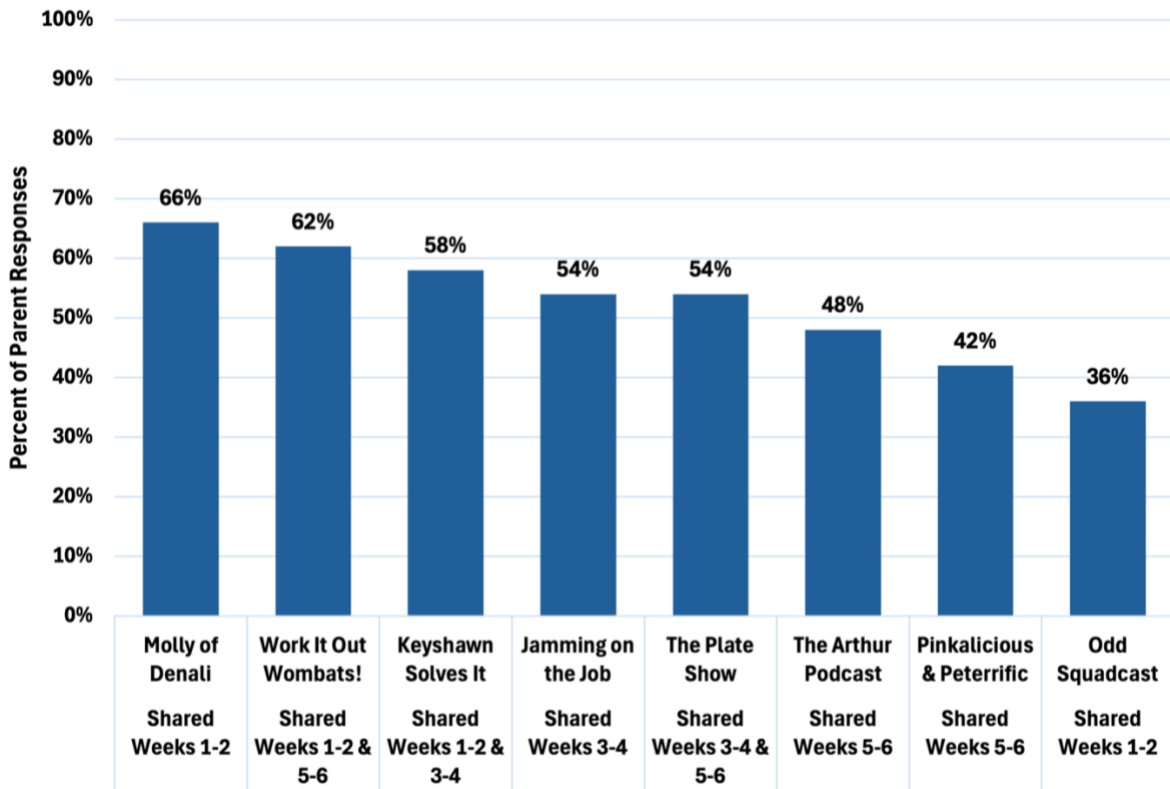
	Weeks 1 and 2			Weeks 3 and 4			Weeks 5 and 6		
	Podcast Options	Selected All Podcasts Listened To	Podcast Listened to Most (N = 107)	Podcast Options	Selected All Podcasts Listened To	Podcast Listened to Most (N = 105)	Podcast Options	Selected All Podcasts Listened To	Podcast Listened to Most (N = 107)
Set A - 55 Families	Molly of Denali	30	19	Molly of Denali	3	3	Molly of Denali	2	2
	Odd Squadcast	19	10	Odd Squadcast	3	1	Odd Squadcast	3	1
	Work It Out Wombats!	27	26	Work It Out Wombats!	7	5	Work It Out Wombats!	7	3
	Jamming on the Job			Jamming on the Job	30	15	Jamming on the Job	4	2
	Keyshawn Solves It	1		Keyshawn Solves It	38	28	Keyshawn Solves It	6	2
	Pinkalicious & Peterrific			Pinkalicious & Peterrific			Pinkalicious & Peterrific	18	11
	The Arthur Podcast			The Arthur Podcast			The Arthur Podcast	25	20
	The Plate Show			The Plate Show	2	1	The Plate Show	20	13
Set B - 55 Families	Molly of Denali	32	29	Molly of Denali	11	6	Molly of Denali	7	3
	Odd Squadcast	13	7	Odd Squadcast	3	1	Odd Squadcast	5	1
	Keyshawn Solves It	19	13	Keyshawn Solves It	4	3	Keyshawn Solves It	4	
	Jamming on the Job			Jamming on the Job	26	18	Jamming on the Job	3	
	The Plate Show			The Plate Show	34	22	The Plate Show	5	
	Pinkalicious & Peterrific			Pinkalicious & Peterrific			Pinkalicious & Peterrific	23	16
	The Arthur Podcast			The Arthur Podcast			The Arthur Podcast	20	14
	Work It Out Wombats!	4	3	Work It Out Wombats!	4	2	Work It Out Wombats!	23	19

Note: Numbers in gray rows indicate that the family selected a podcast that was not presented as an option in their set that week, meaning the family either explored podcasts beyond their set options or continued listening to a podcast from the previous weeks.

The final survey asked parents to indicate all podcasts their children listened to during the study (see Figure 12). Popularity is partially indicative of the order in which podcasts were released to parents—ones released in the first two set options were among the most listened to.

Figure 12
Parent Reports of Podcasts Child Listened to Across All Study Weeks

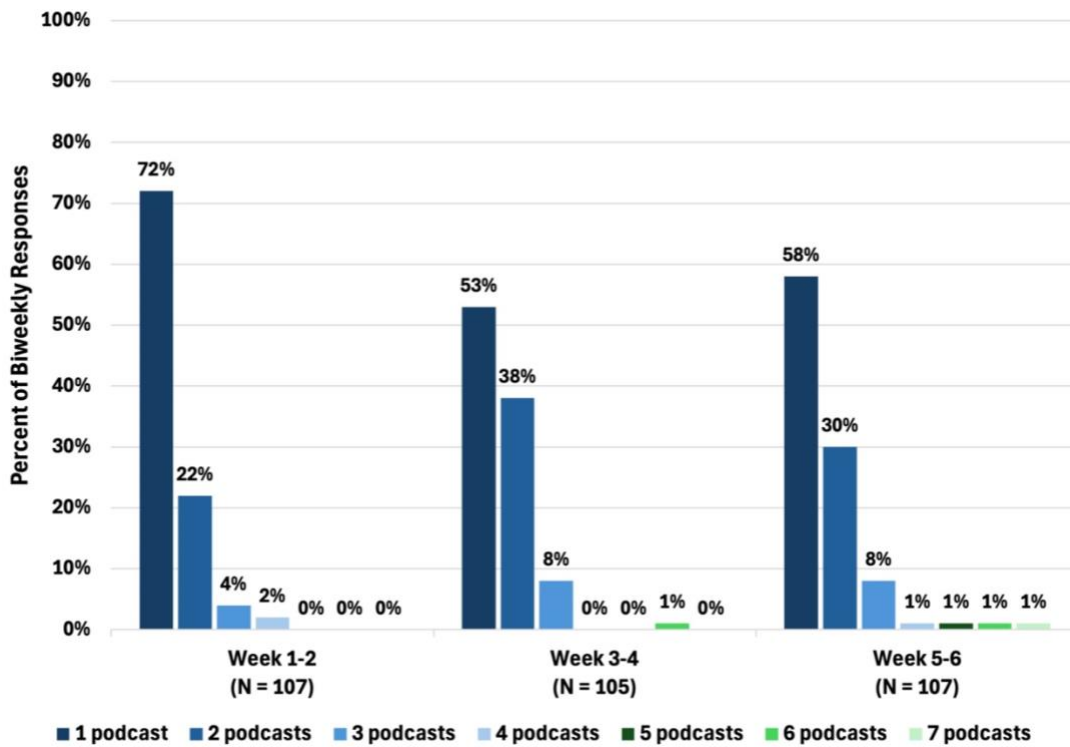
(Source: Final biweekly survey, N = 107)



As the study progressed, parents were more likely to report listening to more than one podcast biweekly. Responses suggest that in the first two weeks of the study, about three-quarters (72%) of children listened to only one podcast. In later weeks, a little over half of parents (53%–58%) reported that their children listened to one podcast, and a little under half reported that their children listened to two or more podcasts over the two-week period. A few parents reported listening to more than the three podcast options from their biweekly sets.

Figure 13

Number of Different Podcasts Listened to in Prior Two Weeks (N = 319)

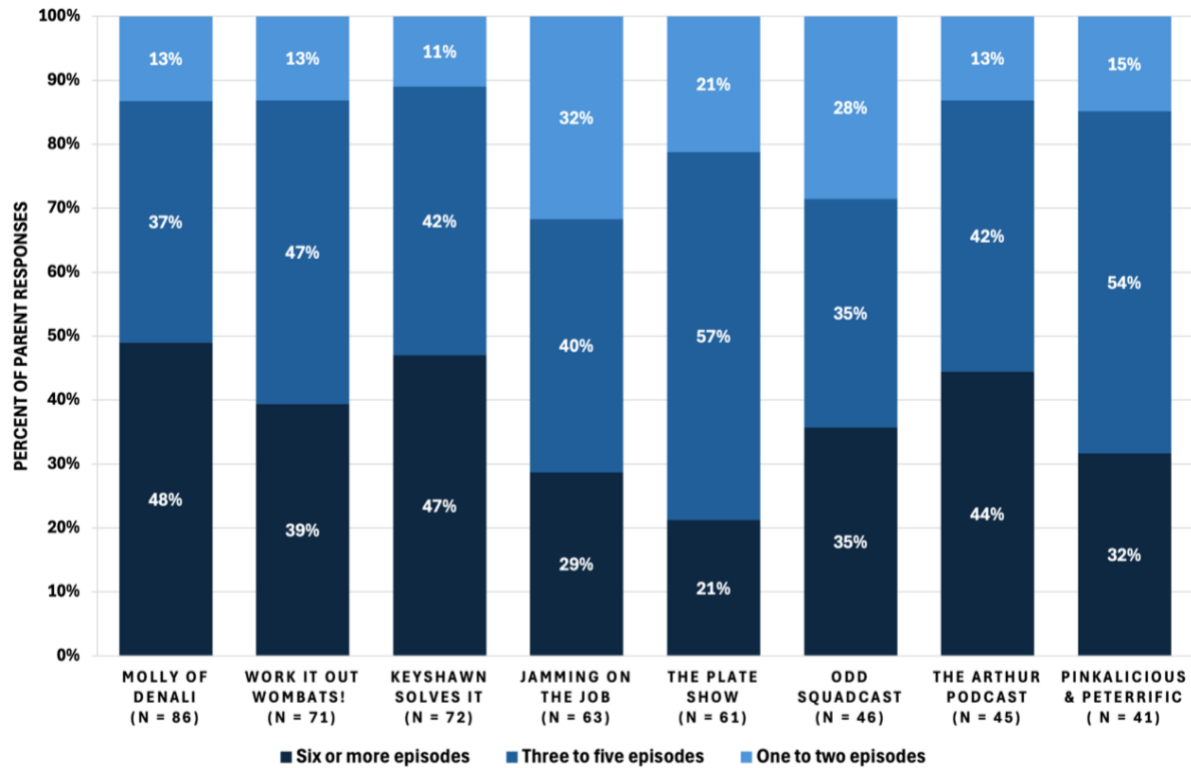


Extended Engagement

Parent reports suggest that most children listened to more than a few episodes of a podcast over each biweekly period, and many children listened to several episodes. Many families reported that they listened to six or more episodes of a particular podcast (see Figure 14). The number of episodes that children listened to was consistent across podcasts, regardless of episode length. During interviews, parents often reported that their family did not listen to every episode of a podcast because they ran out of time. Other parents reported that their child had lost interest, wanted to try a different podcast from that week's set, or wanted to re-listen to episodes.

Figure 14

Number of Episodes Parents Reported Listening to in Prior Two Weeks (N = 319)



Most parents reported that the podcast episodes were a good length to engage their child. In interviews, parent perceptions of length varied and were not uniform within age groups, but parents of younger children (ages 4–6) tended to indicate that episodes around 5–10 minutes were best for their child, and parents of older children (ages 7–8) tended to indicate that episodes around 10–15 minutes were best for their children. A few parents noted their child needed breaks while they listened—either between episodes, or during the episodes. Some parents liked the short podcast episodes because they could listen to episodes consecutively when they had time, and their child was able to pay attention more easily than with longer episodes.



“Some of them are, like, 13 to 15 minutes. I think it’s a good cap because it would be a car ride, a little errand, or the walk to school or falling asleep. They managed to complete a whole episode and have a resolution and ending with it, and I think that was good. It’s a good feeling of accomplishment even though it’s a short amount of time and it’s not too long, you can go and listen to a second one.”

—Parent of a 7-year-old

Section 3: Standout Features for Promoting and Sustaining Engagement

The study explored parents' perceptions of podcast features that drove both initial interest—for example, selecting a podcast—and sustained engagement with a podcast over time.

Researchers collected data from parents in biweekly surveys and interviews about all podcasts listened to over the preceding two weeks, how and why their child chose the podcast they spent the most time listening to, and what their child enjoyed or did not enjoy about that podcast. In addition to mentioning the features that the research team initially identified (Table 1) as likely to contribute to listener engagement, (e.g., serial vs. episodic narratives, recurring segments, and interactive prompts), parents described additional podcast features and aspects of their personal experience of listening that promoted engagement for their families.

Podcast Choices and Initial Engagement

Familiarity with the series or characters, interest in the content, engaging visual design, or characters that shared similarities with the child or family seemed to drive children's initial interest. More than half of parents whose children spent the most time listening to a podcast associated with a show reported that their child had seen the show before, or in some cases, their children were familiar with the characters.

Many parents wrote that their child chose a podcast because of the description or previews, thought it “looked cool,” or thought it sounded the most interesting out of the choices in the set. Parents often wrote that their children chose *Jamming on the Job* and *The Plate Show* because they were intrigued by the podcast descriptions' references to music or cooking. Additionally, many parents wrote that their children chose podcasts because the description mentioned a mystery, such as *Keyshawn Solves It*. Other parents reported that their children chose the podcast because of its cover image or the design and visuals.

Some parents reported that their child chose a podcast because they related to the characters in the podcast (e.g., similar age, race or ethnicity, or family dynamics). For example, one parent of a 7-year-old reported that her daughter chose *Keyshawn Solves It* because “*She saw the podcast artwork and liked that it was a little Black kid like her*” (see Figure 15). Another parent of an 8-year-old explained that his child chose *Jamming on the Job* because the description mentioned Latino characters and music, “*We are Hispanic, and he likes the characters with accents, and he loves music.*” A few parents explained that their child related specifically to the character's family.

Figure 15
Child's Drawing of Keyshawn Solves It Characters



“She says she chose Molly of Denali because Molly looks like a fun, energetic little girl like her. She said Molly of Denali reminds her a lot of our family, especially with her having a dog.” –Parent of an 8-year-old

Podcasts held general appeal across age groups. As shown in Table 3, podcast choices did not differ substantially by child age. Some podcasts that targeted a specific age group aligned to child choices (e.g., 8-year-olds chose *Odd Squadcast* more often than younger children). However, most podcasts appealed broadly to participants across all age groups.

Interview data suggest rationale for selecting podcasts varied by gender. Parents of girls were more likely than parents of boys to report that their child chose a podcast because of characters—either because they could relate to the character in some way (e.g., *Molly of Denali*), or because they were familiar with the character (e.g., *Pinkalicious & Peterrific*). Parents of boys were more likely than parents of girls to report that they chose podcasts that sounded interesting, such as specific content (e.g., playdates in *Work It Out Wombats!*).

Most often, parents indicated they let their children choose the podcasts to listen to. For example, one parent of a 7-year-old described how she and her child chose to listen to *The Plate Show*:



“She said, ‘Oh, Mommy, it’s about cooking. I want to listen to it.’ And I loved it because it’s about food around the world and different cultures and different foods. I’m trying to get her on a more healthy path, so listening to that motivated her and me to want to try different foods because there’s a lot of healthy dishes out there that we haven’t tried, and I want to expand our palate.”

Some families read the descriptions together and looked at the cover images to choose. A few parents mentioned that their children were attracted by the bright and interesting colors in the cover image. Other families listened to the introductory clips or first episodes of each option in the set to choose. In contrast to how they responded in the pre-survey data, only a small handful of parents reported that they chose the podcast for their child, most often based on what seemed likely to interest their child or what would provide a more valuable learning opportunity. In particular, *Jamming on the Job* and *The Arthur Podcast* were chosen more frequently by the parent than the child.

Table 3
Family Background by Podcast Choices (N = 109)

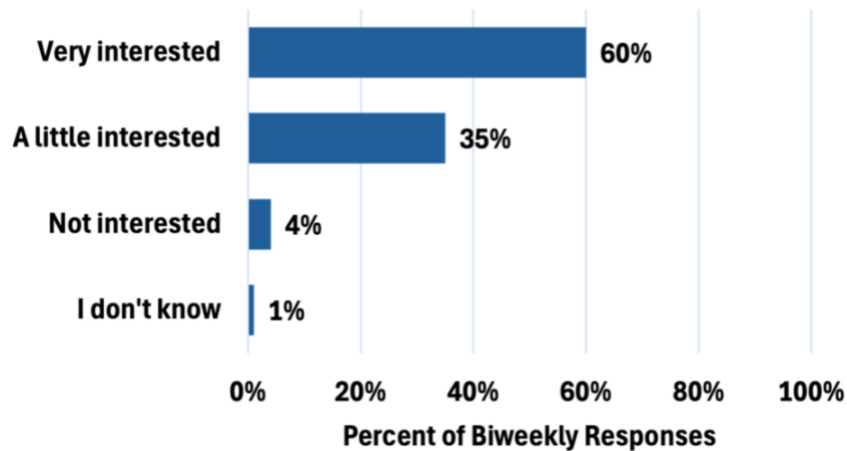
Background of Families Who Reported Listening to a Podcast in at Least One of the Biweekly Surveys								
	<i>Molly of Denali</i>	<i>Keyshawn Solves It</i>	<i>Work It Out Wombats!</i>	<i>The Plate Show</i>	<i>Jamming on the Job</i>	<i>The Arthur Podcast</i>	<i>Pinkalicious & Peterrific</i>	<i>Odd Squadcast</i>
Child age in years, mean (standard deviation)	6.44 (1.28)	6.59 (1.34)	6.47 (1.23)	6.50 (1.28)	6.44 (1.33)	6.45 (1.33)	6.47 (1.41)	6.67 (1.47)
Child has special education services or support	13%	10%	17%	11%	13%	11%	15%	12%
Child is female	60%	52%	51%	48%	57%	44%	68%	56%
Asian or Asian American	6%	11%	9%	9%	7%	2%	3%	15%
Black or African American	11%	26%	17%	17%	14%	27%	15%	9%
Hispanic or Latino	21%	16%	19%	16%	20%	20%	15%	6%
Native Hawaiian or Pacific Islander	3%	2%	2%	3%	0%	0%	0%	0%
White	76%	61%	69%	74%	77%	62%	75%	85%
Number of parents	63	61	59	58	56	45	41	34

Child Interest and Sustaining Engagement in Podcasts

Children generally enjoyed and were engaged with the study podcasts. Most (85%) parents reported that their children were “very interested” in a podcast at least once during the study; in 95% of biweekly responses, parents indicated that their children were either “very” or “a little” interested in the podcasts they had listened to in the prior two weeks. In general, reasons for initial engagement aligned with reasons for sustained engagement.

Figure 16

Parent Reports of Their Children's Interest in the Podcast They Listened to Most in the Prior Two Weeks (N = 319 surveys)



In open-ended biweekly survey questions and in interviews, **many parents reported that their children enjoyed the characters in the podcasts**, including familiar characters from shows, listening to a child like them, the voices of the characters, engaging character storylines, and characters in situations or with backgrounds similar to their own (e.g., *Keyshawn Solves It* and *Molly of Denali*).

Parents also reported that their children enjoyed listening to podcasts that featured characters going on adventures together, playing together, or pretending together (e.g., *Molly of Denali* and *Work It Out Wombats!*).

Parents also described specific features that held their children's interest, including interactive problem-solving, direct prompts to children, and music. Parents noted interactive elements, such as problem-solving (e.g., *Odd Squadcast* and *Work It Out Wombats!*) or podcasts that speak directly to the listener and prompt a response (e.g., *The Arthur Podcast*).

Many parents mentioned the engaging music and that children enjoyed dancing or singing along with the podcast characters (e.g., *Jamming on the Job*). Additionally, some parents reported their children enjoyed when podcasts encouraged them to use their imagination (e.g., *Work It Out Wombats!* and *Pinkalicious & Peterrific*), and other children enjoyed the humor in podcasts, particularly in *Odd Squadcast* and *The Plate Show* (see Figure 17).



Figure 17
Child's Drawing of The Plate Show Characters



“She really liked that there was something to solve and that it started out as a pattern that she was trying to figure out and then turned into a mystery, and she wanted to know what happened next.” – Parent of a 7-year-old [Odd Squadcast]

Podcasts that presented mysteries and sociocultural content drove child engagement across episodes. Many parents described how their children enjoyed solving the mystery that unfolded across the serial narrative along with the characters, particularly when listening to *Keyshawn Solves It* and *Molly of Denali*, and that this made them want to continue listening. Additionally, some parents mentioned that interest in learning more about sociocultural topics, like the lives of different groups of people and cultural traditions, drove sustained engagement. For example, parents reported that their children who listened to *Jamming on the Job* and *The Plate Show* were eager to choose next episodes that focused on a type of career or type of food they were particularly interested in. One parent of a 6-year-old explained that when listening to *Jamming on the Job*, his child *“wanted to get to and see what the next job they were going to discuss was.”*

Some parents reported that their children enjoyed learning about different languages, jobs, food, animals, and cultures, and that podcasts sparked their curiosity.



“He has caught on to some of the native language that they use in the podcast, and I think he’s a super curious kid. So, the fact that it’s set in a different place and there’s different animals and there’s a very rich culture that’s involved, that makes him more curious.” –Parent of a 5-year-old [Molly of Denali]

Similar to patterns in initial engagement, parent reports suggest that podcasts resonated differently with children depending upon gender. In open-ended responses, parents of boys more often wrote that their child favored interactive elements and humor, citing interest in podcast variety and learning opportunities. In contrast, parents of girls reported more often that they enjoyed character voices and music, and they were drawn to engaging storylines; ability to relate to characters; problem-solving; mysteries; and podcasts that inspired creative activities.

Parent ratings suggest that older children were more interested than younger children in podcasts. On average, parents of older children rated their children’s interest in the podcasts higher than did parents of younger children on the biweekly surveys ($p < .01$).

Section 4: Podcasts and Intergenerational Engagement

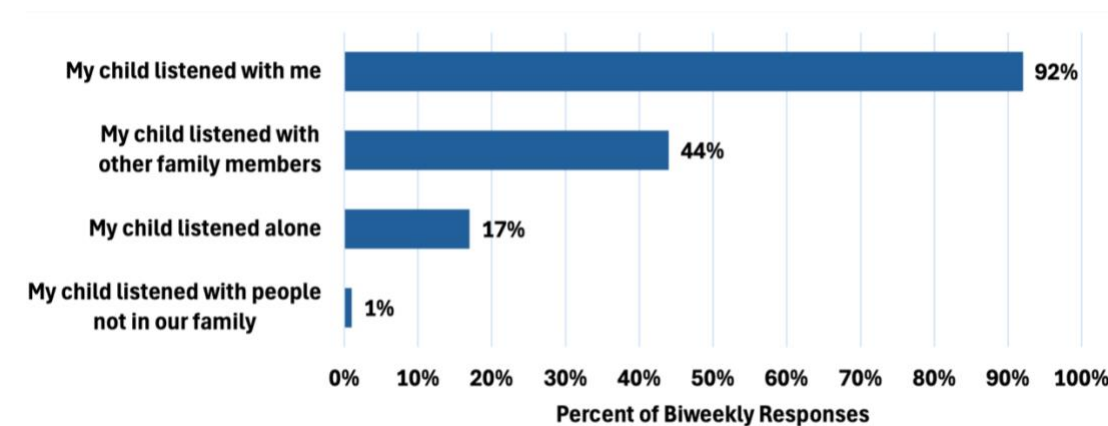
To assess the potential of podcasts for supporting young children's learning, the study explored the extent to which podcasts provided opportunities for parents and children to engage in experiences that may support learning, such as conversations between family members about the podcasts or follow-on activities that allow children to continue to explore a concept in more depth. Researchers also explored parents' engagement with the podcasts, barriers to listening, and benefits.

Family Engagement

Across the study, all but one parent reported listening to the podcasts with their child at least once during the study, and almost all parents (81%) reported listening together with their children in all three biweekly surveys. The majority (92%) of parents reported that they listened with their child. Reports of co-use were similar to rates in studies of intergenerational engagement with visual media (Bueno et al., 2023). Many parents' survey responses indicated that children often listened with other family members (44%), especially siblings, and less often, children listened alone (17%).

Figure 18

Parent Reports of Who Listened to the Podcast with Their Child (N = 319)



Parents' motivations for listening to podcasts with their children centered on spending time with the children, nostalgia for familiar series, and interest in learning new content from podcasts. Many parents reported that this study provided an opportunity to bond with their child and share a new experience together, and many found listening to the podcasts enjoyable. Some parents explained that the podcast made them feel nostalgic because the characters were familiar to them from their own childhood (i.e., *The Arthur Podcast*) or reminded them of watching or listening to the media with their family growing up.



“I think maybe because I’m still a kid at heart. So, it’s my excuse to be able to listen to it without, you know, feeling guilty.” –Parent of a 4-year-old

Other parents listened because the storyline was entertaining or they were interested in the content (e.g., cooking), and some felt like they learned something new along with their child. Notably, some parents reported that they listened because they wanted to observe their child’s experience of listening and wanted to gain new insight into their child.



“I liked that it was very informative and educational, talking about all the different types of food from other cultures and countries and holidays, and it went into details of what certain things are called and how you make them. I really liked that aspect.” –Parent of a 4-year-old [*The Plate Show*]

Participation in a study about listening to podcasts together likely encouraged parents to co-listen more than they would have outside of the study context. However, that co-listening was common across most families points to the potential for podcasts to foster joint-media engagement.

Parents enjoyed listening, though they mainly appreciated podcasts for the benefits they offer their children. In general, many parents found the podcasts to be entertaining and enjoyable, although most of the parents’ responses were focused on their child’s experience with the podcasts rather than their own enjoyment. For example, many parents reported enjoying that podcasts provided learning opportunities for their child, including learning about social-emotional topics such as character development and cultural awareness as well as content such as the World of Work.

Some parents reported that they enjoyed when the content was interesting or engaging to them as well as to their child. Describing the podcasts’ personal appeal, parents highlighted a variety of features that made the podcasts more engaging to them, including humor, interactivity, realistic voices, and the different formats such as engaging storytelling or interviews.



“Sometimes podcasts can be boring, but this one had all the noise and the voices and things we’ve seen in Odd Squad before, [so] it was easy to kind of visualize it on my end. It was actually good. It kept my attention. And you know, I’m an adult. My brain keeps going. But I was actually able to focus on it.” –Parent of a 4-year-old

One parent of a 5-year-old girl also noted how listening to podcasts helped with car sickness during car rides, explaining that, *“Sometimes my kids get car sick, so that’s another reason we*

listen to podcasts. Coloring, looking at a book, or playing a video game makes car sickness worse. However, looking out the window and listening to something helps.”

Surprisingly, only a small number of parents mentioned an appreciation of podcasts because they provided a break from screen time. One parent of a 7-year-old explained, *“I think he learned how to follow along to a story while listening to it, instead of always watching TV.”* Another parent of a 7-year-old girl shared in an interview, *“Yeah, [podcast listening] replaced mindless watching or scrolling kind of thing. Instead of just wasting time, let’s try to relax in a way that still engages our brains a little bit.”*

Intergenerational Conversations

The majority of parents (83%) reported having a conversation related to a podcast in at least one biweekly survey; about one-third of families (35%) reported talking about podcasts with their child in all three biweekly surveys. Some conversations were parent-driven, and some were driven by children asking questions about the podcast they listened to. There were no significant differences by child age ($p > .05$) in parent reports of having conversations about podcasts, whether podcasts sparked follow-on activities, or co-listening.

Parents provided a variety of examples of conversations in their open-ended survey responses, the majority of which fell into three main categories, in order of frequency:

- » Clarified the plot and inquiry-based dialogue
- » Discussed specific themes or content from the podcast, including social and emotional learning (SEL); academic content; problem-solving; the World of Work; and different cultures
- » Related the podcast situations to their own lives or experiences

Clarifying the Plot and Inquiry-Based Dialogue

Most frequently, parents described recapping or clarifying the storyline or other components of the podcast. Often, conversations included asking their child questions about episodes after they had listened; for example, asking their child why they thought a character acted a certain way, what they imagined the characters looked like, or what the child liked about the podcast. Parents also reported that their children would ask them to clarify questions about the episodes or about podcasts in general, such as to explain the lack of a visual element.



“Okay, The Plate Show . . . turn on the picture, turn on the picture.’ And I said, ‘No, this one’s just a listening podcast,’ and then she’d ask, ‘Okay, well, Mommy . . . how do we know? We can’t see what they’re putting on the pizza.’ And I explained, ‘Well, you have to listen to what they’re saying.’” —Parent of a 5-year-old

During interviews, some parents reported that their children asked deeper questions that required making inferences about the characters or stories. For example, one parent described questions from her 6-year-old child while listening to *Keyshawn Solves It*.



“She was asking questions like, ‘Why would someone take bikes from kids? Was Keyshawn’s town close to our town? Why can’t we have keys like Keyshawn does to unlock everything?’”

Conversations about Specific Themes or Content

Many parents reported that listening to podcasts led to discussions with their children about specific themes or content, including social-emotional skills and problem-solving skills; literacy, math, and science concepts; and the World of Work.

Parents reported discussing subjects related to social-emotional learning—such as courage and determination—after listening to *Keyshawn Solves It*, and discussing topics like teamwork, persistence, and listening after listening to *Work It Out Wombats!*

Parents also reported that listening to podcasts sparked conversations about academic content, such as nature, numbers, patterns, or vocabulary. For example, parents who listened to *Molly of Denali* reported talking to their child about different animals and the geography, animals, and weather of Alaska, and parents who listened to *Odd Squadcast* reported talking about counting, numbers, fractions, and patterns (see Figure 19).

Figure 19
Child’s Drawing of Big O from Odd Squadcast



Additionally, parents reported that podcasts sparked conversations about problem-solving, particularly *Work It Out Wombats!*, *Odd Squadcast*, and *Keyshawn Solves It*. For example, families who listened to *Keyshawn Solves It* discussed how to solve the mystery, and families who listened to *Work It Out Wombats!* discussed how to follow clues and not make assumptions.

Parents who listened to *Jamming on the Job* with their child reported conversations about the World of Work, including diving into specific occupations, how a person’s job relates to the larger community, and job aspirations. A few parents noted that conversations about *Jamming on the Job* helped contextualize interactions with people in their community, including understanding a parent or family member’s job or when a family would need to see a veterinarian or nurse practitioner.



“All three of my kids got sick a day or two after listening. We went to the pediatrician and saw a nurse practitioner. She [my 6-year-old] made the connection to the episode, and we discussed how the NP could do most everything a doctor can and that she would be helping her feel better after an exam.” –Parent of a 6-year-old

Some parents reported having conversations about different cultures, including holidays, foods, religions, and geographic differences, after listening to some podcasts. Parents reported that *The Plate Show* led to conversations about food, cooking, and how food intersects with specific cultures, and parents who listened to *Molly of Denali* described conversations with their child about Alaska Native culture and what it would be like to live in Alaska. A few parents reported that *Keyshawn Solves It* helped them introduce and explain complex topics, particularly Juneteenth, to their children.

Relating to Podcast Situations

Several parents reported talking with their children about how situations in certain episodes related to their own lives. Parents reported using the podcast situations to spark conversations to help their child better understand a problem in their own life, or talk about what a child would do if they were in a certain situation that the podcast character was in. In particular, a few parents reported that *The Arthur Podcast* prompted conversations about the importance of relationships with family and friends and how to handle difficult situations.



“After we listened to the podcast about Arthur’s parents being on staycation at home and how Arthur and DW helped with baby Kate so they could relax, we talked about how it’s important in a family for everyone to help out with chores and other things because parents can’t do it all alone and kids can help too. We also talked about what to do in a situation where you are lost or alone after listening to the episode where Francine and Arthur get locked in the library. We talked about how it’s important to have a plan if you are lost.” –Parent of a 7-year-old

Intergenerational Activities

More than half of the families (55%) reported that podcasts inspired follow-on activities. Parents described many different types of activities, including play, research on topics, and exploration of activities in their own communities. Many parents described that their child participated in different playful activities with and without adult involvement. Of those parents who reported playful activities prompted by the podcasts, some described examples of independent free play, such as a child throwing a birthday party for their plushies as they do in *Work It Out Wombats!*, or having a dance party inspired by *Pinkalicious & Peterrific*. However, most parents described that they participated in podcast-inspired activities *with* their child.



“We looked up a few things about the jobs. He decided that he wanted to try to sell merchandise after listening to that specific episode. He had a fun time thinking about what he would sell, and he decided on plushies. So we looked through his plushies and gave them fun names for the online store. Of course, this was all just for fun and play.” –Parent of a 6-year-old [*Jamming on the Job*]

In addition to doing playful activities, some parents reported doing more online research together on a topic from the podcast, such as looking up pictures of Alaska or reading more about different kinds of birds.



“After we listened to the episode about Challah, we talked about how our friend is Jewish. We looked at challah braids online. We attended church and he recognized Passover from the podcast, so we talked about that Bible story.” –Parent of a 5-year-old [*The Plate Show*]

Other parents reported that the podcasts inspired activities such as listening to different sounds in their environments (*Work It Out Wombats!*) or teaching their dog tricks that Molly taught her dog Suki (in *Molly of Denali*). Parents also mentioned other types of follow-on activities in their communities, such as attending a Juneteenth parade, going to an Asian grocery store to try new ingredients, or trying to see the Northern Lights from their backyard.

Conversations and Activities Among Siblings

Among parents who reported their child listened with siblings, few reported that their children had follow-on conversations or activities about the podcast. During interviews, parents often reported that siblings did not have substantial conversations together, but some siblings had talked about the plot of the podcast, and some acted out the scenes based on the podcast or engaged in playful activities prompted by the podcast.



“I think what they did together was that anytime they heard the animal noise, if my daughter started, her brother would jump in. So, for a minute, I have seagulls in the house, I’d have dragons. If she starts counting, because he’s older he’ll jump in and count to help her. They played together that way, but there were no conversations; they just enjoyed hearing it.” –Parent of a 4-year-old [*Odd Squadcast*]

One parent of a 4-year-old described how his older children helped his participating child access *Keyshawn Solves It* and how they engaged in pretend play together.



“So there was a day where I came home from work, and they were, like, ‘Dad, we listened to the rest of the episodes,’ because they liked it so much, so [his brothers] started it for him to listen to it together. Later, they would even pretend to be Keyshawn and have their key; they were doing that for their 4-year-old brother, ‘Let’s go see what we can unlock with our keys.’ You know, that kind of thing, that was pretty fun.”

Child Learning

To understand the potential of podcasts for supporting learning, surveys asked families to rate the educational value of the podcasts and what their child had learned. Additionally, in interviews throughout the study, researchers asked parents about the benefits for them and their children of listening to podcasts. In this section, researchers explore parents’ perceptions of what their child learned directly from a podcast’s content as well as from any supplemental conversations or follow-on activities with family that took place during or after listening.

In their survey responses, the majority of parents (92%) reported that the podcasts were either “very” (50%) or “a little” (42%) educational. As with parent reports of child engagement, **parents of older children rated the educational value of the podcasts more highly, on average, than did parents of younger children** ($p < .05$).

Conversation themes and activities parents described that result from the podcasts aligned with the skills and content they reported their children gained from the podcasts and from the experience of listening. Parents provided a variety of examples of learning in their open-ended survey responses, the majority of which fell into five main categories: (1) social-emotional learning, (2) learning about and appreciation for other cultures, (3) critical thinking and problem-solving skills, (4) academic content knowledge and skills, and (5) creativity and imagination, presented below in order of frequency.

Social-Emotional Learning

Many parents suggested that their child learned social-emotional skills, such as empathy, responsibility, perseverance, manners, gratitude, respect for others, politeness, rule-following, the ability to work as part of a team, and the ability to help others. Most of these parents reported that their child learned these types of skills from listening to *The Arthur Podcast*, *Keyshawn Solves It*, *Molly of Denali*, and *Work It Out Wombats!*



“The podcast taught him about the holiday Juneteenth, but it also had qualities that it was instilling in the characters. He learned about responsibility, right and wrong, compassion, resilience, and self-worth.” –Parent of an 8-year-old [*Keyshawn Solves It*]

Figure 20
Child's Drawing of Arthur
from The Arthur Podcast



“We’ve been struggling with emotional reactivity, and I feel like I’ve seen her wheels turning while she listens to examples of people being patient and curious with one another. Molly of Denali does a great job at that.” –Parent of a 6-year-old

Some parents also described their child learning about the importance of family, friend, and pet relationships, including how to successfully navigate those relationships both in school settings and among siblings and families at home. *The Arthur Podcast* was discussed the most frequently in this regard, although relationships were also mentioned in relation to *Molly of Denali* and *Pinkalicious & Peterrific*.



“She learned how to get along with friends and family. For example, there is a disagreement between Buster and [Arthur] in the snow shoveling business. In the end, they were able to work it out. That episode showed that friendship is more important than money. She learned that friendship is more important. She talks about how her friends help her. There are times she has problems with her friends. She says she solves problems with her friends.”

–Parent of an 8-year-old [*The Arthur Podcast*]

Learning About and Gaining Appreciation for Other Cultures

Many parents also said that their child learned about different cultures, including information about other traditions and languages, geographic locations, holidays, folklore, and the names of new foods and ingredients. Parents often mentioned that their child learned about the recognition and appreciation of their own culture and the culture of others, in particular from listening to *Molly of Denali*, *The Plate Show*, and *Keyshawn Solves It*.



“He got to learn what ravens mean in Molly’s culture, which is something that isn’t significant in our culture. So, he got to understand that different cultures believe in different meanings of symbols.” –Parent of a 5-year-old [*Molly of Denali*]

Critical Thinking and Problem-Solving Skills

Additionally, many parents also reported they believed that their children learned critical thinking and problem-solving skills from listening to certain podcasts. Some of the related

skills specifically mentioned by parents included persistence, curiosity, attention to detail, problem-solving through steps, dealing with challenges, and thinking outside the box. Learning about critical thinking and problem-solving were often mentioned in relation to listening to *Work It Out Wombats!*, *Keyshawn Solves It*, and *Molly of Denali*.



“I think he learned how to go about solving problems. Such as when [the Wombats] were trying to build the fort and had to find the best way to keep it dry. I think that has been teaching him to think a bit more because he really likes to play along with the episodes and try to help answer the questions they ask and solve the problem.”

—Parent of a 6-year-old [*Work It Out Wombats!*]

Academic Content Knowledge and Skills

Some parents reported in open-ended surveys that their child learned specific and focused content and skills related to math, literacy, and science. For example, parents who listened to *Odd Squadcast* and *Work It Out Wombats!* reported that the podcasts supported math skill practice such as patterns or addition, introduced their child to new vocabulary words, or taught them facts about nature.



“The podcast talked about learning patterns in numbers and figuring out sequences. He was going right along with the story trying to figure it out too.”

—Parent of an 8-year-old [*Odd Squadcast*]

A few parents mentioned that the audio-only nature of podcasts challenged and supported their child, and they came away from the study with improved focus and listening skills and a greater appreciation for the art of storytelling. Some parents also reported that their child learned how to be quieter and how to listen attentively or envision something in their mind.



“I think he learned how to comprehend what objects they were referring to. I think that’s the most important thing, because without even looking at an item and just hearing the sound, he knows what they’re talking about.” —Parent of a 6-year-old

Creativity and Imagination

Several parents reported that the podcasts led to increased creativity. In their surveys, some of these parents wrote that listening to *Work It Out Wombats!* and *Pinkalicious & Peterrific* inspired creativity in their child. These podcasts encouraged children to use their imaginations, engage in make-believe play, and value a sense of adventure and creativity.



“She’s already a pretty imaginative child, but following melodies and rhythms allows her to use her imagination in a way she might not have on her own.”

–Parent of a 7-year-old

Several parents referenced learning related to other topics, such as career awareness. Parents mentioned an increased awareness about how one’s career can relate to their wider community and opportunities for the future.

Child Learning by Age

Parent perceptions of what children learned from listening varied by child age. During interviews and in open-ended survey responses, parents of all ages reported that their children gained social-emotional skills, but parents of older children focused on interpersonal skills while parents of younger children tended to focus on intrapersonal skills. Parents of all ages mentioned math skills, but parents of younger children focused on counting and parents of older children focused on patterns. Parents of older children were more likely than parents of younger children to talk about how their children learned specific content knowledge, such as about the World of Work and nature.

Parent Learning

In interviews, most parents reported that they had learned from the podcasts and the experience of listening together, including learning about new topics, their children’s capabilities, or ways to interact with their children. Many of the parents reported gaining an insight or learning about a new topic from a podcast, particularly in relation to *Jamming on the Job* occupations and *The Plate Show* foods and cultures.

Other parents described how listening to the podcasts together taught them something new about their child, particularly their capacity to listen to and enjoy podcasts, offering new ways to engage their child with media for the future.

A few parents in the interviews spoke about how the podcasts gave them some insights into new ways to communicate with their child and modeled how parents can help their children practice age-appropriate skills. One parent of a 6-year-old explained their experience listening to *Work It Out Wombats!*



“Yes, it gave me a little more orientation of what things to ask like, ‘What do we need?’ and interrogated her more and see if she’s really understanding. So that part was interesting because I see how they ask things like that, like ‘What do we need? What can we do?’ We’re having a party. ‘What do we need?’”

Barriers to Engagement

Few parents reported challenges to engaging in podcasts; most often, these challenges were nontechnical. From the surveys, only 10% of parents reported challenges, primarily challenges to engagement, followed by technical challenges. Reports of challenges did not vary by age and were reported by parents of both younger and older children. A few families mentioned that the lack of visuals accompanying the podcasts was a barrier to engagement, explaining that their children experienced a learning curve and that it took some time to adjust to the audio-only format. However, most parents reported that once the adjustment happened, their child was able to follow along and become more interested in the episodes.

Some parents who reported challenges reported that the content of some of the podcasts were too unfamiliar for their children to be able to engage. Parents also cited some podcast-specific features of the podcasts that their children did not like. For example, some parents reported that *Pinkalicious & Peterrific* was too “girly” for their children. One parent described how her 4-year-old child did not like the interactive component of *Work It Out Wombats!*



“My kids don’t generally like shows where you have to participate back. So, they kind of just stared silently, like ‘I don’t know what I’m supposed to do?’”

A few families also reported that they found the *Jamming on the Job* podcast to be overwhelming and hard to follow.



“We didn’t like Jamming on the Job at all because there was too much going on in the episodes and it felt cluttered.” –Parent of an 8-year-old

Barriers to engagement appeared idiosyncratic in that the reasons certain children didn’t like a podcast were, for other children, what they liked most.

Section 5: Standout Podcast Features for Supporting Learning

Researchers did not directly assess learning outcomes in this study. However, drawing on our findings around engagement in podcasts and in intergenerational learning experiences, researchers identified podcast features that sustained children’s attention and aspects of families’ experiences of different content that promoted intergenerational engagement.

Podcast Features that Sustained Children's Attention

During interviews, most parents reported that about 10–15 minutes was an ideal episode length, though some parents of younger children (ages 4–6) reported that 5–10 minutes was best. This duration helped maintain children's engagement and allowed parents to incorporate podcast listening into their daily routines, such as during brief car rides or before bedtime, without the need to pause during listening sessions.

Narrative storytelling podcasts seemed to provide somewhat more engagement than non-narrative formats, including both serial (unfolding over many episodes) and episodic (standalone) narratives. Examining patterns by week suggests that families were slightly more likely to select a narrative podcast than other formats when given the choice. Parents were most likely to report that their children listened to several episodes of *The Arthur Podcast*, an episodic narrative, and *Molly of Denali* and *Keyshawn Solves It*, serial narratives (see Figure 14, in Section 2). Serial narratives may also offer advantages for fostering sustained engagement, as parents reported that a mystery that unfolded across the season—in reference to *Molly of Denali* and *Keyshawn Solves It*—motivated their children to listen to more episodes.

Podcasts that were connected to shows or included relatable settings or character-types supported engagement. Children were drawn to podcasts connected to shows they had seen before, as well as stories that mirrored their own lives, such as characters with similar family dynamics or activities familiar to their daily routines. However, parents also indicated that hearing about familiar or relatable characters engaging in novel situations like going on adventures or solving problems further interested their children. Familiar characters combined with novel or complex storylines might be an important way to sustain child engagement.

Parents reported that interactive features, such as podcasts that addressed the audience directly or prompted a response, were effective in maintaining children's attention. Parents of children ages 6–8 were most likely to value the interactive features. These features often led to related off-screen activities.

Too many stimuli hindered some children's attention, and therefore minimal distractions may support sustained engagement. Several parents reported that excessive stimuli, such as music, sound effects, and multiple languages spoken, created distractions and annoyance during listening to podcast episodes of *Jamming on the Job*. While children generally appreciated and enjoyed music, too much sensory input overwhelmed some families and hindered the listening experience.

Podcast Features that Promoted Intergenerational Engagement

Parents appreciated when the podcast content was interesting or relevant to their children *and* to them, especially when they could learn something from the podcasts, such as about different types of food, jobs, or other cultures. Podcasts presenting sociocultural topics sometimes led some families to do additional research together around the topic and

enhanced learning. Parents appreciated when the content inspired them to do follow-on activities with their child beyond just listening. They also valued interactive elements and diverse podcast formats, such as storytelling and interviews, which enhanced the listening experience and engaged parents along with their children.

Stories with appropriately complex storylines and character development sparked the most conversations. When researchers asked about conversations with their children during podcast listening, parents most commonly reported the need to clarify the storyline or explain characters' behaviors. Parents often mentioned that they talked about how characters navigated relationships with family and friends, and some parents used podcast scenarios to help their children understand similar issues in their own experiences. Consequently, podcasts with engaging or complex narratives, including mysteries, often sparked conversations that could help scaffold child learning.

Limitations

The findings from this study offer insights into how to harness podcasts to promote intergenerational connections and foster learning opportunities in young children. However, the study has some limitations. First, researchers encouraged co-listening during the study, making it likely that reported family co-engagement was higher than is typical outside of the study. Additionally, this study relied on parent self-reports of podcast engagement, which may be inaccurate. Prior research suggests parents under-report use of children with very high use and overestimate use for children who were less engaged. It is also possible that parents' perceptions did not fully capture children's experiences with podcasts.

The variety of the podcasts featured in the study made it difficult to tease apart the specific aspects that drove engagement or promoted learning. Researchers do not know how families' experiences would have varied had they been able to select podcasts beyond the study podcasts. Or, there may be other features not represented that are salient for fostering intergenerational engagement. Finally, sampling focused on ensuring it represented a variety of backgrounds, but the sample was not nationally representative (i.e., all participants were living in low-income households) and may not be representative of the larger population. However, as this was an exploratory study, the findings can be used as a foundation for future research.

Recommendations from Co-Design with Families

During this study, researchers developed recommendations for podcast design that could drive engagement for children and families. These recommendations include features that drive initial interest and sustained engagement, promote intergenerational activities, and support learning. In addition to sharing their insights gained during the study, families were also asked to share their preferences for future podcasts. This included their desired features, formats, and content,

ensuring that the recommendations reflect the interests and needs of listeners. Researchers used three methods to collect co-design insights: (1) during biweekly interviews, researchers asked parents to give advice to podcast creators for developing a new season of the podcast to which they had listened; (2) in the final survey, researchers asked parents for an idea for a podcast for their child or for the parent to listen to with their child; and (3) in focus groups with children and their parents, researchers explored children's ideas and preferences. In many ways, families' requests and ideas for new podcasts mirrored our other research findings.

Recommendations from Parents

Embed narration and interactivity in podcasts to engage children. Many parents described that their children enjoyed narrative podcasts with intriguing storylines such as mysteries and adventures that built across the podcast season. Parents mentioned that their children often engaged more with podcasts that had serial narratives, rather than stand-alone episodes. Families also favored some forms of interactivity in podcasts, such as prompting responses from listeners and including creative activities or problem-solving games. Embedding these interactive elements in podcasts could both support children's attention while listening and promote learning transfer as children connect what they hear to their own lives by doing related activities along with podcast listening.

Incorporate features that support children in learning how to engage with audio-only media. Notably, some parents described that their children had difficulty at first understanding how to listen to podcasts and were confused by the lack of visuals. Some children needed to practice the skill of listening to podcasts, and some needed scaffolding to understand how to engage with and enjoy this new type of medium. Podcasts that help children understand and transition to audio-only listening, such as by incorporating audiograms or clearly introducing characters at the start of a podcast series, could support children in practicing this new skill and could lead to sustained engagement with the medium.

Include details that connect to children's contexts and prior experiences. Both children and parents loved hearing from familiar and relatable characters and enjoyed stories that took place in settings connected to their own lives. Specifically, children enjoyed listening to characters from shows they had watched before or characters similar to their age, gender, or race and ethnicity. They also related to characters with similar family dynamics, such as having siblings. A few parents suggested that a new season of a podcast (e.g., *Pinkalicious & Peterrific* or *Keyshawn Solves It*) could focus on a main character's sibling of a different gender so their other children would feel represented, and the podcast would further support family co-listening. Additionally, many conversations centered around podcast content related to everyday scenarios, especially difficult interpersonal situations that children might encounter at school or at home. Making podcasts relatable to children might enhance listening engagement and also generate opportunities for families to discuss the content and learn together from the podcast.

Include podcast content about SEL, math, science, and diverse cultures. Families expressed a desire to learn about new topics from podcast listening. Parents often described learning opportunities related to three topics:

- » **Social-emotional learning and interpersonal relationships.** Many parents noted how they appreciated the podcast content that taught their children about how to manage emotions, make new friends, and maintain relationships. Parents suggested they would appreciate podcast content that focused on social-emotional learning and interpersonal relationships that included content addressing unique populations, such as autistic children, and specific situations, like undergoing an MRI, to support children's understanding and empathy toward diverse experiences.
- » **Academic learning.** Many parents mentioned wanting podcast content that teaches their children about science (e.g., space, nature, geography), how things work, and mathematical skills. Many parents also mentioned specific learning topics that children regularly enjoy, such as animals, sports, arts, and games.
- » **Diverse cultures.** Families expressed interest in podcasts focused on languages, holidays, traditions, cuisines, and a wide range of lifestyles.

Recommendations from Children

First, a few trends arose from a Would You Rather activity, in which researchers asked children to vote on podcast features. Children preferred the following:

- » Hearing kids' voices over adults'
- » New topics rather than topics with which they already were familiar
- » Hearing from familiar characters rather than from new characters
- » Podcast content that poses questions directly to them rather than not asking questions
- » Both real-life stories and fiction stories ("made-up")

Children's podcast design ideas. During the Podcast Design activity in focus groups, children generated many ideas from which to build the following:

- » **Characters:** Podcast characters created by children involved both animals (e.g., lion, bird) and child characters of similar ages to the participants. Some children explored novel characters in their stories, though characters often centered on "good guys" versus "bad guys."
- » **Setting:** The settings of children's new podcasts included both exciting and novel environments (e.g., rainforest, Disneyland) as well as everyday, relatable places, such as home or a toy store.

- » Plot: All children's storylines involved mysteries or adventures, such as children going into the rainforest to find treasure, or a bird's journey from New York to Florida. A few children focused their stories on novel characters or animals navigating realistic situations, such as an animal going to a toy store to buy a video game console but not having enough money.



"[My character] is a bald eagle named Rex. He is 101 years old. He lives in New York in an oak tree. Rex goes to Florida because he wants to see the Disney characters at Disneyland. However, he forgot to bring his pass, so he had to go back home to get his pass and come back. Then he forgot his money, so he had to stay in Florida forever." –A 6-year-old boy



"The lion was attacking people because they were easier prey from what they usually ate. The zookeeper was trying to figure out why he was doing this and was trying to tell others why he was attacking people. The people realized that the lion was just hungry, so they gave him food. He never attacked people again." –An 8-year-old girl

Additionally, researchers asked children to think about why other kids would want to listen to their imagined podcast. Children responded that their podcast could teach children about different topics, there would be humor and different languages to learn, or it would include cliffhangers to keep the listener wanting to hear more.



"Kids would like to listen because there would be fun music and sound effects, and they would learn facts about places and different languages and the artifacts being stolen and why they're important and the superheroes would be funny." –A 7-year-old boy



"The octopus can speak different languages; the kids would be able to see the different flags and learn about other cultures." –A 7-year-old girl

Discussion

The results of this descriptive study, organized below by research question, underscore the promising potential of children's podcasts to facilitate intergenerational experiences and foster learning opportunities, and aspects of podcasts that can foster these experiences. We also identify areas for further research.

How Families Use and Experience Podcasts. Families easily integrated podcasts into their daily lives, and although listening to podcasts sometimes replaced engagement with other media, listening also complemented existing routines. Most families reported listening during regular routines—in the car while commuting, at home around bedtime, or while playing—suggesting families use podcasts in a variety of ways: to occupy children, relax and wind down, and spark play. Entertainment, quality time, relaxing, and learning opportunities motivated parents to listen to podcasts with their children. The accessibility and flexibility of podcasts allowed families to listen at their convenience. Parents most commonly reported listening via YouTube both before and during the study; Spotify and PBS KIDS were also common.

The contexts in which children listening may have implications for their engagement, as the types of activities they engage in while listening could either support or distract from their focus on the content. Children often engaged in other activities such as playing or drawing while listening; in some cases, this play was connected to podcast content. Parents did not often identify issues with podcast episode length, but many parents mentioned that around 10–15 minutes provided an ideal time for listening on commutes or for a quick episode when they had time. Although younger children listened to podcasts of all lengths, parents of younger children tended to indicate that shorter episodes of 5–10 minutes were preferable for engaging their children.

Features of Podcasts that Engage Children. Parent reports suggest that the podcasts in this study were enjoyable for young listeners and their families. Before participating in the study, just over half of the participating parents reported that they had listened to a podcast with their child in the past month, and by the end of the study, 86% of parents reported that they thought their child would listen to more podcasts in the future. The majority of parents reported that their children were interested in the podcasts to which they listened. During the study, children most commonly decided which podcast to listen to, and it is possible that having some autonomy in their choice, in addition to the characteristics of the podcast itself, promoted their engagement with listening. It is possible that children were given autonomy to choose podcasts because they were participating in a study and parents trusted the choices that were provided. Families' podcast choices in a naturalistic setting could be explored in future research.

Findings related to the engaging features of podcasts were consistent with prior research exploring engagement and learning in other children's media formats such as television and digital media (Anderson & Levin, 1976; Bueno et al., 2023; Piotrowski, 2014), and they potentially highlight benefits specific to the audio medium. However, some parents mentioned

that their children initially struggled to understand how to listen to podcasts, and some parents were surprised to find that their children enjoyed an audio-only medium. Supporting families in how to use audio-only formats may be important for children's initial engagement with podcasts. Different families were interested in a wide variety of podcasts, suggesting that no single set of features is necessary to engage families. Aspects that drove families' initial selection of a podcast (e.g., interesting content, familiar characters) aligned with the attributes that they subsequently reported as sustaining their engagement.

Parents reported that characters drew their children in and sustained engagement. Familiar characters included those that children were already familiar with from other PBS KIDS content, and relatable characters had something in common with children (e.g., similar race or ethnicity, gender, family dynamic). Familiar and relatable characters helped children to connect with the story, and this connection supported their interest in learning along with the characters.

Additionally, storylines that unfolded across multiple episodes supported sustained engagement: parents reported that their children wanted to hear more and asked to continue listening when the episodes ended in cliffhangers. Parents reported that podcasts with relatable content sparked engagement because children were interested in drawing connections between what they were listening to and their own experiences. Serial narratives were slightly more likely to drive sustained engagement, possibly because the format is more similar to the kinds of media that children already consume.

Engagement was also supported by features that made the experience interactive, such as prompts and directly addressing the listener. Parents also identified music as an important draw.

Opportunities for Intergenerational Experiences with Podcasts. Media is more beneficial for young children when used with an adult or sibling who is able to provide scaffolding, such as engaging a child in conversation or activities related to the content (Rowe et al., 2021; Strouse et al., 2023; Troseth et al., 2020). Parents almost always reported that they listened to the podcasts with their children, suggesting podcasts hold substantial potential to create intergenerational listening experiences among families. The high frequency of co-listening could be a result of participating in the study together, which may have motivated parents to make an extra effort to listen along with their child, but it also points to the potential of child and family-focused podcasts to spark opportunities for co-listening.

Only a small number of families reported that podcasts replaced screen time, with many parents noting instead that podcasts added something new to their routines. While researchers didn't explicitly ask why families used the study podcasts, the data suggest that podcasts might serve a different purpose than screen time, as indicated by the contexts in which families listened—such as co-listening in the car, which parents can't do with visual media. This further highlights the potential of podcasts to support intergenerational experiences and learning among families. The nature of audio might be particularly useful for integrating with families' routines because it

allows parents to focus on activities that require visual attention, such as driving, cooking, or resting, while still staying engaged with the audio content.

All study podcasts sparked activities among some children. Activities varied, with parents reporting on different ways their child explored the podcast content after listening. Some parents described researching interesting topics together, engaging in podcast-inspired activities in their community, or their child's participating in independent free play, but the majority of parents who reported activities described parent-guided play that they participated in *with* their children. Research on play suggests that parent-guided play—which is child-directed play with parent scaffolding—is most effective for children's learning, as adults can provide support and guide children during play toward a learning goal (Fletcher et al., 2024; Skene et al., 2022; Weisberg et al., 2016). The podcasts sparked a variety of high-quality activities for children in naturalistic settings across many families, underscoring the potential of podcasts to support children's learning and development.

Additionally, all study podcasts sparked conversations, though the conversational topics families reported about each podcast varied. Families who listened to serial narratives reported that they often discussed the plot and guessed what was going to happen next, and some families used podcast narratives as a springboard for discussions about personal experiences and life lessons. Other podcasts that more explicitly aimed to give information about an unfamiliar topic created opportunities for families to learn together, sometimes extending to doing research together on an interesting topic, recreating an activity, or seeking out a particular experience. Across the study, most parents noted that podcasts featuring sociocultural elements, relevance to families' lives, and complex stories and characters were particularly effective in sparking engaging conversations, suggesting that such content may be especially beneficial for fostering family interactions. These conversations and activities often incorporated qualities of high-quality intergenerational learning experiences, as outlined in the Ready To Learn framework, including rich dialogues, balanced interactions allowing children to lead, and active learning tied to their prior knowledge.

Researchers organized podcast choices under the hypothesis that certain features would potentially drive both child and intergenerational engagement. Every podcast was appealing to some families. We were not able to test features separately, and so we cannot attribute engagement to one feature. It is likely that the combination of features, storylines, and characters together drove child engagement. One surprising finding was that podcasts researchers had not identified as targeting adults, like those that prompt responses from the listener or feature child voices, were just as favorable to some parents as those that researchers had predicted would be more appealing to adults, like those that featured adults or sociocultural topics. Many parents reported spending quality time with their child motivated them to listen, and how podcast characters modeled adult roles and conversations.

Potential Features to Support Learning. Lastly, this study sought to understand features of podcasts families identified as supportive of learning. Although the study did not assess

children's learning, parent descriptions of intergenerational learning experiences and perceptions of the aspects of podcasts that supported learning provide insight into the educational potential of podcasts. Parents noted features that sustained children's attention, fostered comprehension, and facilitated intergenerational engagement—which aligned with literature on children's learning from digital media (Barr & Kirkorian, 2023; Kirkorian et al., 2008). Parent reports suggest that podcasts with appropriate episode lengths (around 10–15 minutes), a narrative storytelling format, familiar characters and content, and interactive features such as those that prompt children's responses sustained children's attention. Parents commonly reported that podcast plots that connected to children's lives, especially interpersonal situations, facilitated meaningful discussions among families. Additionally, podcasts with elements that call for creative activities or exploration prompted some families to do activities together along with listening, which could enhance children's learning.

This study provided a foundational understanding of parents' perceptions of how their families listened to and benefited from podcasts. Future studies will explore how podcasts can support learning in ways that go beyond parent perceptions, as well as by specific concepts and skills.

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Appendix

Methods

Instruments in Detail

Surveys

Pre-Survey. The pre-survey captured baseline information on family demographics; their child and family's digital media and technology habits, including rules around media use and typical time spent using media at home; and their audio-based digital media habits, including where, when, and how often they listen to audio-based media, including podcasts. ([Pre-Survey Script](#))

Biweekly Surveys. Researchers sent parents three short biweekly surveys about their experiences listening to podcasts during the prior two weeks, with questions concerning which podcast(s) their child listened to and the context, their child's interest in the podcast, features of the podcast that led to initial and sustained engagement, conversations or activities that were prompted by the podcast, and perceived educational value of the podcast. The final biweekly survey included additional questions asking parents to reflect on all the podcasts they had listened to throughout the study and to describe memorable conversations or activities they had with their child inspired by the podcasts. Of the 110 participants who enrolled in the study and completed the pre-survey, most participants completed each of the three biweekly surveys (107, 105, and 107 parents respectively). All but one family completed at least one biweekly survey; researchers collected a total of 319 biweekly surveys across the three waves of data collection. ([Biweekly Survey Script](#))

Interviews

Biweekly Parent Interviews. Every two weeks, researchers selected 10 parents (30 total) for an interview to learn more about their experiences with the podcasts during the preceding two-week period. Researchers selected families who represented a broad variety of podcast choices, child age, parent race and ethnicity, prior podcast use, and co-listening. Researchers asked parents to share their family's process for choosing a podcast, perceptions of the podcasts for engagement and learning, and activities and conversations prompted by listening to the podcast. ([Biweekly Interview Script](#))

End-of-Study Parent and Child Interviews. At the end of the study, researchers selected 10 additional families to participate in an interview with a parent and child to collect information on families' overall experiences across all podcasts during the study. Researchers selected parents who reported having conversations about the podcasts with their children throughout the study, and sought to ensure broad representation of families. Before the interview, researchers asked the children to make a drawing of a podcast they listened to during the study. Researchers interviewed children and parents about their perceptions of the podcasts for engagement and learning, and contexts for listening. ([End-of-Study Interview Script](#))

Focus Groups

In addition to learning from families about their experiences with the podcasts during the study, researchers also explored what families desired from podcasts after the study. After finishing a systematic review of the literature on intergenerational co-design methodologies, researchers structured the focus groups around two activities: Would You Rather (Simko et al., 2021), a playful voting game; and Podcast Design, a brainstorming activity adapted from Mixing Ideas (Guha et al., 2004).

At the end of the study, researchers invited nine families with children ages 6 to 8 to participate in one of three hour-long focus groups via Zoom. These sessions aimed to gather insights into podcast features that children value and ideas for new podcast designs through two activities. During the Would You Rather activity, children voted on scenarios related to podcast features (e.g., Would you rather hear music in every podcast episode or never hear music in podcast episodes?) and their listening habits (e.g., Would you rather listen to a podcast with your parent or listen to a podcast by yourself?), briefly explaining their choices. In the Podcast Design activity, researchers guided children to brainstorm new podcast design ideas, including characters, setting, storyline, unique features, and podcast names. Before the focus groups, researchers asked children to draw one scene from their imagined podcast to kickstart the brainstorming activity. After both activities, parents shared their thoughts about their children's ideas. ([Focus Group Script](#))

Analyses in Detail

To analyze the pre-survey and biweekly survey data, researchers created descriptive summaries of parent responses to questions using percentages, means and standard deviations, or medians for non-normally distributed data, and *t* tests and chi-square analyses to explore differences among groups. To analyze interviews and focus groups, researchers segmented all data using a priori codes that aligned to the main research questions, including co-engagement with podcasts, experiences listening to podcasts, conversations and activities sparked by listening to podcasts, what families gained from listening to podcasts, and potential challenges to engagement. Researchers then iteratively and inductively developed subcodes within each main code, and then summarized the themes. Researchers also explored variation by study subgroup to explore whether themes differ by aspects of parent or child background. Researchers analyzed all qualitative data (i.e., interviews and focus groups) using the qualitative data analysis program Dedoose to code data and identify cross-cutting themes. Qualitative data in this study consisted of open-ended survey data and interview data.

Content Sets

Researchers organized the eight podcasts into different sets, each arranged by formats and features that they hypothesized would drive child and intergenerational engagement, based on prior research:

- » Set A featured podcast sets that featured children's voices, were connected to existing shows, highlighted sociocultural topics, and had the potential for adult appeal.
- » Set B included the same podcasts but highlighted features including serial narratives and mysteries that unfolded across episodes, interactive elements and prompts for listeners, and had potential for adult appeal.

The research team randomly assigned families to one of two content groupings. By randomly assigning families, researchers hoped to create two groups of similar families to experience and provide feedback across the two sets. Researchers encouraged families to choose one podcast from each biweekly set.

Researchers conducted the study remotely online, met with families during orientation calls, interviews, and focus groups via video conference (Zoom), and sent links to podcasts, surveys, and reminders by email and text. For ease of listening, families received links to multiple listening platforms and websites (e.g., Spotify, YouTube, PBS KIDS, PRX), depending on where each podcast was available. Researchers recommended that families listen to their chosen podcast for approximately one hour per week and provided families with recommendations for where and when to listen based on findings from formative studies conducted during podcast development as well as market research (Edison Research, n.d.). These suggestions included listening while commuting in the car, at home (either before bed or during quiet time), or while doing some sort of activity such as coloring or playing with toys.

Additional Study Data

Pre-Survey Data

The following tables and figures display additional data that were collected as part of the study pre-survey, including participant demographics, characteristics of media use (e.g., devices, time spent using media, rules related to media), and details about use of audio-based media specifically.

Table A-1
Family Demographics (N = 110)

	Percent	Number
Participating Parent Gender		
Male	8%	9
Female	92%	101
Participating Parent Highest Level of Education Completed		
Some high school (no diploma)	1%	1
High school diploma or GED	6%	7
Some college or technical school classes (no diploma)	27%	30
Associate's degree (AA, AS) or technical degree	20%	22
Bachelor's degree (BA, BS)	32%	35
Graduate or professional degree	14%	15
Total Household Income		
Annual income less than \$20,000	12%	13
Annual income \$21,000–\$40,000	29%	32
Annual income \$41,000–\$60,000	27%	30
Annual income \$61,000–\$80,000	32%	35
Annual income more than \$81,000	0%	0
Eligibility for Federal or State Benefits		
Receive federal or state benefits	76%	83
Other Adults Living in Household (other than participating parent)		
Spouse or partner	73%	80
Child's grandparents	5%	6
Other adult relatives	9%	10
Other adults (not relatives)	2%	2
No other adults live in the home	22%	24

Total Number of Children Ages 4–8 Living in Household			
	One child 4–8	60%	66
	Two children 4–8	36%	40
	Three children 4–8	3%	3
	Four or more children 4–8	1%	1

Table A-2
Child Demographics (N = 110)

	Percent	Number
Child Gender		
	Male	47%
	Female	53%
Child Race and/or Ethnicity (parents could select all that apply)		
	American Indian, Indigenous, or Alaska Native	0%
	Asian or Asian American	7%
	Black or African American	19%
	Hispanic or Latino	19%
	Middle Eastern or North African	0%
	Native Hawaiian or Pacific Islander	1%
	White	67%
	Prefer not to answer	3%
Child School Status		
	My child is not in school	3%
	My child is in school (not pre-K)	64%
	Child is homeschooled	6%
	Preschool/pre-kindergarten	27%

Table A-3
Biweekly Content and Features for Set A and Set B

	Weeks 1 and 2		Weeks 3 and 4		Weeks 5 and 6	
	Podcast Features	Podcast Options	Podcast Features	Podcast Options	Podcast Features	Podcast Options
Set A: 55 Families	Connected to existing shows	<i>Molly of Denali</i>	Sociocultural topics	<i>Jamming on the Job</i>	Includes children's voices in episodes	<i>Pinkalicious & Peterrific</i>
		<i>Odd Squadcast</i>		<i>Keyshawn Solves it</i>		<i>The Arthur Podcast</i>
		<i>Work It Out Wombats!</i>				<i>The Plate Show</i>
Set B: 55 Families	Mystery unfolds across episodes; serial narrative	<i>Molly of Denali</i>	Sociocultural topics	<i>Jamming on the Job</i>	Includes prompts for listeners, or interactive elements	<i>Pinkalicious & Peterrific</i>
		<i>Odd Squadcast</i>		<i>The Plate Show</i>		<i>The Arthur Podcast</i>
		<i>Keyshawn Solves It</i>				<i>Work It Out Wombats!</i>

Table A-4
Typical Amount of Time Children Use Media

		Mean	Number
Digital media time	Weekday	3.3 hours (<i>SD</i> = 2.67)	109
	Weekend day	4.5 hours (<i>SD</i> = 2.61)	110
Educational media time	Weekday	1.9 hours (<i>SD</i> = 1.93)	110
	Weekend day	2.1 hours (<i>SD</i> = 2.05)	110
School-suggested educational media time	Weekday	0.9 hours (<i>SD</i> = 2.13)	101
	Weekend day	0.9 hours (<i>SD</i> = 2.23)	101

Table A-5
Child Use of Devices in a Typical Week (*N* = 110)

	Percent	Number
Laptop or desktop computer	42%	46
Tablet (Android or iPad)	68%	75
Tablet for children (e.g., LeapPad or Amazon Fire)	36%	40
TV	80%	88
Smartphone	60%	66
Radio	12%	13
Voice-controlled smart speaker (e.g., Alexa)	33%	36
Video game console (e.g., Xbox or PlayStation)	36%	40
Other (e.g., a normal speaker)	3%	3
My child does not use any of the above technologies	0%	0

Table A-6
Family Media Rules (N = 110)

	Percent	Number
We set screen time limits for our child	46%	50
We restrict our child's access to digital games, videos, and apps at certain times of day	58%	64
We restrict our child's access to digital games, videos, and apps at certain places	59%	65
We restrict our child's access to certain digital games, videos, or apps	69%	76
We use a filter/app to block inappropriate content	39%	43
We do not have any rules	7%	8
Other (e.g., our child earns his/her leisure time; as long as our child finishes homework and other activities)	2%	2

Figure A-1
How Often Parents Reported Listening to Audio Media Alone (N = 110)

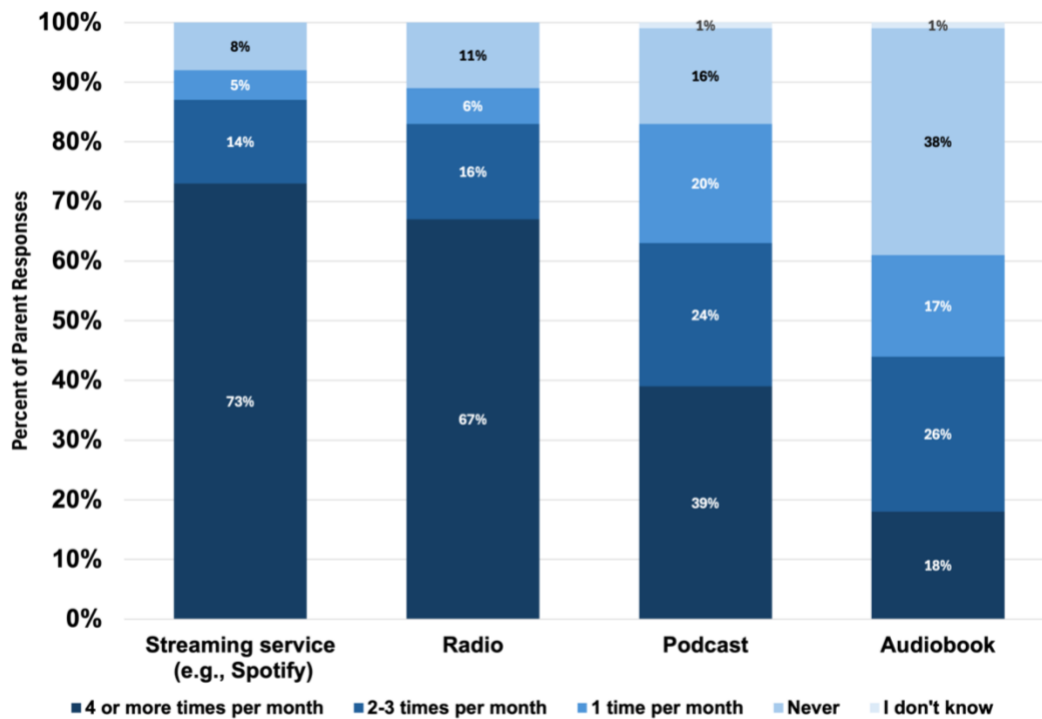


Figure A-2
Parent Responses to Where and When Their Child Listened to Podcasts Alone Prior to Study (N = 43)

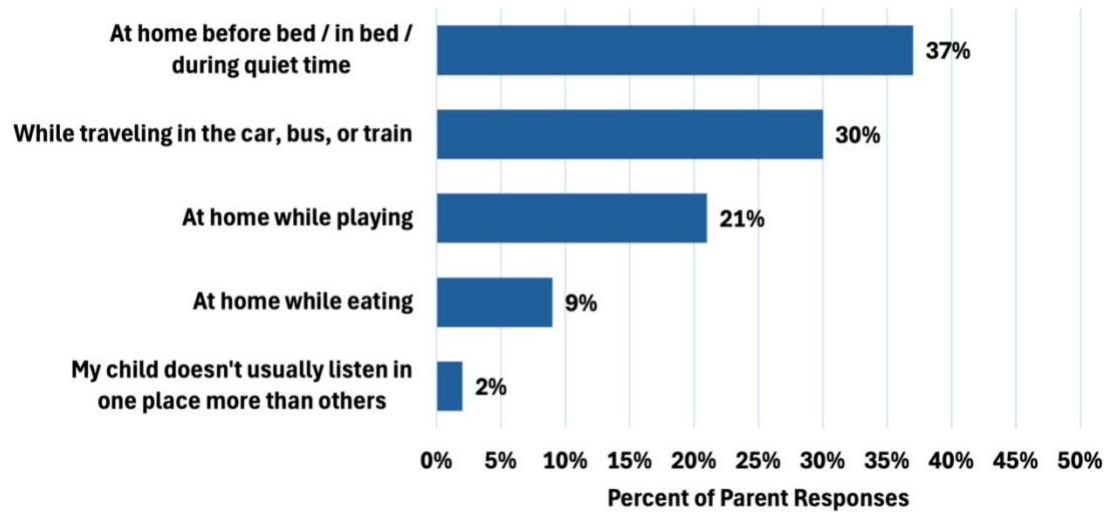
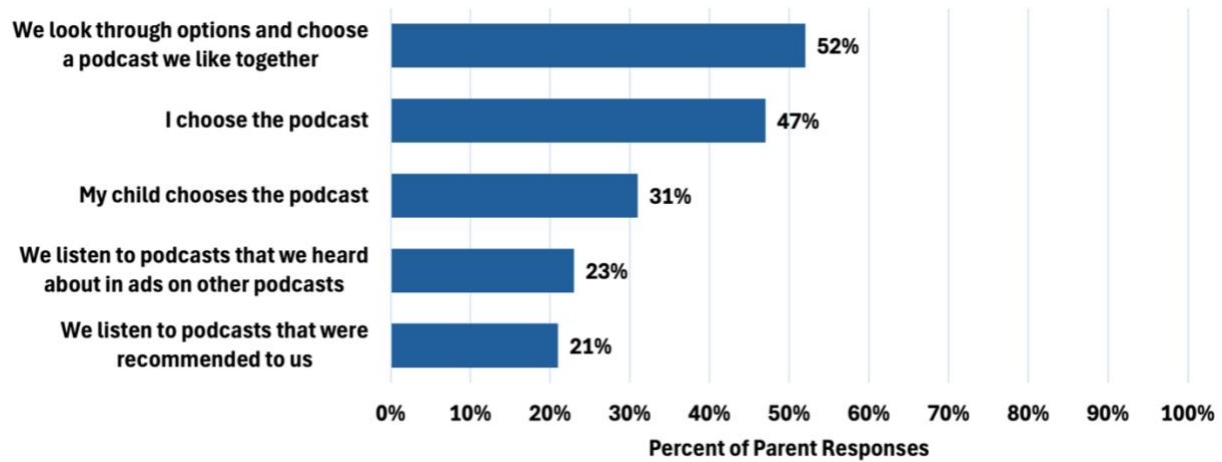


Figure A-3
How Families Chose Podcasts (N = 62)



Biweekly Survey and Interview Data

The following text, tables, and figures display additional data that were collected during the study via biweekly surveys and parent interviews, providing more detail about families' listening experiences, the function of other PBS KIDS content and audiograms, and perceived educational value of the study podcasts.

Table A-7
Device Child Used to Listen to Podcasts Throughout the Study (N = 319)

	Percent of Biweekly Responses
Car radio	23%
Laptop or desktop computer	16%
Smartphone	69%
Tablet or iPad	24%
Voice-controlled smart speaker (e.g., Amazon Echo)	6%
Other	9%

Listening Contexts

Most families reported that the context for listening was consistent across podcasts. However, a few families changed when they listened based on the length of the podcast episode or podcast features. For example, one family noted in the interview that they listened to the shorter episodes before bedtime and the longer episodes during mealtime. Another family of a 5-year-old reported that when they listened changed depending on the podcast, explaining that *“For Molly of Denali it was more during mealtimes, and then the second week, Keyshawn was more on-the-go, and for Arthur, it was more relaxing.”*

Connections to PBS KIDS Series

We did not find a strong connection between familiarity with PBS KIDS series and sustained podcast listening, but familiarity may drive initial selection for some shows. In surveys, researchers explored whether prior familiarity with a show led to longer engagement—listening to more episodes—after selecting a podcast. Results did not show a pattern between familiarity and number of podcast episodes listened to, with one exception. Families who chose to listen to the *Molly of Denali* podcast and who were not already familiar with the show were very slightly more likely to listen to six or more episodes, compared to families who reported that they had watched the show in the past.

In a few cases, listening to the podcast inspired families to look for the associated shows but not for other PBS KIDS resources. A few parents reported in interviews that listening to podcasts inspired their child to search for related shows during the study, and that they tried to watch the show as well. However, no parents reported using or searching for other types of PBS KIDS resources associated with the podcasts, such as recipe guides, activities, and other associated materials.



“So with Molly of Denali, she did ask if it was a TV show, and I said ‘Yeah, it is.’ And so we did watch a few episodes. I felt like it didn’t hold her attention. The funny thing—it didn’t hold her attention as much as the podcast did.” –Parent of a 5-year-old

Use of Audiograms and Technical Challenges

Most parents did not know about the audiograms in *Work It Out Wombats!*, and no parents reported watching any moving images associated with any of the other podcasts. Of the 58 families who reported listening to *Work It Out Wombats!*, only six parents reported that their children watched the audiograms. Those six parents mentioned that their children enjoyed the animation; however, they did not describe the extent they attended to the audiograms (e.g., for multiple episodes, for different podcasts). In interviews, most parents reported that they did not see the audiograms or moving images that were associated with the podcasts. In general, families reported that they did not look at their screens while listening, which aligns to their reported listening contexts.

Few families reported technical challenges in listening to podcasts. Researchers provided families with links to podcasts on a variety of streaming platforms. On surveys, only a few families (7% of biweekly responses) reported that they encountered technical challenges during the study. Most often, challenges were related to episodes being presented out of order, such as on Apple Podcasts or YouTube, and parents had to manually search for the next episode in the series.

Figure A-4

Parent Survey Ratings of the Educational Value of the Podcasts They Listened To (N = 319)

